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TOJNED welcomes you. TOJNED looks for academic articles on the issues of education science and may address assessment, attitudes, beliefs, curriculum, equity, research, translating research into practice, learning theory, alternative conceptions, socio-cultural issues, special populations, and integration of subjects. The articles should discuss the perspectives of students, teachers, school administrators and communities. TOJNED contributes to the development of both theory and practice in the field of education science. TOJNED accepts academically robust papers, topical articles and case studies that contribute to the area of research in education science.

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I am always honored to be the editor in chief of TOJNED. Many persons gave their valuable contributions for this issue.

TOJNED, TASET, Governor State University, Vienna University of Technology & Sakarya University will organize the INTE-2018 (www.int-e.net) between July 18-20, 2018 in Paris, France.

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AN EXAMINATION OF TEACHER'S CLASSROOM MANAGEMENT: DO GENDER STEREOTYPES MATTER IN THE STUDENT-TEACHER RELATIONSHIPS?

Jerome St-Amand, Ph. D.
Université du Québec en Outaouais (Canada)
jeromeconcordia@gmail.com

Abstract: The objective of this study seeks to shed light on gender stereotypes conveyed by high school teachers with regard to classroom management. Using the Critical Incident Technique (CIT) (Flanagan, 1954), we interviewed 429 high school students in the Quebec City area (Canada) and asked them to recall an event in which they had witnessed a behavior from a teacher that is deemed to perpetuate gender stereotypes. We then asked students to explain the reported behavior. The results of this research enabled us to identify the focal areas of these gender stereotypes, and the reasons why teachers exhibited stereotypical behaviors in their social relation with students. We discuss strategies that can be implemented by teachers to avoid conveying gender stereotypes in the classroom.

Keywords: Classroom management, social relations, gender stereotypes.

INTRODUCTION

A gender stereotype, as it pertains in this study, is defined as a constellation of traits and roles generally attributed to men and women (Williams, Bennett, & Best, 1975) as well as a few components including characterizations about personality, physical traits, roles, occupations, and sex role orientation (Deaux & Lewis, 1983). Gender stereotypes are also defined by excessive attitudes and rigidity; it is the ideological framework that justifies and organizes people's attitudes and behaviors (Brannon, 1999; Durut-Bellat, 1990; Hurtig & Pichelin 1985; Tap, 1985). It is also an important dimension of discrimination defined as "harmful actions towards others because of their membership in a particular group" (Fishbein, 1996, p. 7). Some argue that "discriminatory actions have become increasingly subtle and ambiguous, requiring individuals to make attributions about the motivations of others on the basis of situational information" (Brown & Bigler, 2004, p.714). In fact, teachers are often unaware of the biases that their gender stereotypes introduce into their own classroom management: they believe they have identical attitudes and reactions towards girls and boys even when it is not the case (Baudoux & Zaidman, 1992). Researchers stress the fact that boys and girls experience something profoundly different in schools, a socialization influenced by gender stereotypes (Martin & Ruble, 2010; Zaidmann, 1996). In what ways are these gender stereotypes, initiated by teachers, conveyed in the teacher-student relationship? How do students explain these behaviors?

At an early age, students are exposed to gender norms and discrimination even if they are not aware of it (Gosselin, 2007; Martin & Ruble, 2010). It goes without saying that schools may struggle to avoid situations where there are inequities regarding gender stereotypes. For instance, we know that students' textbooks (Blom, Waite, & Zimet, 1970 ; Blumberg, 2008; Jacklin, & Mischel, 1973; Mustapha, 2013; Trecker, 1973; U'Ren, 1971; Weitzman & Rizzo, 1974), educational programs (Descaries-Bélanger, 1980; Dunnigan, 1975; Gérin-Lajoie, 1991), school organization (Gilbert, 1990), summative assessment approaches (Howe, 1997), and the promotion of the vocational integration of young people (Trottier, Cloutier, & Laforce, 1994) can convey gender stereotypes. Despite the efforts to reduce the presence of gender stereotypes in textbooks, social relations are still at risk. In fact, research has also shown that classroom social interactions with the teacher may be marked by gender stereotypes (Baudoux & Noicent, 1993; Erden, 2009; Lo, 2015; Sadker & Sadker, 1985; Subirats & Brullet, 1988), and can spur inequalities between girls and boys in school (Gérin-Lajoie, 1991).

Teachers' attitudes towards students can generate social division between boys and girls (Descaries-Bélanger 1980, Féat & Solomon 1991; Gosselin, 2007; Gilbert 1990), and can also reinforce boys' aggressive and independent behaviors while influencing emotional and dependent behaviors among girls (Simmons, 1980). Boys generally receive more attention than girls (Eccles & Blumenfeld 1985, Fenema & Peterson, 1985, Sadker & Sadker, 1985; Smith & Glynn 1990; Zaidman, 1996). More specifically, boys receive more attention when they are aggressive or turbulent (Baudoux & Zaidman, 1992). Teachers' criticisms made to girls are more related to the intellectual value of their work rather than to the effort they should put into their work (Baudoux & Zaidman, 1992). Male teachers are generally more protective and reassuring with girls and will embody courage from a physical and intellectual standpoint while interacting with boys. Female teachers will be more supportive

and nurturing with girls, while being more controlling with boys. Regardless of the teachers' gender, girls are supported and taken care of while boys will experience confrontation in which they will have to find their own solutions. Finally, the old myth that teachers have a negative effect on girls' achievement in mathematics and applied sciences is still true (Jackson, 2003). In doing so, girls and boys may adopt stereotyped behaviors later in life.

Men and women undeniably have biological differences. Biological differences are accentuated and influenced by students' social and cultural environment, hence the social construction of gender (Brannon 1999; Durut-Bellat 1990; Maccoby & Jacklin, 1974). During the process of socialization - modeling, reinforcement, imitation - the child acquires and assimilates attitudes and behaviors that typically belong to his or her gender. These gender stereotypes develop and become internalized in response to interactions with the environment (Bandura, 1986, Brannon, 1999; Brown & Bigler, 2004; Cushman, 2010). According to Williams and Best (1990), gender stereotypes are to be found everywhere in the world. These authors suggest that men are perceived in all countries as adventurous, authoritarian, harsh, dominant and independent. They also note that women tend to be perceived as emotional, affectionate, docile, sociable and dependent. Even today, adherence to these gender stereotypes exists and is observed in the parent-child relation as well as in the teacher-student relation (Lajoie, 2003).

RATIONAL OF THE STUDY

In light of this, it is clear that teachers may display different behaviors in the presence of girls and boys. This is our motivation to explore students' perceptions regarding gender stereotypes conveyed by teachers in the pedagogical relation, which is a key element of classroom management and one of the most significant relationship a child builds outside of family members (Jerome, Hamre, & Pianta, 2009). However, studies exploring gender stereotypes in the pedagogical relation have for the most part been carried out outside Quebec (Canada), and focus mainly on preschool and elementary school teachers. To date, studies on this matter are scarce, and the present research is therefore designed to contribute to a joint reflection that concerns the quality of this pedagogical relation. To do this, we will give the floor to teenagers wishing to share their experience. The overall purpose of this study is to explore, from the students' perspective, how gender stereotypes conveyed by teachers manifest themselves at school? More precisely, the aim of the study is twofold. First, it explores gender stereotypes in the teacher-students' relation. Second, it identifies the reasons cited by students to explain gender stereotypes conveyed by teachers.

METHODOLOGY

Participants and instrument development

Participants in this study were 429 high school students from 10th and 11th grade from the Québec city area (Canada). The Critical Incident Technique (Flanagan, 1954) was used to explore students' perceptions of gender stereotypes conveyed by teachers. This technique allowed us to collect testimonies of significant events that happened to the participants. Participants in the study were asked to tell an incident that happened in school (statement A), and then (statement B) explain their teachers' behaviors. First, a certain number of answers obtained were validated by pre-experimentation procedures, and a preliminary version of the questions was submitted to a group of master's students. Second, the questions were then tested with three groups of students from 10th and 11th grade (N = 96) that gave rise, finally, to the final version of the instrument.

Try to remember an event while you were in high school where you witnessed a behavior from a teacher that you think is gender stereotyped.

- a) Please describe what the teacher did or said at the time. Be specific and detailed so that we know where the event took place (in class or out of class), what was the subject taught and what you were doing (individual, group work, etc.)
- b) What do you think explain the behavior of the teacher?

Data collection

Initially, the meeting began with a five-minute presentation during which the researcher first explained that he wanted to know the students' opinion on the issue of gender stereotypes. To do this, the researcher explained the concept of *gender stereotype* by giving examples of gender stereotypes. In order to ensure students' understanding of what was asked, the researcher had to draw participants' attention to an explanation of what gender stereotypes are:

Gender stereotypes are as old as humanity and reflect the idea that we have of those who are different from us. A gender stereotype can manifest itself through a popular, caricatured behavior or word, idea or image of an individual or group, based on an over-simplification of character traits that are true or imagined.

The researcher then read the statements A and B and asked the participants to tell an event or story that they experienced in their high school years, insisting that it had to be as accurate as possible. The researcher invited them to respond and told them not to write their name so as to ensure that the answers were anonymous. However, students had to identify their gender, age, and grade level. The approximate duration of a meeting was 20 minutes.

Data processing

In a preliminary phase of data processing, we classified the answer sheets by gender and school grade. A second reading was undertaken to highlight the key words and the salient facts of the students' incidents. Overall, this revealed that the students understood what was expected of them. When there was more than one incident described by a student, the additional incident was taken under consideration. Using the method proposed by Bardin (2001), the analysis allowed us (a) to group the answers, (b) to define the categories and subcategories emerging from the incidents, and (c) to assess inter-rater reliability. In this regard, some thirty critical incidents were classified by three analysts. This procedure allowed us to achieve a satisfactory degree of agreement (83%) between the three analysts, and our own classification. Finally, the data were quantified in terms of percentages and number of events included in each category.

RESULTS

The examination of the incidents reported by the participants led us to identify six categories under which gender stereotypes fall into (table 1): (1) supervision; (2) informal comments; (3) attention that teachers devote to students; (4) evaluation of students' work; (5) gender-based segregation; (6) formal comments. We now describe each category in more detail.

Table 1
*Categories of incidents related to the presence of gender stereotypes
in teachers' classroom management*

| Categories in which gender stereotypes fall into | Gender | | % | Total/Cat. |
|---|--------|-----|------|------------|
| | M | F | | |
| Supervision | 51 | 49 | 23.3 | 100 |
| Informal comments | 40 | 51 | 21.2 | 91 |
| Attention that teachers devote to students | 18 | 60 | 18.2 | 78 |
| Evaluation of students' work | 31 | 35 | 15.4 | 66 |
| Gender-based segregation | 23 | 33 | 13.1 | 56 |
| Formal comments | 22 | 16 | 8.8 | 38 |
| Total | 185 | 244 | 100 | 429 |

Categorization of the incidents (statement A)

Supervision: supervision is about the inequities with regard to verbal or written reprimands, punishments, and other disciplinary approaches. The fact of reprimanding boys more frequently than girls because they are heckling while girls do the same is a perfect example of this first category. This category ranks first among all other categories in terms of the number of incidents reported (100). In 81% of incidents, male teachers were involved, and in 19.5%, female teachers were involved. We reclassified these 100 incidents and came up in five sub-categories that emerged from this broader category (supervision):

- heckling
- undone homework
- lateness of students
- non-compliance with the school dress code
- granting permission to students
- disciplinary actions

Results indicated that boys are reprimanded verbally more often than girls in an unjustified manner. Boys are often scolded because they heckle, disturb, and talk. These behaviors sometimes result in student's expulsion from the classroom, which are denounced by both girls and boys. This confirms the uncompromising behaviors of teachers towards boys (especially female teachers) (Maccoby 1990, Durrut-Bellat 1990).

Informal comment: this category refers to general remarks made by the teacher about men or women. These remarks are not specific to the academic content or the actual reality of the classroom which may hinder gender equity. For instance, a student reported a teacher's comment: "it is well known that girls are always more sensitive than boys." This category contains 21.2% of all the incidents listed and ranks second. We classified the reported incidents into five sub-categories which contain gender stereotypes:

- Intellectual, psychological or physical characteristics that are specific to boys and girls
- Predictions about the chances of academic success, opportunities for career advancement, and more broadly, opportunities for full development of boys and girls
- A discriminating opinion based on a biased conception of men and women

Teachers' statements in the present category can be explained by taking into account the theories developed in the field of social psychology, and more specifically the social representation theory. Social representations are values, ideas, metaphor, beliefs, and practices that are shared among members of groups and communities. Social representations are developed through experiences, but also from knowledge transmitted through tradition, education and social communication. Among many things, social representations guide behaviors and communications (Jodelet, 1989).

Attention teachers devote to students: these are the gender inequities regarding the quantity and quality of interactions with female and male students. These interactions can be verbal or nonverbal and take place in and out of class. For instance, a student reported that "my math teacher responds more spontaneously to boys' questions than to girls." This category accounts for 18.2% of all the incidents collected and ranks third among all other categories. Gender bias is a behavior often displayed by teachers in their ways of paying attention to students. In general, this is observable through the quantity and quality of social relations. Our findings confirm in some respects those of Zaidman (1996) that teachers - whether men or women - spontaneously give more attention to boys than girls, and spend more time discussing some issues with boys than girls.

Evaluation of students' work: this category refers to gender inequities that students experience when complimenting and criticizing them. These inequities can be seen in a written or verbal way. This category ranks 4th and corresponds to a form of "pre-assessment" related to teacher's expectations of students' achievement. Expectations correspond to the teacher's predictions of the students' achievement based on teachers' experience, beliefs, and prejudices (Morency, 1993). According to Morency and Bordeleau's (1995) study of the pygmalion effect, variables associated with physical appearance, behavior, physical and intellectual abilities may be at the origin of an individual's expectations. Researchers clearly showed a correlation between teachers' expectations and students' level of achievement (Morency & Bordeleau, 1995; Peterson, Rubie-Davies, Osborne, & Sibley, 2016; Rosenthal & Jacobson, 1968)

Gender-based segregation: these are cases where the teacher separates students simply on the basis of their gender (marked division based on gender). Boys and girls may, for example, be required to perform different tasks as part of a course or meet discriminatory gender requirements from their teacher. Just over 13% of all incidents identified are related to gender-based segregation, and rank 5th in all other categories. Two interesting features relate to this category. Gender stereotypes can be observed through the nature of a task to be performed or through the teacher's requirements for the same task to be performed by boys and girls. In the current study, 16 out of 34 incidents are related to physical education, 14 of which concern gender-based segregation related to the difference in the nature of a task to be performed. In this category, 8 incidents could not be related to the context of the classroom or to a particular school subject, but led on asking boys to accomplish tasks requiring physical strength. Researchers argued that students (especially girls) perceive the presence of gender stereotypes

in teaching practices through the activities offered to them (Sadker & Sadker, 1985). In the present context, we can't strip out the presence of the Pygmalion effect. Students go through differentiated learning conditions depending on the teachers' expectations (Morency, 1990). For instance, physical education teachers interact more frequently and more positively with students for whom they have high expectations (Martinek & Karper, 1984).

Formal comments: this category refers to the academic content or the actual reality of the classroom that can hinder gender equality. This is a statement made by the teacher that casts doubt on the possibilities of seeing students succeed in a given discipline. For instance, a student said: "boys are usually better at playing guitar" (incident taking place in a music class). Of all these incidents, 21 are reported by boys versus 15 by girls. Researchers suggest that teachers perceive girls and boys differently by attributing them features that correspond to gender roles, and that expectations are often marked by sexism (Féat & Solomon, 1991; Gilbert, 1990).

Categorization of the incidents (statement B)

In the second part of the research, students were asked to provide an explanation of the reasons why teachers exhibited their gender stereotyped behaviors. We then classified the explanations into 7 categories (Table 2): (1) prejudices against girls and boys; (2) the past of the teachers; (3) students' motivation; (4) students' academic achievement; (5) the mindset of teachers; (6) reactions of the distinctive features of the students; (7) students' adherence to stereotyping.

Table 2

Classification of the explanations given by students

| Classification of the explanations | Number of incidents | % |
|---|---------------------|------|
| Prejudices against girls and boys | 116 | 30.1 |
| The past life of the teachers | 98 | 25.4 |
| Students' motivation | 77 | 19.9 |
| Students' academic achievement | 37 | 9.6 |
| Students' adherence to stereotyping | 23 | 6.0 |
| The mindset of teachers | 23 | 5.9 |
| Reactions to the distinctive features of the students | 12 | 3.1 |
| Total | 386 | 100 |

Prejudices against girls or boys: in a proportion of 30.1%, students referred to the fact that the teachers concerned in the incident used a prejudice that was considered unfavorable for girls or boys.

The past life of the teachers: in large numbers (25.4%), students explained their teachers' stereotyped behaviors by invoking their past as a man or woman and by making assumptions about the education they received. Students evoked the potential influences of their environment over the course of their lives, their realities as men or women, and even their sexual orientation. Some students went as far as to mention mental illness (i.e., schizophrenia, nervous breakdown) to explain their behaviors.

Students' motivation: 19.9% of students explained that their teachers' stereotyped behaviors aimed at motivating them, that teachers simply tried to get closer from their students (girls and boys). In other words, students claimed that their teachers' stereotyped behaviors could be considered as pedagogical strategies, which were still highly questionable according to them.

Students' academic achievement: students also report that teachers take more disciplinary actions for boys than for girls. The most common explanations are that girls would be academically superior to boys and don't have to be punished because they are quieter. Indeed, 9.6% of the data collected allow us to indicate that teachers'

behaviors derive from questionable performance criteria. This seems particularly true in physical education where performance very often takes on a masculine face.

Students adherence to stereotyping: 6% of students seem to justify - without denouncing – teachers’ stereotyped behaviors. The body of data allows us to induce a certain degree of adherence to gender stereotypes, and this can be seen especially in incidents related to physical education class.

The mindset of teachers: Students also mention teacher's state of mind (5.9%) to explain their gender stereotyped behaviors. Depending on the cases, students indicated that teachers were either tired, old, impatient or frustrated, while other students argue that teachers’ behaviors aimed essentially at hurting them.

Reactions to the distinctive features of the students: finally, 3.1% of students reported that teachers exhibited gender bias in the context of students having a particular way of distinguishing themselves (i.e., clothing, piercing, haircut, etc.).

DISCUSSION

The categories of incidents related to the presence of gender stereotypes in teachers’ classroom management (table 1), and the classification of the reasons why teachers exhibited these behaviors (table 2) allow us to conclude that students are very sensitive to gender stereotypes.

In this study, students made assumptions about the background or past life of teachers to explain their behaviors. Mention is often made of the education received, family, religion, marital status, and sex life. These explanations or hypotheses are only pure projections, but still contain the source of a real questioning. These projections formulated by the students are nevertheless interesting, since they refer to the very foundation of gender stereotypes. From childhood, in fact, gender stereotypes develop in response to social interactions with others (Brannon, 1999), and it allows us to believe that students understand the development of gender stereotypes in men and women. From another perspective, students’ explanations suggest that academic performance (e.g. higher performance in physical education and lower performance in language learning, for boys) can lead teachers to convey gender stereotypes. According to the students’ perspective, achieving good academic results, often favoring girls, would explain teachers’ complacency regarding their disciplinary actions. In addition, students perceive that teachers seem to appreciate more passive, docile, quiet and obedient students (often associated with the "little model girl") to independent, self-confident and active students (features often associated with boys). Researchers assert that teachers have a favorable bias toward female students from a behavioral view point only (Duru-Bellat, 1990; Kramer, 1988).

The data collected in this study provided significant insights into the nature and context where gender stereotypes manifest themselves in school, which make the results very useful for teachers wishing to avoid conveying gender stereotypes. First, students are aware of the presence of gender stereotypes in teachers’ disciplinary actions considered to be sometimes unfair even if these actions don’t concern students directly. Second, informal comments reported by the students left us very perplexed. Indeed, students reported that teachers made inappropriate comments regarding what should be the “intellectual property” of men and women from a psychological or physical perspective. These derogatory comments are striking: girls are considered gossipers while boys are considered lazier. Third, gender inequities were identified in social interactions and that caught our attention given the importance of social relations in classroom management. More specifically, it was interesting to note that gender bias seemed to influence the duration, the quality and the nature of the social interactions. Fourth, the assessment of students’ work is also undermined by the presence of gender stereotypes. The incidents described by the students indicated that gender stereotypes are mainly introduced in the context of verbal assessments of students’ work (during a class period) and while handling in assignments, homework, or corrected exams.

To counteract gender stereotypes, teachers must adopt effective strategies that improve the quality of teachers / students’ relation. Lo (2015, p. 35) indicates, for instance, “to create safe space for self-expression in their instructional approach to challenging gender norms and stereotypes”. Teachers should also seek to engage students in conversations around gender equity by planning insightful lessons on that matter, by embedding gender lessons in curriculum, and by building an awareness of gender at a young age. Lo (2015, p. 38) notes: “talking about gender stereotypes from the primary level or as soon as students start school will ensure that they have an early awareness of the concept and the messages”. Finally, Lo (2015, p. 41) stresses the importance to identify the markers of success although it might be difficult to achieve: “[...] it would be a difficult process to fairly judge each student on something so sensitive [...]”.

CONCLUSION

The vast majority of school-based staff do not even suspect that boys and girls experience gender stereotypes in teachers' classroom management. Consequently, this study aims at opening the doors to introspection for teachers wishing to start considering the possible influences of gender stereotypes in students' path to graduation. Future areas of research should aim at shedding light on the existence of potential links between boys' lack of interest in school and gender stereotypes conveyed by teachers. Also, Lo (2015, p. 49-50) proposes a series of research questions for researchers wishing to explore further this research theme: (1) How can teachers be educated to avoid allowing binary gender stereotypes to affect transgender students, both socio-emotionally and academically? (2) How can the ability to challenge traditional gender stereotypes be transferred to challenge transgender stereotypes? (3) How do the dynamics of sexuality accentuate gender stereotypes? What can teachers do to mitigate this particular cause? (4) How do teachers take into account cultural differences that perpetuate gender stereotypes and challenge them in a respectful manner? As in every study, there are a few limits worth mentioning. First, adolescence is a period of rapid change. Thus, the social representations that the participants described can't be fixed in time. The many social interactions students go through in a school year may contribute to modify the perception of their social environment, and the way they understand and perceive gender stereotypes. Second, the data collected were not from our own observation in the classrooms. Chances are that an effective observable technique would have enhanced proximity with the participants to get a better feel for their perspectives. Despite these limits, this study shows that gender stereotypes are not beneficial for students and must therefore be avoided in the teacher-student relation.

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EARLY INTRODUCTION OF HYPOTHESIS TESTING IN INTRODUCTORY STATISTICS: A PILOT STUDY

Heidi HULSIZER

Department of Mathematics & Computer Science
Benedictine College
United States
hhulsizer@benedictine.edu

Aminul HUQ

Center for Learning Innovation
University of Minnesota Rochester
ahuq@umn.edu
United States

Wei WEI

Mathematics Department
Metropolitan State University
United States
wei.wei@metrostate.edu

Abstract: The placement of hypothesis testing in the timeline of an introductory statistics curriculum might have significant effects on learning outcomes. This study aims to investigate whether the introduction of the concept of hypothesis testing early in the semester significantly increased student understanding of the topics surrounding it. Students were assessed on various aspects of hypothesis testing: the inquiry process, formulation, algorithm, and decision making. The data indicated that the introduction of hypothesis testing early in the semester had significant, positive results on student performance, compared to introducing hypothesis testing later in the semester.

INTRODUCTION

Creating an effective, meaningful, and goal oriented introductory statistics curriculum is one of the core curricular problems one can encounter in teaching undergraduates. Several researchers over the years have suggested a major resequencing of introductory statistics courses (Wardrop 1995; Cobb and Moore 1997; Cobb 2007; Malone et al. 2010). One of the learning objectives in an introductory statistics course is the mastery of statistical inference, particularly hypothesis testing. Results from the delMas et al. (2007) study indicate that the introductory statistics course had not significantly improved students' correct interpretation of significance tests. Cobb (2007, pp. 11) recommended that "We need a new curriculum, centered not on the normal distribution, but on the logic of inference." Wardrop (1995) proposed a new sequence of topics that focused on introducing inference much earlier in the course. Garfield et al. (2012) suggested a new curriculum with a simulation-based approach and informally introduce hypothesis testing before making formal procedures. Prodromou (2017) brought up a similar idea of introducing a model-based inference informally before a formal procedure.

With the current push toward evidence and modeling based teaching (ASA 2014; MAA 2015) we see the need to re-evaluate the classical topic sequence in introductory statistics course that is found in most textbooks. The report "Connecting Research to Practice in a Culture of Assessment for Introductory College-level Statistics" (Pearl et al. 2012) lists researching efficient learning progressions for introductory statistics as a need in current curricula. Many times instructors pick up a textbook and follow the sequence of topics laid out in it, leaving the planning of the course design on the book selected. Attempts should be made, and are being made, to connect the current research findings to our teaching. In this study we hope to focus on one particular topic in a typical introductory statistics learning progression - hypothesis testing. We hope to contribute to the research on when this topic should be discussed in the sequence of course material.

In this study we wanted to determine the effectiveness of introducing the concept of hypothesis testing on the first day of class (e.g. Aliaga and Gunderson 2006) or very early in the semester. Our goal for this rearrangement is to achieve better student understanding of the concept of hypothesis testing by the end of the semester. By shifting the topic of testable hypotheses to the beginning of the semester, the concepts then have the opportunity to be reinforced and corrected throughout the semester. Also, instructors can analyze short term learning objectives at different points in the semester and see if they align well with the long term course goals related to modeling and inference. What we call the hypothesis first approach (or HF for short) is similar to the way

Aliaga and Gunderson (2006) sequenced the topics in the beginning chapters of their textbook. The hypothesis first curriculum introduces the formulation of a testable hypothesis, the concepts of p-value, type I and II error, and the logic of a decision rule at the beginning of a semester in an intuitive way. Therefore, instructors can discuss the topics informally early, and then come back later to discuss the formal mechanics. Hong and O'Neil (1992) found evidence that teaching the ideas behind hypothesis testing before the formal procedure was a beneficial instructional technique. This type of informal introduction has also been recommended and formalized by Zieffler, et al. (2008). Dolor and Noll (2017) have summarized three newest approaches to an introductory statistics curriculum, and one of them was this type of informal inference. This study focuses on comparing student performance using two curricular approaches - an early introduction to hypothesis testing (HF - hypothesis first) and a traditional approach midway through the semester (denoted HL throughout this paper to stand for hypothesis later). Outside of the introduction of hypothesis testing, the rest of the course material is introduced in the same way as the traditional curriculum.

One reason that we chose to emphasize hypothesis testing in this research is because we believe it is an essential topic to introductory statistics and, even more so, it is a threshold concept (Taylor and Meyer 2009). The term threshold concept has been used to describe troublesome topics in many disciplines (Meyer and Land 2003; Land et al. 2008; Meyer and Land 2009; Walker 2013). Meyer and Land (2005) characterized threshold concepts using four criteria: a threshold concept is transformative, irreversible, integrative, and troublesome. Bulmer et al. (2007) also included hypothesis testing as a troublesome concept or, as others may call it, a threshold concept. Studies have shown that the concepts and applications related to hypothesis testing are probably the most misunderstood and misapplied topics of statistics (Brewer 1985; Batanero et al. 1994; Cobb and Moore 1997; Castro Sotos et al. 2009; Aquilonius and Brenner 2015; White 2004).

One benefit to the hypothesis first curriculum is that it includes more opportunities for reinforcement of the material, sometimes called distributed practice. When student learning activities are spaced out over the course of a semester, students may recognize that they have forgotten some of the material in that time period. When this happens they will tend to implement encoding methods that lead to better retention of the material; for example they may begin new study strategies that will lead to less forgetting (Benjamin and Bird 2006). Research also indicates that the knowledge structures of the students became more consistent and correct during the period of the course if it is reinforced (Bude et al. 2011). One question of other statistics researchers has been "how much repeated exposure is necessary for students to develop a deep understanding of statistical significance...?" (Chance, Wong & Tintle, 2017) As other researchers are examining this while using randomization methods, it will be interesting to compare those results to investigations using non-randomization techniques. As one group of authors reported "A key advantage of the randomization-based curriculum may be that students are able to conduct formal and informal inference on data early in the curriculum." (Tintle, Topliff, VanderStoep, Holmes, & Swanson, 2012). We hope this article will help to contribute to this discussion.

We collected data from one campus where all introductory statistics classes introduced parametric hypothesis testing rather than simulation/randomization tests. In our study we assessed the students' ability to formulate and test a hypothesis, make a decision and contextualize the result in both hypothesis first (HF) and hypothesis later (HL) curriculum.

METHODS

OVERVIEW OF INSTITUTION AND CLASSES

Our study compared the hypothesis first and hypothesis later curriculum from one instructor teaching two sections of the same course. The college involved in the study is a private, residential liberal arts college for men with a 95% confidence interval for the math SAT score of (556.45, 562.51). The institution does not offer a Statistics major.

The statistics course is a four credit hour course that meets four times a week in the morning hours and is fourteen weeks long. The statistics classes range in size from 20-30, in particular, the two sections involved in this study have 26 (hypothesis later) and 21 (hypothesis first) students. The classes are service courses for most students and required for Economics majors, which is the predominant major at the college. Students usually take this course their first year or second year.

Students self-selected into the classes without knowledge of the topic sequence. The HF class was told on the first day of class the steps of the scientific method. The instructor wrote on the board two distributions of

colored poker chips (about 10 chips per distribution). The students then sampled from two bags to determine which bag corresponded to the appropriate distribution on the board. To introduce p-value and type I/II errors, students were asked to think about the situation of removing only one poker chip and then having to make the decision as to which distribution of chips was in the bag. Because the sampling ($n=1$) was small calculating the probabilities was not complicated. The steps of a hypothesis test were described, but not with the formal language of statistics (however, the definitions of type I/II errors were given). The HL group was introduced to hypothesis testing after learning descriptive statistics, the normal distribution, z-scores, and sampling distributions (see Table 1). The first hypothesis test introduced to the HL group was using a normal distribution with the logic of a sampling distribution (following the text *The Basic Practice of Statistics* by Moore). The HL group was given a different first example to hypothesis testing because they had just learned the sampling distribution and the hypothesis test was a use of this concept.

ASSESSMENTS

We analyzed different aspects of hypothesis testing: inquiry process, formulation, algorithm, and decision making and contextualizing. The baseline assessment was given on the first day of the class and the final assessment was embedded in the final exam. We assessed the different classes at different times in the semester (see Table 1), however most assessments were given a week or two after the material was introduced. Several of the assessment questions were from the Assessment Resource Tools for Improving Statistical Thinking (ARTIST) (Garfield et al. 2006). A discussion on the formulation of the test is found in an article by delMas et al. (2007). A list of the assessment questions is given in the Appendix.

Table 1. Course Outline. Assessments in Bold.

| Hypothesis First Course Topics | Hypothesis Later Course Topics |
|---|---|
| Baseline Assessment given -first day | Baseline Assessment given -first day |
| Hypothesis Tests/Inference, p -value, type I/II error (Formulation - In week one) | Displaying Distributions/Descriptive Stats |
| Displaying Distributions/Descriptive Stats | Normal Distribution |
| Normal Distribution | Linear Regression |
| Linear Regression | Correct Sampling Designs/Experiments |
| Correct Sampling Designs/Experiments | Probability |
| Probability | Binomial Distribution |
| Binomial Distribution | Law of Large Numbers and Central Limit Theorem |
| Law of Large Numbers and Central Limit Theorem | Hypothesis Tests/Inference, p -value, type I/II error (Formulation - In week seven) |
| Z Confidence Intervals/Tests (Algorithm) - Formal introduction to hypothesis tests | Z Confidence Intervals/Tests (Algorithm) |
| T Confidence Intervals/Tests | T Confidence Intervals/Tests |
| Intervals/Tests for Proportions | Intervals/Tests for Proportions |
| Chi-Square Test | Chi-Square Test |
| Inference for Regression | Inference for Regression |
| Final assessment (Decision Making/Contextualizing) | Final assessment (Decision Making/Contextualizing) |

Four assessments were given during the course (see Table 2). On the baseline assessment there was a question regarding the inquiry process. This assessment on the inquiry process was to get a baseline of how the students would form a statistical study without any teaching from the class. The assessment question asked students to “describe a multi-step process of how” a professor could prove a group of students was significantly shorter in height than the campus population. The second assessment tested formulation, to see if students could correctly create a null and alternative hypothesis in words and symbols; this was given a week after the topic was introduced to students. The third assessment tested students on the hypothesis testing algorithm. Our goal for this assessment was to evaluate a student’s ability to go through the complete process of: creating hypotheses, determining the appropriate test, calculating the test statistic, determining the p-value, determination of significance, and creating a conclusion in context. The final assessment was given at the very end of the semester to evaluate students’ ability to make a decision using statistical thinking.

Table 2. Assessment Outline.

| Assessment Name | Topic(s) Included |
|--|---|
| Baseline (first assessment) | Describe the process of a hypothesis test - do the students have any prior knowledge of the process |
| Formulation (second assessment) | Create a null and alternative hypothesis in words and symbols |
| Algorithm (third assessment) | Complete all steps necessary for a hypothesis test |
| Decision Making / Contextualizing (final assessment) | Complete Baseline question again and make decisions using statistical thinking |

All assessments were given during class or exam periods and graded by the instructor according to a predetermined rubric. The questions for each assessment were worth different points according to how many steps were needed for a particular question, and the final grade of each assessment was recorded as percentages.

PROCEDURES

We collected data from one instructor and the instructor used the same textbook for both hypothesis first and hypothesis later curriculum, *The Basic Practice of Statistics* by David Moore (2010), which introduces hypothesis testing near the middle of the text. Texas Instruments (TI) calculators were used to find descriptive statistics, calculate binomial probability, and to conduct formal hypothesis tests. The instructor lectured for three of the four classes weekly and used the remaining one class entirely on group/cooperative activities and had one semester long group project. During the group activities, students were given problems to work using TI calculators. These group activities were graded by the instructor after class. Group activities included 3-4 individuals and were self-selected for all classes.

We compared two distinct time frames (see Table 1) for the introduction of the concept of hypothesis testing, one during the first week of instruction (hypothesis first - HF) and one where hypothesis testing was introduced around the seventh week of instruction (hypothesis later - HL). The instructor gave the baseline assessment at the beginning of the semester. The time in which assessments two and three were given is shown on Table 1, and the final assessment was given at the final exam. The assessments were given one to two weeks after the topics were introduced to the classes.

STATISTICAL ANALYSIS

We calculated the descriptive statistics for each assessment for HF and HL groups, and the 95% confidence intervals of the mean difference between HF and HL for each assessment. To perform the analysis, we firstly tested the normality assumption for the four assessment scores. The histograms of the baseline assessment and assessment two showed that the data were skewed to the right. The data from assessment three and the final assessment showed normal distributions. Thus, we conducted a 2 by 2 ANOVA, with one factor being pedagogy with the two levels (HF and HL), and one factor being assessment with two levels (the third and final assessments). The dependent variable was the average score from each assessment. Both pedagogy and

assessment were fixed factors in the analysis. The ANOVA model is $y_{ijk} = \mu + \alpha_i + \beta_j + \alpha_i\beta_j + \epsilon_{ijk}$, where α_i represents the pedagogy effects, β_j represents the assessment effects, and $\alpha_i\beta_j$ is the interaction between pedagogy and assessment.

Given the data did not follow normal distributions for the baseline assessment and assessment two, nonparametric analyses, Mann-Whitney U tests, were conducted to compare the median differences between HF and HL groups.

We used an alpha level of 0.05 for all statistical tests. All the analyses were conducted using the IBM SPSS Statistics 24.0 software (IBM Corp. Armonk, NY).

RESULTS AND DISCUSSION

The descriptive statistics for all four assessments are shown in Table 3. We found that the average assessment scores for the HF section were consistently higher than those for the HL section for the third and final assessments at the end.

Table 3. Descriptive Statistics for All Assessments for HF and HL Sections.

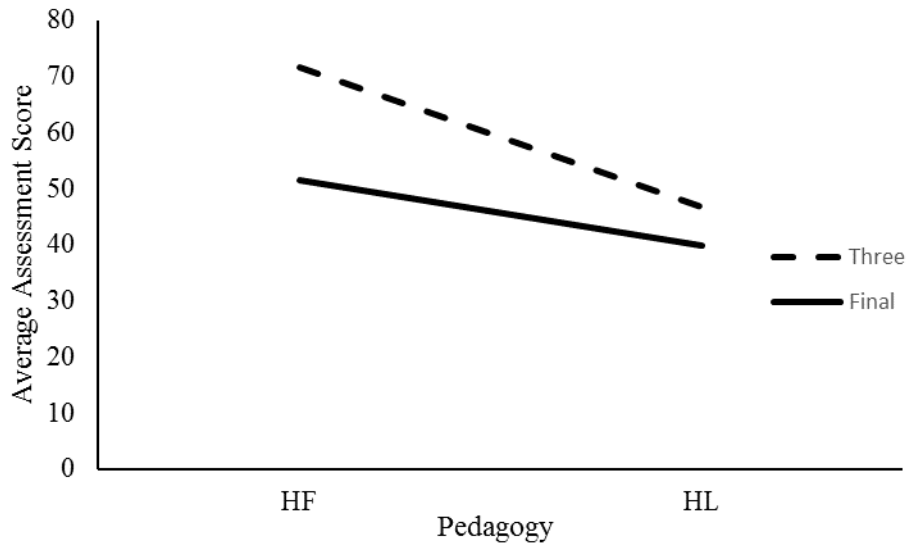
| Assessment | Pedagogy | Mean | SD |
|--|----------|-------|-------|
| Baseline (Inquiry Process) | HF | 6.40 | 9.52 |
| | HL | 19.13 | 15.34 |
| Two (Formulation) | HF | 15.91 | 27.33 |
| | HL | 23.44 | 29.54 |
| Three (Algorithm) | HF | 71.59 | 20.36 |
| | HL | 46.76 | 24.28 |
| Final (Decision making / contextualization) | HF | 51.62 | 15.42 |
| | HL | 39.92 | 19.57 |

The Mann-Whitney U test of the baseline assessment shows that the median assessment score of HF was significantly lower than the median assessment score of HL ($U=155.5$, $p\text{-value}=0.003$).

The Mann-Whitney U test of assessment two indicates that there is no significant difference between the median scores of HF and HL ($U=146.5$, $p\text{-value}=0.321$).

The two-way ANOVA for assessment three and the final assessment shows that there is a significant main effect of pedagogy ($F(1,75)=16.34$, $p\text{-value}<0.001$), there is a significant main effect of assessment ($F(1,75)=8.80$, $p\text{-value}=0.004$), but there is no significant interaction between pedagogy and assessment ($F(1,75)=2.11$, $p\text{-value}=0.15$). Figure 1 shows that the mean assessment score of HF is significantly higher than that of HL.

Figure 1. Average assessment scores for HF and HL for the third and final assessments



The 95% confidence intervals of the mean differences between HF and HL for all the assessments are provided in Table 4. Based on the 95% confidence intervals, we also observed that the average score of HF is significantly higher than that of HL for the third and final assessments.

Table 4. 95% confidence intervals for mean differences.

| Assessment | 95% confidence intervals (HF-HL) |
|--|----------------------------------|
| Baseline (Inquiry Process) | (-20.086, -5.375) |
| Two (Formulation) | (-26.365, 11.309) |
| Three (Algorithm) | (10.550, 39.112) |
| Final (Decision making /contextualization) | (0.363, 23.051) |

We noticed a trend through our assessments: the HF group started out significantly lower on the baseline assessment, gained ground on the second, then obtained a significantly higher score than HL by assessment three, and maintained significant better performance through the final assessment.

LIMITATIONS OF THIS STUDY

We outline some of the major limitations of this pilot study. First, gender of students could be an issue as the data collected was solely from male students. Secondly, the assessment questions are not all validated, even though some of them were from ARTIST questions that are validated. Third, the sample sizes are small. For a pilot study and data collected at a small institution this is to be expected; however, in order to extend these results, more data is needed. Finally, only one instructor from one institution was used to compare the two instructional approaches. In the future it would be essential to gather data from multiple instructors at various types of institutions.

CONCLUSION AND FUTURE GOALS

This study was initiated with the expectation that the hypothesis first curriculum would help students to better understand and internalize the process of hypothesis testing, and related concepts, over the course of the semester. Our statistical analysis revealed that there was a consistent pattern that the average assessment grade of HF was higher than that of HL for the last two assessments. Overall, this pilot study indicates the hypothesis first curriculum is beneficial to student learning in an introductory statistics course at a traditional institution.

A tremendous number of research studies have focused on the teaching and learning of statistics over the past decade (van der Merwe and Wilkinson 2011) and the difficulty encountered by students in understanding the concepts related to distribution, center and variability is one of the focuses of these research studies along with misconceptions about interpretation of p-value (Batanero et al. 1994; delMas et al. 2007; Garfield and Ben-Zvi 2007). There is also research that suggests instructors should develop concepts related to hypothesis testing early in a statistics class in an intuitive/informal way before formally developing the theory (Garfield et al. 2007, Zieffler et al. 2008). Introducing hypothesis testing informally at the beginning of the class can give students an overview of part of the process of statistical analysis before they dive into the individual concepts more rigorously. Formal introduction of the whole process of hypothesis testing later on in the semester for the HF group can then give more opportunity for students to review.

As a future goal it would be interesting to conduct the study with a larger sample size and diverse student population. Another goal could be to analyze the efficacy of other threshold concepts in the introductory statistics course as it is laid out currently; and also, from a course design perspective, to investigate the importance of timing or placement of these topics in the course. With the new curriculum recommendation from the ASA (2014) that focuses on a more data oriented and modeling approach, it may be the appropriate time to look at the sequencing of the topics in introductory statistics courses for non-majors and majors alike.

APPENDIX: ASSESSMENT QUESTIONS

BASELINE

1. (Include this problem as part of the initial test and on the final assessment.) A professor thinks the incoming class of freshmen at his university is significantly shorter than the rest of the student population. Suppose the total student population is around 60,000 students. Describe a detailed multi-step process of how the professor could try to prove his claim. (5pts)

FORMULATION

1. Dr. Smith thinks the students in his mathematics class are smarter than the students in other sections of the same class. He wants to use the students' first exam scores to prove his point. Luckily, each section of the math course takes the exact same exam. He has access to the grades from the six other courses at his university. Dr. Smith's class average was 85% for his 32 students. The class average for the other sections was 80% for 250 students. Using this data, what hypotheses should Dr. Smith test? Write your answer in a complete sentence and then in symbols. (2pts)
2. (ARTIST question) Suppose you want to determine whether students' expected grades at the beginning of an introduction to statistics course are positively related to their final course grade. Write the null and alternative hypothesis in words. (2pts)

ALGORITHM

1. Suppose that the average shoe size of 8-year-olds is 7. In a class of 8-year-olds the teacher thinks the average is not 7. For this situation suppose a test statistic of $z = 1.76$ has been calculated. Assuming shoe sizes are normally distributed, is this test significant for $\alpha = 0.05$? State your hypotheses in symbols and words, perform the appropriate test, make a decision and state your conclusion in context. (8pts)
2. A study followed 89 infants from low-income families from birth to adulthood. At age 20, the mean IQ score for these infants was 98.7. IQ scores follow a Normal distribution with $\sigma = 15$. IQ tests are scaled so that the mean score in a large population should be $\mu = 100$. Researchers suspect that the low-income population has mean less than 100. Does this study give good evidence that this is the

truth? State your hypotheses in symbols and words, perform the appropriate test, make a decision and state your conclusion in context. (8pts)

3. (ARTIST question) A manufacturer of light bulbs claims that its light bulbs have a mean life of 1520 hours. A random sample of 40 such bulbs is selected for testing. If the sample produces a mean value of 1498.3 hours and a standard deviation of 85 hours, is there sufficient evidence to claim that the mean life is significantly less than the manufacturer's claim, using the $\alpha = .01$ significance level? State the hypotheses, report the test statistic, and draw the appropriate conclusion in context. (8pts)

DECISION MAKING/CONTEXTUALIZING

1. Which of the following is the best completion of the statement? A hypothesis test...: (1pt)
 - a. Proves the null hypothesis is true or false.
 - b. Proves the probability of the null hypothesis occurring.
 - c. Evaluates the evidence in favor (or against) the null hypothesis.
2. (From first assessment.) A professor thinks the incoming class of freshmen at his university is significantly shorter than the rest of the student population. Suppose the total student population is around 60,000 students. Describe a detailed multi-step process of how the professor could try to prove his claim. (5pts)
3. Why do very small p-values indicate that the evidence against the null hypothesis is strong? (Circle one.) (1pt)
 - a. Because the p-value is the probability that the null hypothesis is true.
 - b. Because the small p-value indicates that the data lie within the confidence interval.
 - c. Because the small p-value indicates that data like ours would be very uncommon if the null hypothesis were true.
 - d. Because the small p-value indicates that data like ours would be very common if the alternative hypothesis were true.

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EDUCATIONAL REFORMS IN LATIN AMERICA AND TEACHERS FOR THE 21ST CENTURY

César Augusto Aguirre León
Corporación Universitaria Minuto de Dios
E-mail 1: caguirre@uniminuto.edu
E-mail 2: larsenaguirre@gmail.com

Abstract: It is presented an approach to the implementation of different educational reforms in Latin America in the last 30 years, evaluating the role of the teacher in the implementation of them and their location in the scaffolding of 21st century society. From this perspective, it is analyzed the importance that currently has the design of learning environments that take into account ICT and the possible clashes between State policies that seek the unification of strategies when the resources offered today by technology invite to a multiplicity of paths to follow in pursuit of learning goals.

Keywords: Educational reform - Learning environment - Teacher leadership

INTRODUCTION

The educational reforms aim to generate changes in the system that is responsible for training the citizens of a country at a certain level of propaedeutic cycles, whether pre-school, elementary school, high school, middle school, technical, technological or professional. The modifications that are presented in an educational system correspond to the structural scaffolding of the same, these modifications can attend extension of days, curricular aspects that attempt to satisfy the labor market, institutional cultures, budgetary allocation, administrative decentralization, etc. (Zaccagini, 2004). An educational reform that comes from the State without the intervention of the social bases of a country, it is a mechanism to direct the path of the allocation of capital and the organization of human groups, *it is an instrument of ideological cohesion that monopolizes the State, legitimized in the Constitution. It is clear that the teacher has to reproduce the contents that educational policies determine as appropriate for the interests of the State. However, the denial of this fact is the starting point to understand why there is an incongruence between the idealistic aims of education and its real practice* (González & González, 2016, p.42).

While it is true that the reform aims to generate State policies that reach all populations, it is ultimately the teacher who must make this goal real in the classroom. In this sense, the existing ruptures between the government and the teaching class create problems for the implementation of the strategies and do not consolidate a true path that everyone continues in a certain country. From different perspectives, the role of the teacher in the execution of reform proposals is perceived as *a process of social nature and situated, carried out by teachers in particular school contexts, which entails the realization of a set of activities that are configured in a historical-cultural context that gives them structure and coherence* (Contreras, 2016).

In Spain, it is considered that *it is not enough to have "new" decrees of autonomy that delegate competencies to the centers, it is necessary to create certain conditions to make effective an autonomy that improves the quality of education* (Cruz, 2016, p.15). In Mexico, the voices are pronounced about *the ineffective centralism of an instance of the executive that increasingly makes the possibility of creativity more remote at the level of school, locality, population, municipality and state* (Gil Antón, 2012, page 162).

According to Tello, when referring to Chile, Argentina and Mexico, State policies on education *must promote the proactive participation of teachers in the changes demanded by the reform processes. This implies establishing spaces, procedures and structures that facilitate their participation at the different levels, in the school, the local, regional and national community* (2013, page 155). In this regard, some studies of the late twentieth century explained that investments in public education and teacher training did not definitively impact the quality received by students in their training. As Gómez explains, the capital was directed largely towards higher education goals, contrary to what the Asian countries did, which began from the same starting point but decided to attend with full coverage and high teaching quality to the initial grades; the great differences that exist with respect to the results that can be seen today are evident (1998).

However, there is currently progress in new research which wants to find elements that support a truth that is intended to be undeniable, that is to say, a greater investment in public teachers and infrastructure that addresses the size of the class and the time spent in the classroom, will make students be better prepared. There is an ample

evidence to determine that the low coverage and quality results achieved in Latin America were given as consequence of inequities and deepening of socioeconomic gaps, in many cases due to a misallocation of education spending. *In other words, the educational progress of the region after the adjustment policies was poor, that is to the detriment of the poorest and contributed to social inequality* (Miranda, 2015, p.143). This confirms that the short-term policies that have been allocated on temporary defined governments, do not affect the training of the citizens of each country. In addition, it is evident over the years that the percentage of gross domestic product (GDP) spent on education each year has not increased significantly in the region.

Table 1
Public expenditure on education 2010, 2011, 2012, 2013 (% GDP)

| COUNTRY/YEAR | 2010 | 2011 | 2012 | 2013 |
|--------------|-------|-------|-------|-------|
| Argentina | 4.6 % | 5.0 % | 5.1 % | s/i |
| Brazil | 5.7 % | 5.7 % | 5.9 % | s/i |
| Chile | 4.2 % | 4.1 % | 4.6 % | s/i |
| Colombia | 4.8 % | 4.5 % | 4.4 % | 4.9 % |
| Ecuador | 4.1 % | 4.3 % | 4.2 % | s/i |
| El Salvador | 3.5 % | 3.4 % | s/i | s/i |
| Guatemala | 2.8 % | 2.9 % | 3.0 % | 2.9 % |
| Honduras | s/i | s/i | s/i | 5.9 % |
| Mexico | 5.2 % | 5.2 % | s/i | s/i |
| Panama | s/i | 3.3 % | s/i | s/i |
| Paraguay | 3.8 % | 5.0 % | 5.0 % | s/i |
| Peru | 2.8 % | 2.7 % | 2.9 % | 3.3 % |

Source: Own elaboration based on UNESCO data, ECLAC data and administrative data by country.

Taking all the above into account, it is important to address now a new company that is already part of education without the previous tasks have been satisfied: the society of the 21st century requests a new type of human being who must be adapted to the use of ICT and prepared for self-management of knowledge; *globalization and the scientific and technological revolution must alert governments to establish competitive strategies that allow the economic, political, social, cultural and educational growth and development of their countries* (Heredia, Armendáriz, Hernández, González & Ávila, 2016) , unfortunately, as it has already been stated, public policies are not always directed towards these objectives, they also have the inconveniences involved in strategies that do not last longer than the successive governments and from purposes in which intervene the different levels of the central and local bureaucracies. Something else to keep in mind is that the work of teacher training in the field of ICT is not immediate or its fruits are easy to identify, it is rather a complex process in which the fruits of the determinations of general or regional States are only seen in the medium and long term (Argentina, UNICEF, & Vaillant, 2013).

The reforms have not started from the base and therefore are not projected towards the learning environments. They are not taken to the classroom and do not incorporate ICTs holistically in the different teaching-learning processes. On the contrary, the economic establishment has shown intentions to liquidate taxes that subsidize the teaching salary; besides promoting the privatization of public universities and favoring private ones with scholarships granted to students from public schools, but paying high figures to private institutions (Puiggrós, Torres, Rodríguez, Gadotti, Russo, Swope, & Zalmora, 2017).

TOPICS AND SUBTOPICS

EDUCATIONAL REFORM AS A QUALITY STRATEGY

The governments try that the modifications implemented from laws, decrees and directives improve topics of coverage, quality and competitiveness. In general, Latin American countries have been working on this from the directions given by international entities such as the World Bank, the Inter-American Development Bank, ECLAC or the OECD. In Colombia, the basic education cycle has reached 100% gross coverage, 97% was reached at pre-school levels and 75% on middle school. Similarly, the PISA tests for 2006 and 2009 show improvements in math, reading and science; However, this does not even increase in the OECD rates (Delgado, 2014). In addition, as shown in Table 1, for 2012 this growth could not be maintained.

Since Latin America has maintained a constant process of reform since the late eighties, it is easy to find in the results mentioned that the objectives have not been clear, that resources have been misdirected, that corruption has prevailed or that has not been attended the fundamental academic aspect that is present in the classroom, it is to say, in the space shared by students and teachers as an environment for learning. *It is not wrong to recognize*

that the worst social crisis is caused by acts of corruption in different social stages, affecting in a special way education (Cadavid, Hernández, Bustamante, H. D. J. V. & González, 2015).

The goals that the inhabitants of a given country in Latin America perceive as adequate are in danger due to the importation of those policies formulated by international agencies and organizations, which serve to the consolidation of the neoliberal economic model, safeguarding its main objective of privatizing public services (López, 2017).

The quality of education that a student receives is determined by the access to resources such as libraries, internet, recreational and sports training spaces; for conditions such as health, adequate food, proximity to the study center, security in the areas surrounding their institution; and by factors such as the teachers training, the updating of curricula and the propaedeutic structure that leads them to higher education. That is, quality is a polysemic concept that is not dependent on the trends of the time and the decisions of the current governments, which tend to believe that addressing only one or a couple of these needs, the problem will be solved. We must also take into account that always the measures that governments use will account for the benefits of their management and of the difficulties associated with the implementation that will correspond to the teachers *according to the way of conceiving them, will be generated different ways of evaluating them: some will rescue a more quantitative vision (for example, the efficiency or cost - outcome approach) and others a more qualitative view focused on internal processes and the optimization and transformation of the educational process* (Guzmán, nd, p.4).

Table 2:
Comparative positions PISA 2019-2012

| COUNTRY | POSITION 2009 | POSITION 2012 | POSITION 2015 |
|----------------|----------------------|----------------------|----------------------|
| ARGENTINA | 58 | 59 | 40 |
| BRAZIL | 53 | 58 | 62 |
| CHILE | 44 | 51 | 45 |
| COLOMBIA | 52 | 62 | 57 |
| MEXICO | 48 | 53 | 56 |
| PERU | 63 | 65 | 63 |
| URUGUAY | 57 | 55 | 48 |

Source: Own elaboration based on data OECD, PISA 2013

Then, it will be arrived at the measurement that is carried out through external tests or national censuses, in which normally Latin America has not gone well.

All this, it is possible that there are few things in which the different levels of a country agree on the subject of education, but, at least in what it is said in public, it will be accepted that quality is a goal and that with it will be achieved the principle of equity that is the basis of the educational act ever since. The reforms aim to avoid differential treatments that end up benefiting sectors with higher incomes, but this is inevitable if you do not live in school with the different actors that are economically stratified in society. Intersectoral policies, compensatory programs, positive discrimination, increased resources from national and international incomes, agreements that achieve State policies, among others, are strategies that must be implemented.

In addition, a concern arises that comes from the already remarkable growth of the populations in the big cities and from the transformations that occur in the ideology about the future which individuals have from what the modernity offers; This issue must be addressed as a tutelary measure of the societies, sometimes without being possible to think about quality, even though as already indicated, this word is always present. *To put it briefly: educational systems are facing the challenge of incorporating the members of the new generations, who come from socio-cultural sectors that until now were alien to them and also children and young people whose subjectivities have been formed in dialogue with societies that are technological and culturally very different to those referred to in the pedagogical proposal of the school* (Tiramonti, 2016, p.168).

Since the governments have advanced in recent years around the implementation of these initiatives but must also have a strict monitoring of what happens in the classroom, because that is where the hidden curriculum is put into action and can avoid that the processes of generation of new looks of the educational act occur. In addition, there is a latent truth that has been identified from the political point of view: *the capacity for anticipation requires an agreement that guides the behavior of the actors in terms of national goals* (Tedesco, 2016, p.86), which is not always easy to achieve, especially when the renovating ideas do not take into account the bases. In this tangle it is possible that is at risk *a school that makes available to all the inhabitants of the*

country, without distinction of wealth, race or religion, the knowledge and values necessary to participate in a competitive and supportive society (Aguerrondo, 2017).

According to ECLAC reports, except in Colombia and Chile, the rest of the countries of Latin America continue without establishing policies to encourage teachers to change their attitudes in the classroom; they continue to allocate most of the budget towards higher education and they do not have a process of evaluation by stages and with definition of priorities.

The international organizations advise to invest in high impact strategies, but with the certainty that this investment is effective for the goals of the countries. That is to say, that the only salary increase for teachers should not be given if it is not accompanied by the location of the most qualified ones in the first levels, namely the preschool and primary school; Also, it is important the constant feedback of the processes through tests that reach the teachers, increases of time in the school day of the students, special support for rural education and specific resources funds for institutions with certified achievements.

MANAGEMENT OF LEARNING ENVIRONMENTS

The meeting in the classroom – face-to-face or virtual- that takes place between the teacher and the student is an experience that marks the life of human beings, not only because the first one has certain factors of power that society has attributed to him/her and that today are quickly demystified, but because this encounter generates in one and another great variety of feelings, anxieties and conflicts. That is why we must change the schemes that make education focus on the simple reproduction of contents. Teachers must change the pedagogical intention of their actions and the interaction with their students; must move away from situations in which the only thing that is requested is the correct answers of the activities carried out, have to be habitual the reflections to the group. The task cannot have a single way to perform correctly (Murillo, Hernández-Castilla & Martínez-Garrido, 2016).

Today, the citizen should be a compendium that revolves around justice, respect for the other, the organization of processes in search of knowledge, social, economic and community balance. It is glimpsed a citizen of knowledge who is an individual but who lives in the group from a social base (Buendía, Espinosa, Agustín, Martínez and América, 2007). It seems then a difficult task for the teacher to reach citizens who can meet these ideals, but that is precisely the factor that must be taken into account when viewing each student as a particular being with different learning characteristics and times, not as a part of the mass that makes up a certain group. Unfortunately, in the face of a general lack of analysis of the pedagogical dimension of school work, teacher improvement is the result of attending compulsory courses, distance training systems or the generalization of a system of exams for students and for teachers (Díaz and Inclán, 2001).

While it is true that currently the competitiveness of countries with respect to the global market for goods and services makes investment in education must be high, there are according to Molina, Amate and Guarnido (2011), a number of factors to have account in this type of investments: economic, demographic, political and institutional. In the first instance, if the population growth figures are cross checked with the levels of literacy, it ends up by stating that in general, the training indexes increased during the 20th century, favoring the incorporation of different cultural aspects to the heritage of each person; With respect to the political, the left has their electoral wealth in the lower classes, so they direct spending to public education, while the right parties intend to reduce the tax payment of the upper classes, so they invest less in education; Finally, with respect to the institutional aspect, contrary positions are found around the advantages and disadvantages of centralization, due to the spending destinations and to the possibility of decreasing the items.

Table 3

Literacy rate Latin America 2013 in population percentage.

| COUNTRY/YEAR | 2015 |
|--------------|------|
| Argentina | 98.1 |
| Brazil | 92.6 |
| Chile | 96.6 |
| Colombia | 94.6 |
| Ecuador | 94.5 |
| El Salvador | 87.6 |
| Guatemala | 79.1 |
| Honduras | 88.4 |
| Mexico | 94.5 |
| Panama | 95 |
| Paraguay | 95.5 |
| Peru | 94.4 |

Source: Own elaboration based on ECLAC data.

In the particular, the student with his varied ways of learning, product of the intelligences that are his own and of his constant or transitory difficulties, requires a personalized treatment that is difficult to achieve in the regular classroom that only responds to the policies of State; the teacher should be concerned with the construction of more participatory and inclusive learning environments, taking into account that the use of ICT is an opportunity that allows us to advance inclusive educational processes.

Perhaps for this reason Reimers (2000) invites that the equality of opportunities that is gestated in the political act, in search of a more equitable society and with social justice, take into account the participation of all the actors of the educational act: central and regional governments, private and public institutions, communities, parents, teachers and students.

Although the relationship between training and productivity does not have a necessary one-to-one verification, *a direct relationship between education, employment and income is presumed, and in this relationship different social actors participate: workers, employers, education system, physical capital and human capital, among others; The conjugation of all these factors favors the economic development of the countries* (Villalobos and Pedroza, 2009, p.284). It is not understandable from this perspective that basic, middle and higher education in Latin America is not the main concern of governments; not only in the expenditure that goes to this line, but in the importance that is given to the State policies in relation to the formation of all the citizens. For example, a country like Colombia, which in the current century has been increasing the money to be spent on education, decreases investment in research and avoids generating tax rebates for those who wish to train at the master and doctoral levels.

TEACHERS WITH DEMOCRATIC ATTITUDE

In spite of the fact, that the State generates a series of standards from which it has been thought from the macro level the general compendium of knowledge that each area has to present to the students, and in spite of the fact that Higher Education Institutions -HEI- must generate standardized curricula that have to be met under penalty of losing opportunities for accreditation of programs by the ministries of education of each country, it is the teacher who has to fulfil the construction of thought structures in the students, which leads them to be responsible for the organization and management of learning environments that avoid exclusion of any kind. This is a rather expensive task, especially if we consider that the goal is to develop a thought that allows to analyze, synthesize, compare, abstract and generalize (Santos, 2008) the knowledge or learning of a certain area.

A classroom currently must allow spaces in which to discuss the actions, procedures, goals and intentions, this without abandoning the general guidelines that are a requirement. Some authors have explored this topic:

1. *From a democratic and critical education, the classroom would be in contact with the social reality, would educate to act in it and would offer many more valuable and meaningful possibilities to those who make little sense to their schooling* (Martín, 2009, p. 42).
2. *It is committed to a liberating, contestatory and proactive pedagogy that transcends the personal through the promotion of critical and social awareness, allowing the individual to develop skills and knowledge, elements with which to free, problematize, question and propose actions of change that result in their individual and collective transformation* (De Márquez, 2009, p.96).

3. *Real democracy reinforces the students' feeling of belonging in the classroom and in the school, feeling that the subjects related to the evaluation have been a shared decision, where the ideas, concerns and opinions of the students have been taken into account.* (Murillo & Hidalgo, 2016, p.9).

4. *As the collaborative learning is fostered in the classroom, it will be experienced social and emotional growth of the students* (Gómez, 2015, page 149).

5. *The participatory process consists in creating a truly cooperative atmosphere in the classroom, in the relations of the students with each other and with the teaching staff. Although the change is minimal, the teacher reformulates activities and sessions according to the needs of the participants in the classroom* (Martín, Martín & Mayo, 2014 p.9).

6. *Today we can perceive that there is a contradiction between the type of education that is provided in schools, and the model of society to which it is formally hoped, because schools are not institutions that were born in democratic societies, that have their origin a democratic vocation* (Delval & Lomelí, 2013, p.22). In relation to this, with the constitution and brought to the reality of democratic classrooms, it is common that the reforms that reach the teacher feel like external messages, giving him the classroom as the only space through which he can see them as a reality.

The above is a problem because in this way the teacher will hardly feel the task to fulfill as his own. *The only way to socialize the reform is to generate a broad training program, which requires the empowerment of a considerable number of people who do not always manage neither to engage in the fundamentals of this nor properly transmit such principles to teachers in service* (Díaz and Inclán, 2001). Moreover, from the training received in higher education to become a teacher and from the slogans of the pedagogy, it is difficult for teachers to accept reforms that start from the budgetary and not the pedagogical, as is the case of those that have formulated for Latin America.

Then, the democratic classroom that is thought by researchers in education and that some reforms propose, it is not assumed as proper in the classroom by the teacher. It is only given as an individual intention or it is perceived as a goal almost utopian. The insistence from the state policies regarding the transformation of the classes processes taught by the teachers at the different levels becomes one of the reasons for the classroom not to admit the change in a general way, so that the schools must live the democracy of the classroom only as the experience and model of some "advanced" teachers.

Also, it should be noted that teachers from Latin American countries are constantly being doomed to receive a low salary and international organizations have considered requests for wage increase as a valid factor in negotiations between unions and governments; nevertheless, the promise of a worthy stipend has not come true. This lack of motivation towards the employee make that resistance to the implementation of new practices be high, which in many cases does not detract from the teacher's interest in carrying out their work by trying learning spaces that meet the expectations generated by their work in the 21st century.

There is an ideal that states that learning environments should be seen from the multidisciplinary, as this will allow the teacher to address the educational problem from different points of view and the student to find alternatives of appropriation, consensus and motivation to approach knowledge. The scenarios in which the educational act currently takes place have placed the teacher before new challenges that force him to assume commitments around the social, which despite being given from the origin of the profession, have apparently been forgotten by the faculties of higher education which train teachers, in pedagogies, and train professionals in general.

Before the "school" form existed, societies learned and socialized through other cultural agencies such as the family, the brotherhoods, the artisan guilds where the knowledge of the trades was transmitted to the new generations (Duarte, nd); nevertheless, in addition to the fact that the evolutionary conditions of society have allowed an organization that establishes goals and specific ways for the educational act, the current world has radically changed the demands made to education. With regard to the people who must train, the teachers and the institutions that group them, are bound to respond to the knowledge society, whether this is based on the reform or on the need that the environment imposes; Young people today are seen as citizens of the world, so many of the factors that will place them positively or negatively in society, are given by their ability to interact through the tools that must be incorporated into their being by the institutions that educate them.

Historically, education has had the purpose of transmitting the cultural and social values of the people, in addition to the minimum requirements to live in society, adapted to the economic and political systems. So, the requirements that today must be developed in individuals to live in society transform the skills that teachers must master. Adding to the existing ones, the training in ICT use, the recognition of knowledge with respect to

interculturality and intraculturality, the leadership and the synchronization with the accelerated change of knowledge, as well as the mediation, dynamization and participation of the knowledge construction process (Buendía, et al., 2007).

The learning environments are now multiple, not only in different educational acts but also in a single teaching purpose, that is to say, that the nature of current students and their particular vulnerabilities invite us to approach the attempt to bring them closer to the domain and the competence in knowledge in different ways. Since Lucié Sauvé (1994) the environment is addressed as a problem, resource, nature, biosphere, livelihood and community space; each of these visions poses a way of assuming the relationship of knowledge and of the individuals that are part of the educational act with the world.

All of the above implies an accelerated change in the educational context, in which, for example, the validity of knowledge is re-evaluated by its vertiginous transformation, weakening the image of the institution as the only means to obtain learning, with which the objectives and the means that it uses in its work must be directed towards new directions or fall into oblivion. In many cases, due to his constant contact with the information of the web, the student knows, albeit superficially, evolutions of the knowledge that his teacher does not manage yet.

However, the new educational demands that the knowledge society poses to education and that responsibilities with the vulnerable require of institutionally and teaching, make an open and flexible curriculum indispensable, but with contents selected from different curricular conceptions which allow the greater number of mental operations (to attend to multiple intelligences) and that make possible to sustain the cultural bases of humanity by motivating openness for the diverse. The essential contents of a certain knowledge must be chosen verifying the context and consensus, as well as its validity and relevance in the reality and in the epistemology of each science (Escamilla 2007).

The foregoing must be related to the educational environment, that is to say, with the favorable conditions so that the projected learning take place, which generally causes problems in Latin American public institutions where investment in infrastructure is low. But in turn environments must make possible for every individual, without distinction of personality, gender, disability or any type of vulnerability to access it.

As mentioned by Duarte, *the educational environment ... is established in the dynamics that constitute the educational processes and that involve actions, experiences and experiences for each one of the participants* (nd, p.12). This environment must address the own particularities of each school but without neglecting the need to be part of the city, the nation and the world. With the means currently available to students, flexibility, problematization, critical thinking and particular needs are aspects that cannot be ignored, because they are already immersed in educational dynamics and because they are part of the intrinsic being of the students.

It is clear that websites and resources for education and research have been strengthened and continue to do so; multimedia, podcasts, chat, Second Life, hybrid websites and academic search engines can be used at any educational level. But the above can lose strength if, as happens in some HEIs, computers are still seeing like typewriters or instruments for information search; This is the reiteration of a classroom in which is intended to deliver knowledge without the intermediation of the peers who are at my side and without the participation of the peers who accompany me from all over the world through the information and communication systems.

The redefinition of the teaching profession is a task that pertains to the educator himself, this without neglecting that relationships in the school cannot be understood from parameters of isolation (Torrego, 2008), but from the opportunity that represents a time of change. *Unfortunately, the school structure is fundamental because it can be conceived to pigeonhole educational work, to respond to the approaches and needs of the formal organization of the system; in many cases it can be oriented towards "nothing happens"* (Díaz and Inclán, 2001); the government finds in it a value that cannot be lost and that has to conform to established norms from itself. In a way, the unification that the reforms aim at conflicts with the complex social system that ICTs establishes to us as a future.

The world of cyberspace allows to program, navigate, write, build, experiment or communicate. These functions illustrate the new experiences of human beings with the machines, made possible by the current information and communication technologies (García, 2003, p 5), the teacher cannot get away from this as it will take him away from his students; in the worst of the cases eager to be linked to technological proposals but almost always immersed in them fully. Currently in the consumption, the teaching function is intimately linked to information and communication technologies.

In fact, the way in which the educational act is organized, that is, the construction of the environment in which the tasks of teaching and learning will be developed, must be dynamic and democratic, must recognize the learning goals, but must not bring certain routes that will be followed; This being so, current technologies are already given by circumstances as part of education. It is the group that visualizes a strategy and puts it into action and it is the group that determines when it is time to change it or vary it with a view to continue advancing towards the objectives.

With the aesthetic act that allows the sensitivities of students and teachers to be combined in harmonic movements that result in the appropriation of knowledge, the awareness will be reached towards the joint task of learning, the construction of that playful awareness that gives as a result joy (Duarte, nd. P.13). The symbiosis generated must bring with it technology, as students will request it or, in very isolated cases, the teacher is obliged to incorporate it in order not to alienate his student community from the general walk of the world.

Sometimes we find sad or apathetic faces in our students when executing the actions that we indicate, perhaps this fact is presented because we have not made them part of the proposal they are making. The collective construction of the educational environment allows to generate recreational activities that can be perceived as *voluntary occupations, exercised within certain limits of time and space, which follow freely accepted rules, but absolutely obligatory*. (Duarte, nd, p.14), that playfulness makes the educational environment a vital space in which knowledge is the element of encounter.

THE TEACHER AS LEADER OF A LEARNING ENVIRONMENT

Somehow it might seem what has been said up to this point goes hand in hand with the dismissal of the teaching profession that is sought from many governments and from some sectors of our society; however, it is important to go back to Torrego (2008) who by quoting Salvador (1995), emphasizes over the role as specialist that meets the teacher in the educational institution. A role that should lead to become a learning facilitator, counselor, manager of coexistence and structural part of the organization to which he belongs. Also Bernal, Marcos and Valdés, follow the same line to indicate that the teacher, as an active subject of the school is a catalyst for processes, develops in himself collective skills, management, proposal, collaboration and institutional impact (2017, p.58).

The above is positive, insofar as the teacher wishes to assume the broad scope in which he must function, since that stagnant criterion according to which he was considered as possessor of the knowledge, is already revalued. *Of course, it follows that the development of thought is only possible in the activity, contributing to this the communication that is established between humans through language* (Santos, 2007, p.318). *Making our schools spaces in which not only is taught but in which teachers learn, represents the great turn we need. And for this, nothing better than understanding that it is the right to learn from our students, the principle that should guide training* (Marcelo García, 2002). At present, knowledge is a good that is available to all those who pursue it, that is to say that the knowledge of formal and factual sciences is available, for which the teacher must dedicate himself to guarantee that the student's autonomy to approach them can be executed with a guarantee of success. This work can be only carried out by someone who knows fully about his specialty, but who is also knowledgeable about *the teaching methods and the evaluation that is more coherent with the classroom work model that is intended to be carried out with the students* (Torrego, 2008, p.6).

In the 21st century it is considered that the world economy has moved in its transformation from an information society (flow of messages) to a knowledge society, the latter is considered as the main resource of growth, competitiveness and employment (Madrigal and Camarena, 2007). With this, it is hardly obvious that the investment made by nations in education will result in a particular and general growth, that is, a benefit for each of those who wish to advance in the educational scale and also for the generality of those who belong to a determined country, be they teachers, basic and middle school students or any other professional. However, the teacher as a leader of a learning space, especially in the Latin American region, must be clear that innovation is not achieved by the novelty of technological application, but by the application of criteria to achieve new formative and communicative scenarios, in other words, there must always be an alternative plan when resources are not present (Rodríguez, 2017).

When mentioning that education for a person must start from desire, not necessarily it leaves out only those who prefer other ways to build their future, but that sometimes, when the conditions are not given, it is possible that the option of education should be discarded. Poverty and inequality can affect the accumulation of human capital: for poor families, investment in education can be unattractive, especially because of the opportunity cost of children and young people who can work at home or receive remuneration at the labor market (Cotte and Cotrino, 2006).

Based on this, the teacher must be prepared to be able to make determinations about the strategies and didactic means to be used, the way in which he must dispose from the near and distant environment, the way in which the group and individual activities will be worked, the times to be handled with regarding each topic and the intervention that he will have in each moment of the class. It should also incorporate the contributions of students and ICT, in order to link the student to wider contexts than the local ones and allow them to illustrate their shortcomings so that they can be intervened in a convenient way.

The criteria for evaluating the process and not the product must have been established beforehand, although one should not be separated from the other. That is to say, if an adequate organization of the different stages that a given course follow, it will have already incorporated the moments in which the teacher will verify the progress of each student with respect to the proposed goals. This constant monitoring allows the individual or collective failures in the acquisition of a certain competence to be corrected and it will enable all students to obtain the expected final product - a product that may coincide with what the teacher expected or present variants of agreement with the particularities of each student-. *From the perspective of teachers it means changing the conception that training is necessary only at the beginning of the professional journey and become aware of the imperative need to be up to date requires a dedication to one's personal and professional training* (Sánchez, 2006, 107).

But it will also be important that the class can be given according to that planning, which corresponds to the ability to lead that is possessed. The teacher's leadership in the classroom is something that gives him his status from the beginning: he is the expert in a certain topic, in addition to be acting as the instructor and authority; That leader may well be taken as a factor that achieves the cohesion of the group, as long as you have this ability. Leaders in schools with higher performance are distinguished from their counterparts by their personal involvement in the planning, coordination and evaluation of teaching (Robinson, Lloyd, & Rowe, 2016). Otherwise, it is possible to distribute roles, since it may be that the leadership that some students have among their peers, positive or negative, can be used for common benefit.

The students tend to immediately perceive the insecurity and dissatisfaction of the teacher, this from the way in which they face the group, either using an authority granted or assuming it as part of their work but sure to be able to share it in certain moments. It is also clear that the same model of authority does not work equally in all groups and that the teacher's experience will be fundamental when it comes to make malleable the way he interacts with his students. Between the educational actors and the people of different organizations are established links at a different level of cohesion while the common interests are maintained; however, when the circumstances change, ruptures may arise that hinder collaborative and cooperative work, the disconnection between the actors prevent communication and the exchange of information for the fulfillment of institutional purposes (Gavotto, Morales, Monge & Castellanos, 2016, page 172).

In short, the students must assume the teacher as part of a team that has common goals and is able to agree on the paths to follow and to achieve them. The cohesion around the objectives is a fundamental part of the work that the teacher exercises when trying to get all their students to reach them, always trying that the environment in which their class is carried out fosters the learning experience, to build knowledge from the collective and with support in respect. When an integrated environment of human beings has been shaped, in which adequate and comfortable coexistence is achieved for all, it is possible that the conflicts are addressed with maturity and can even be incorporated into the learning, *empowering them to become opportunities of personal growth and improvement of relationships* (Torrejo, 2008, p.16).

Now, the teacher is the representative of a society and an institution, so he must assume what they are asking for, contributing from his perspective but respecting what has been chosen as the ideology of what is right.

In spaces where virtual education is favored, in fact the criteria of homogenization disappear, and the role of the teacher, based on technological resources, goes into favoring a more particular approach to the interests and needs of users (García, 2003, p 11); indeed, in this case the learning environment is given by the virtual resource and the teacher should try to incorporate other specific contexts of students in the physical environment but with the intermediation of E-Learning and M-Learning resources. This subject has advanced so much that the already recognized Taxonomy of Bloom, in the field of curricular design, have adapted the particular strategies that are applicable in the educational environment mediated by technology (Churches, 2013).

However, in short, the physical or virtual space in which the teacher performs his task allows the construction of a learning environment, that is to say, that it has the propitious structure to generate it. The teacher then enters to play the fundamental role who must lead his modeling and functioning.

CONCLUSIONS

The educational reforms that have been established in Latin America since the eighties have not had the continuity required to evaluate the possible results to obtain. Each government has served its interests or strategies without taking into account those of its predecessors. In a process that aims to increase the qualification standards of the population, which end with obtaining a competitive human capital and in line with the world's economic expectations, the efforts end up being vain and this is reflected in the results of the international standardized tests.

The requests of the international organizations have not had greater effects in the reality of the classroom, a part of the interference is given by the teacher that is torn between the determinations of the ministries and the needs that must be attended before the constant technological advances. Public education is debated between policies, resources destined to infrastructure and the particular appreciations of teachers in the classroom, in the so-called hidden curriculum; only the actions that start from the universities that train the teachers, the training of the staff already hired, the investment in technology and the constant monitoring of the policies, can allow that in the medium term the results are obtained that as a nation are constantly stated.

The classroom is the fundamental place in which the educational act becomes real, there reforms should be visible but from the perspective of satisfying the needs of the contexts of students and what 21st century society asks for the teacher. Current technology offers the opportunity to bring classrooms from remote places closer to cutting-edge knowledge, which is developed in the best institutions in the world. The connectivity and the resource given in updated computer equipment, is an unbeatable opportunity for the democratization of knowledge. Classrooms today must be seen as educational environments, spaces in which the construction of knowledge is given through consensus and democracy. All the activities that are thought for the classroom must be agreed with those who participate as students, thus identifying the resources to be used and the routes to be followed. Values, attitudes, theoretical contents and the development of skills and competences are the object of development in today's student. People who are trained for the future must be prepared as citizens of the world, that is, they must recognize their own culture to take it into account as a starting point, but also, they must be prepared to adapt their knowledge and skills to environments, places and different challenges. Information and communication technologies play a fundamental role in the transmission of knowledge and debate around their different perspectives of appropriation. In regions of the world where the support of the governments in this sense is not consolidated, the backwardness continues and motivates the loss of possibilities of development for the human species in general. The teacher must act as a leader in the learning environment, encouraging community life and the democratization of ideas. The topics to be discussed in a classroom must be shared in advance, so that students prepare their interactions and take on the role of knowledge managers. A regular classroom to which the design of a learning environment has been applied encourages cooperation but allows the teacher to demonstrate individual processes around the acquisition of competences. The resources available in it are broader and the learning action starts from different perspectives, in most cases closer to the student than the simple teacher-student relationship.

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EFFECT OF INFORMAL COOPERATIVE LEARNING STRATEGY IN BIOLOGY ACHIEVEMENT ON LEARNERS OF DIVERSE ABILITY

Sangeeta Yaduvanshi

Faculty of Education, Banaras Hindu University, Varanasi (UP), India
sangeetayaduvanshi@gmail.com

Sunita Singh

Faculty of Education, Banaras Hindu University, Varanasi (UP), India
sunitasingh.bhu04@gmail.com

Abstract: The present study explored the effect of Informal cooperative learning on performance of lower, average and higher achievers ninth Grade biology students. A quasi-experimental research design with equivalent group was used. A school was purposively selected and two groups were formed by random distribution of students in two groups. The groups were equated on the basis of intelligence and previous academic achievement scores. The sample consisted of 62 participants out of them 30 students constitute the experimental group and was taught using cooperative learning strategy (CLS) while 32 students comprises the control group taught using traditional teaching methods. Pre- and post-tests were used to collect data. Data were analysed using inferential statistics: independent student t-test and Analysis of Covariance (ANCOVA). Results of the present study showed that experimental group outperformed to control group suggesting that CLS enhanced performance of lower, average and high achievers more than the traditional teaching approach.

Keywords: Student, achiever, biology achievement test (BAT), cooperative learning, cognitive domains

INTRODUCTION

Cooperative learning has emerged as a new approach to classroom teaching in recent years. The approach is now accepted and preferred instructional procedure at all the levels of education in most of the western countries. Mostly used and widely accepted definition of cooperative learning is proposed by Johnson and Johnson (1999), they defined “cooperative learning is the instructional use of small groups in which students works together to maximize their own and each other’s learning.” It is group learning activity organized in such a way that learning is dependent on the socially structured exchange of information between learners in group. It is a teaching strategy in which students work cooperatively in small groups in order to enhance their own and their peers’ learning (Abrami, Poulsen & Champer, 2004). The method of cooperative learning is characterized by the positive dependence to accomplish shared learning goal, engagement in face-to-face promotive interactions, equal involvement and definite roles, to develop appropriate collaborative and interpersonal skills and assess the effectiveness of group functioning for future learning (Johnson and Johnson 1999; Kagan 1994). Thus, Cooperative learning is not simply a synonym for students working in groups. Any group activity cannot be considered as cooperative learning until and unless it comprises five essential elements that are positive interdependence, individual accountability, face-to-face promotive interaction, collaborative skills and group processing skills (Johnson et al, 1998). It is a theoretically validated teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Many of research studies pointed out the benefits CLS on students’ learning, academic achievement, social relationships, motivation, and self-esteem (Johnson & Johnson, 2009; Johnson, Johnson, Roseth, & Shin, 2014; Slavin, 2014).

In Indian context it is commonly observed that the classes are overdriven by “teacher talk” and teaching-learning process is predominantly text-book and examination oriented. Here, teacher serves as pipelines for source of knowledge and seek to transfer their knowledge and idea to passive students. They emphasize learning about answers more than an exploration of questions; promote rote memory at the cost of critical thinking process, learning of segments of knowledge alternate to understanding in context, reading in lieu of doing (Sridevi, 2008, Yaduvanshi, S. & Singh, S. 2015). This type of instructional method does not allow for active participation and interaction of students in the teaching-learning process. This creates monotony in the classroom and students’ lost their interest in the subject. The classrooms are generally overcrowded and single teacher has to deal with large number of students. Here teacher found very less opportunity to give individual attention to all students. As a result the gap between poor and good student increase. Since, secondary education is a keystone of the education system. This stage is crucial for deciding future career outlook of students. Student’s performance in science subject predicts whether they should pursue their career in STEM or not. Generally the STEM related subjects are considered for high achievers and average and lower achievers are suggested to drop these subjects at higher secondary level. But, the objective of science education is not only prepare the students as future scientific professions but also a mean to develop the ability of reasoning ability, inquisitiveness, creativity, reflective thinking, positive attitude and problem solving approach (NCF-2005).

These abilities and skills enable the present generation learner to face the challenges of the contemporary technological based society of 21st century. Hence, it is call of time to ensure accessibility and availability of quality science education to all. Therefore, for preparing students of today to become successful individuals of the tomorrow, teacher needs to ensure that their teaching should be effective. So, it is call of time to revisit our pedagogical practices. Cooperative learning created many learning opportunities that do not typically occur in traditional classrooms. Siti Rahayah (1998) suggested that science teachers need to use cooperative learning activities in order to enhance scientific skills and to increase achievement in science. Incorporation of cooperative learning as an alternative pedagogy in conventional science classroom is one of imperative need of modern time for making teaching-learning process more effective so that quality science education must be available and accessible for all types of students, and only to those who are good performer in science or considered as “science type” (Tanner et al., 2003). Thus, incorporation of informal cooperative learning strategies (CLS) in the classroom may seem helpful for preparing our students for successfully meet the challenges fast growing emerging scientific and technologically based society.

Many of the Research studies on different discipline and different grade reported that CL has positive effect on the achievement of students. Finding of Badawi, G.H. (2005) & Liao (2005) also shows that this strategy has positive effect on achievement in English. Kosar (2003) investigated the impact of cooperative learning and traditional methods of teaching in social studies. Both of them concluded the supremacy of cooperative learning strategy over traditional methods of teaching. Iqbal, M. (2004), Gubbad, (2010), Muhammad, Z. (2010) & Nayak, R.K. (2011) research studies indicated that there was a statistically significant relationship between mathematics achievement and cooperative learning. Yager (1985), Miller (1992) Bowen (2000) and Arbab (2003) respectively found that cooperative learning strategy had positive effect on achievement in science. Pandey and Kishore (2003) investigated that cooperative learning strategy had effective than traditional only at knowledge level but had no significant effect at comprehension level. Most of these researches in the science were based on physical science topics and conducted on elementary levels. Studies conducted by Muraya D. N. and Kimamo. G. (2011), Achor, Wude & Duguryil (2013) and Nnorom, (2015) also revealed that cooperative learning strategy has positive effect on biology learning. Many of researches had been carried out in abroad regarding the effectiveness of CL (cooperative learning) on students’ performance. Slavin (1991) in his meta analysis report reveal that 61% researches on cooperative learning indicated that it enhances students performance in comparison to traditional method in all main subjects, at all standard and in all diverse ability of high, average, and low achievers students. In an experimental study Kenneth and Young (1999) found that cooperative learning had no significant effect on achievement of higher achiever pre-service teachers. Likewise, Armstrong (1999) also reported that cooperative learning had slightly raised the performance of gifted students of heterogeneous group in comparison homogenous groups of gifted students. Similar, results were reported by Majoka M. I., Saeed, M. and Mahmood, T. (2007) they studied on secondary school mathematics students and found STAD had no significant effect on high achievers but had significant effect on low achievers students. Thus, the study concluded that structured cooperative learning strategy is more favourable for low achievers than high achievers. Contrary to these findings of Singhanayok, C. and Hooper, S. (1998) and Khan, S. A. (2012) showed that cooperative learning had significantly increases the academic achievement of high as well as low achiever students in science and English respectively in elementary level students. Similarly Gemechu, D. & Abebe L. (2017) investigated the effect STAD method (highly structured CLS) on ninth grade students’ achievement on mathematics and, demonstrated that STAD method is effective than traditional methods and it significantly increases the academic performances of lower and higher achiever students. In the study carried out by Numprasert, W. (2006) showed that students’ academic achievement scores in course BG 1202 - Science, Man, and his environment were significantly improved in higher, middle and low achiever of cooperative learning group as compared to their counterpart taught with the traditional lecture method. In contrast to findings of Numprasert, W. (2006) and Buchs, et. al., (2015) research results indicated that highly structured cooperative learning had positive effect on the understanding of average-ability students on targeted task while the low and high achievers had the similar progression in experimental and control group, whereas average achievers progressed more in the highly structured condition. Analysis of the above literature revealed that almost all study suggested that CLS has positive effect on lower achievers, some of them also advocated that CL enhance the performance of high achiever or gifted and some are inconclusive regarding the significant increase in achievement of higher achievers and very little literature is available on the impact of CL on the achievement of average students. Since, maximum population of the normal classroom are belongs to the category of average performer therefore it is also important to explore the effect CLS on average achievers. Most of experiment was carried out in abroad and in most of studies structured CLS/ STAD methods were used. There is dearth of study on biological science no study had been conducted on Informal CLS and its effect diverse group of learner in Indian culture. Therefore, researcher conducted the present study to find out the effect of informal CLS on the academic achievement of lower, average or higher achiever students of biology at secondary level.

METHODOLOGY

The Quasi- experimental design was used in present study, where school was chosen purposefully according to the need and convenience of the investigator. Researcher employed pre-test – post-test equivalent group to find out impact of informal CLS on students' achievement. The two groups were equated on the basis intelligence test scores and pretest scores. No significant difference was found in both of these tests.

SAMPLE OF THE STUDY

The total sample of 62 students was taken for the study. The students were randomly divided into two groups; experimental group comprises of 30 students taught by the Informal cooperative learning and control group which is taught by traditional lecture –cum -demonstration method. Students were categories into higher, lower and average achievers on the basis of their two successive test scores in science in previous standard.

INSTRUMENTS OF DATA COLLECTION

To fulfil the objectives of the present study, the following instruments were constructed and used to collect the relevant data:

I. BAT: Biology Achievement Test (BAT) was developed by the researcher consisting of 100 items of knowledge, understanding and applying levels of the cognitive domain of blooms taxonomy. It was validated by experts of test and measurement and three experienced biology teachers for face and content validity. The reliability coefficient of test was calculated by using the Kuder-Richardson formula 20 and Cronbach coefficient (split half method of reliability) method, the values were found 0.67 and 0.838 respectively.

II. Layout plans on Informal CLS : The layout plans deals with the theme of organization in living world and cover four units of Class IX NCERT (National Council of Education Research and Training) science textbook include units; Cell: The fundamental unit of life, Tissue, Diversity in Living Organisms, Why do we fall ill? The plans included instructional objectives, a list of materials needed, group size, assignment to roles, and arrangement of the room. The layout plans are based on JIGSAW of CLS.

III. Opinionnaire to assess the perception of students' in cooperative learning: A opinionnaire of 15 items was prepared to assess the perception of students towards cooperative learning.

EXPERIMENTATION

After the pre-test, the whole experimental group was subjected for orientation for cooperative learning for 3 days. Then treatment was Informal CLS was given investigators used different type Informal cooperative learning techniques like think- pair share, three step interview, robin round table and then gradually shifted towards JIGSAW methods of CLS. In JIGSAW CLS, the topics to be study were segmented in sub topics and member of each group was assigned a particular subtopic to learn. All members sharing the same sub topic were met together into expert groups where they discussed their content so as to master and become experts. They finally reconvened where each member explained his unit to other members of his/her group or some times to whole class as designed in lesson plan by researcher. Parallel to treatment of experimental group the control group was taught by lecture-cum-demonstration method covering the same units of biology as in the experimental group. The lesson plans for the control group focused on same instructional objectives. After the treatment of 45 instructional periods (2 months), same BAT was administered to the students in both groups

STATISTICAL ANALYSIS

Data were analysed using IBM SPSS Statistics -20 Software for the t-test followed by one-way analysis of covariance (ANCOVA). All values were expressed as mean (\pm SE). P-value < 0.05 was considered significant in the present study.

RESULTS

Independent sample t test for pre and post test of low achiever students

Pre test analysis of the low achiever student in both experimental and control group showed no significant differences in knowledge and applying levels while a significant difference were observed in understanding level and total achievement score. It indicates that the BAT score at pre level was not matched in both the group in terms of total score.

After the treatment with Informal CLS and traditional method in both the experimental and control group respectively, it has been observed that BAT score in both the group was increased but when compared with the control group the values were found to be significantly high in experimental group suggesting the positive effect of cooperative learning. The BAT score was significantly increased in knowledge level (31%, $p < 0.000$),

understanding level (48.21%, $p < 0.000$), applying level (45.18%, $p < 0.000$) and total score (39.91%, $p < 0.000$) as compared to control group.

Table – 1. Independent sample t test for pre and post test of low achiever students

| Tests | Variables | Group | N | Mean | Std. Deviation | Std. Error Mean | t | df | Sig. (2-tailed) |
|-------------|---------------|--------------|-------|-------|----------------|-----------------|-------|------|-----------------|
| Pre test | Knowledge | Experimental | 8 | 9.63 | 1.302 | .460 | 2.002 | 15 | .064 |
| | | Control | 9 | 8.44 | 1.130 | .377 | | | |
| | Understanding | Experimental | 8 | 6.63 | 1.061 | .375 | 2.651 | 15 | .018 |
| | | Control | 9 | 5.00 | 1.414 | .471 | | | |
| | Applying | Experimental | 8 | 3.38 | .744 | .263 | 1.490 | 15 | .157 |
| | | Control | 9 | 2.89 | .601 | .200 | | | |
| Total Score | Experimental | 8 | 19.63 | 2.326 | .822 | 2.900 | 15 | .011 | |
| | Control | 9 | 16.33 | 2.345 | .782 | | | | |
| Post test | Knowledge | Experimental | 8 | 24.75 | 2.252 | .796 | 4.914 | 15 | .000 |
| | | Control | 9 | 18.89 | 2.619 | .873 | | | |
| | Understanding | Experimental | 8 | 20.75 | 2.053 | .726 | 6.363 | 15 | .000 |
| | | Control | 9 | 14.00 | 2.291 | .764 | | | |
| | Applying | Experimental | 8 | 13.88 | 1.553 | .549 | 4.816 | 15 | .000 |
| | | Control | 9 | 9.56 | 2.068 | .689 | | | |
| Total score | Experimental | 8 | 59.38 | 4.897 | 1.731 | 6.713 | 15 | .000 | |
| | Control | 9 | 42.44 | 5.434 | 1.811 | | | | |

Table – 2. Tests of between-subjects effects

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------|-------------------------|----|-------------|--------|------|
| Corrected Model | 1439.234 ^a | 2 | 719.617 | 56.320 | .000 |
| Intercept | 111.008 | 1 | 111.008 | 8.688 | .011 |
| Pre_Total | 225.214 | 1 | 225.214 | 17.626 | .001 |
| Group | 357.146 | 1 | 357.146 | 27.951 | .000 |
| Error | 178.883 | 14 | 12.777 | | |
| Total | 44821.000 | 17 | | | |
| Corrected Total | 1618.118 | 16 | | | |

a. R Squared = .889 (Adjusted R Squared = .874)

Table – 3. Estimated marginal means

| Group | Mean | Std. Error | 95% Confidence Interval | |
|--------------|---------------------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| Experimental | 56.485 ^a | 1.439 | 53.398 | 59.571 |
| Control | 45.014 ^a | 1.339 | 42.141 | 47.886 |

a. Covariates appearing in the model are evaluated at the following values: Pre Total Score Test = 17.88.

The ANCOVA analysis of lower achiever Students indicated that F ratio at df 16 is $F_{(1, 16)} = 29.951$ and $p=0.000$ is significant at .0001 level. It verify our previous findings that Informal CLS significantly enhances the achievement in low achiever students

Independent sample t test for pre and post test of average achiever students

Pre test analysis of the average achiever student in both experimental and control group showed no significant differences in any of the variable and also in total BAT score. It clearly shows that the BAT score at pre level was matched in both the group as the values were not significant.

After the treatment with Informal cooperative learning the BAT score was significantly increased in knowledge level (23.17%, $p<0.001$), understanding level (30.43%, $p<0.001$), applying level (29.51%, $p<0.001$) and total score (27.13%, $p<0.001$) as compared to control group which was taught by lecture-cum demonstration method

Table – 4. Independent sample t test for pre and post test of average achiever students

| Tests | Variables | Group | N | Mean | Std. Deviation | Std. Error Mean | t | Df | Sig. (2-tailed) |
|-----------|---------------|--------------|----|-------|----------------|-----------------|-------|----|-----------------|
| Pre test | Knowledge | Experimental | 14 | 10.36 | 1.692 | .452 | 1.280 | 27 | .529 |
| | | Control | 15 | 10.00 | 1.309 | .338 | | | |
| | Understanding | Experimental | 14 | 7.50 | 1.225 | .327 | | | |
| | | Control | 15 | 7.47 | 2.031 | .524 | | | |
| | Applying | Experimental | 14 | 4.14 | .949 | .254 | | | |
| | | Control | 15 | 3.67 | 1.047 | .270 | | | |
| | Total Score | Experimental | 14 | 22.00 | 2.828 | .756 | | | |
| | | Control | 15 | 21.13 | 3.543 | .915 | | | |
| Post test | Knowledge | Experimental | 14 | 27.43 | 3.251 | .869 | 3.856 | 27 | .000 |
| | | Control | 15 | 22.27 | 2.492 | .643 | | | |
| | Understanding | Experimental | 14 | 23.57 | 2.563 | .685 | | | |
| | | Control | 15 | 18.07 | 2.492 | .643 | | | |
| | Applying | Experimental | 14 | 15.71 | 1.773 | .474 | | | |
| | | Control | 15 | 12.13 | 3.021 | .780 | | | |
| | Total score | Experimental | 14 | 66.71 | 5.497 | 1.469 | | | |
| | | Control | 15 | 52.47 | 5.792 | 1.496 | | | |

Table – 5. Tests of between-subjects effects

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------|-------------------------|----|-------------|--------|------|
| Corrected Model | 1938.594 ^a | 2 | 969.297 | 63.971 | .000 |
| Intercept | 591.177 | 1 | 591.177 | 39.016 | .000 |
| Pre_Total | 468.633 | 1 | 468.633 | 30.928 | .000 |
| Group | 1223.810 | 1 | 1223.810 | 80.768 | .000 |
| Error | 393.957 | 26 | 15.152 | | |
| Total | 104465.000 | 29 | | | |
| Corrected Total | 2332.552 | 28 | | | |

a. R Squared = .831 (Adjusted R Squared = .818)

Table – 6. Estimated marginal means Group

| Group | Mean | Std. Error | 95% Confidence Interval | |
|--------------|---------------------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| Experimental | 66.134 ^a | 1.046 | 63.985 | 68.283 |
| Control | 53.008 ^a | 1.010 | 50.933 | 55.084 |

a. Covariates appearing in the model are evaluated at the following values: Pre Total Score Test = 21.55.

Again the BAT scores of average achievers were analysed by ANCOVA as shown in above tables(5&6). The table 5 indicated that F ratio at df 28 is . $F_{(1, 28)} = 80.768$ and $p=0.000$ is significant at .0001 level. It substantiated our previous results that informal CLS significantly enhances the achievement in low achiever students.

Independent sample t test for pre and post test of high achiever students

Pre test analysis of the high achiever student in both experimental and control group showed no significant differences in any of the variable and also in total BAT score. It clearly shows that the BAT score at pre level was matched in both the group as the values were not significant.

The post test analysis of high achiever student showed a significant increased in knowledge level (8.8%, $p<0.05$), understanding level (29.44%, $p<0.001$), applying level (27.86%, $p<0.01$) and total score (20.12%, $p<0.01$) as compared to control group.

Table – 7. Independent sample t test for pre and post test of high achiever students

| Tests | Variables | Group | N | Mean | Std. Deviation | Std. Error Mean | t | df | Sig. (2-tailed) |
|-------------|---------------|--------------|-------|-------|----------------|-----------------|-------|------|-----------------|
| Pre test | Knowledge | Experimental | 8 | 12.63 | .744 | .263 | .505 | 14 | .622 |
| | | Control | 8 | 12.38 | 1.188 | .420 | | | |
| | Understanding | Experimental | 8 | 9.50 | 1.512 | .535 | .000 | 14 | 1.000 |
| | | Control | 8 | 9.50 | 2.070 | .732 | | | |
| | Applying | Experimental | 8 | 5.75 | .886 | .313 | 1.426 | 14 | .176 |
| | | Control | 8 | 5.00 | 1.195 | .423 | | | |
| Total Score | Experimental | 8 | 27.88 | 2.475 | .875 | .678 | 14 | .509 | |
| | Control | 8 | 26.88 | 3.357 | 1.187 | | | | |
| Post test | Knowledge | Experimental | 8 | 30.88 | 1.642 | .581 | 2.224 | 14 | .043 |
| | | Control | 8 | 28.38 | 2.722 | .962 | | | |
| | Understanding | Experimental | 8 | 28.00 | 2.268 | .802 | 4.219 | 14 | .001 |
| | | Control | 8 | 21.63 | 3.623 | 1.281 | | | |
| | Applying | Experimental | 8 | 19.50 | 1.604 | .567 | 3.157 | 14 | .007 |
| | | Control | 8 | 15.25 | 3.454 | 1.221 | | | |
| Total score | Experimental | 8 | 78.38 | 4.470 | 1.580 | 3.730 | 14 | .002 | |
| | Control | 8 | 65.25 | 8.892 | 3.144 | | | | |

Table – 8. Tests of between-subjects effects

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------|-------------------------|----|-------------|--------|------|
| Corrected Model | 1152.846 ^a | 2 | 576.423 | 32.638 | .000 |
| Intercept | 54.354 | 1 | 54.354 | 3.078 | .103 |
| Pre_Total | 463.783 | 1 | 463.783 | 26.260 | .000 |
| Group | 483.482 | 1 | 483.482 | 27.376 | .000 |
| Error | 229.592 | 13 | 17.661 | | |
| Total | 83895.000 | 16 | | | |
| Corrected Total | 1382.438 | 15 | | | |

a. R Squared = .834 (Adjusted R Squared = .808)

Table – 9. Estimated marginal means

| Group | Group | | | |
|--------------|---------------------|------------|-------------------------|-------------|
| | Mean | Std. Error | 95% Confidence Interval | |
| | | | Lower Bound | Upper Bound |
| Experimental | 77.399 ^a | 1.498 | 74.163 | 80.635 |
| Control | 66.226 ^a | 1.498 | 62.990 | 69.462 |

a. Covariates appearing in the model are evaluated at the following values: Pre Total Score Test = 27.38.

The ANCOVA analysis of higher achiever Students shows that F ratio at df 15 is . $F_{(1, 17)} = 27.376$ and $p=0.000$ is significant at .0001 level. It validates our results of t- test analysis which also revealed that informal CLS significantly enhances the achievement in low achiever students

DISCUSSION

The traditional teaching methods used in most of the school promote competitive learning among students where, students always struggle hard for getting better position from others (Joshi, S. K, 2015). In competitive environment students always hangout in race with their classmates to achieve better grade and these competitive classrooms are dominated with anxiety and stress (Tanner, K et al., 2003). In this type of educational setup major job of the teachers is to transfer the bunches of knowledge from their head into the heads of students and prepare students to pass out the examination at any cost without realizing whether students understood the concept or just memorized the answers and they found very less opportunity to give individual attention. Consequently, the gap between poor performer and good performer deepens and subsequently poor students' (low achievers) losses the confidence and their self-esteem suffered a lot. They may undergo stress and depression in case of failure in examination or in some extreme situation commit suicide. It is the failure of school system which became failed to cater the individual need (Yaduvanshi, S. 2015). So, there is strong need to incorporate some alternative pedagogy which can prepare our students according to vision of NCF 2005 and equipped our teacher to design learning pathways for present century learner. Felder R.M., and Brent R. (2003) suggested that in contrast to traditional teaching approaches and competitive grading the cooperative learning promotes higher academic achievement, better high-level reasoning and critical thinking skills, deeper understanding of learned material, and less disruptive behaviour of students, lower levels of anxiety and stress, greater intrinsic motivation to learn and achieve, greater ability to view situations from others' perspectives, more positive and supportive relationships with peers, more positive attitudes toward subject areas, and higher self-esteem among the students. The present study revealed that informal CLS significantly improves the academic performance of diverse ability of learner including lower, average and higher achiever students at knowledge, understanding and applying level of cognitive domains. Results of the present study can be

explained in light of the findings of Kibirige, I., and Lehong, M.J. (2016) they show that performance and motivation of learners improve when cooperative learning is used in science classroom. As the researches findings of Kenneth and Young (1999), Singhanayok, C. and Hooper, S. (1998), Khan, S. A. (2012) and Majoka M.I., Saeed, M. and Mahmood, T. (2007) showed that CLS has significantly improve the performance of lower achiever students. Felder, R. M. and Brent, R. (2003) observed that Low achievers students are likely to give up while working individually in traditional classroom set up, but when they working cooperatively, they are keep going. He further suggested that students of traditional classroom may tend to delay completing assignments or skip them altogether, but in cooperative classroom they know that others team member are counting their contribution, therefore they are motivated to do the work within scheduled timing. When the students are working under cooperative learning environment than, they are working together on group activity, promote each other learning thus, learning process become interesting and enjoyable (Panitz, 1999). So, lower achievers also take interest in academic task and actively participate in learning activities which contributes towards their success. Therefore lower ability students get benefited lots with the use of cooperative learning activities results in significantly high achievement in post test scores of BAT. Similar trends of enhancement in the performance of students achievement is also observed in average and higher ability students. The study shows the academic achievement of students of average ability is significantly increases at knowledge understanding as well as on application level. These results are in quite agreement with the findings of Numprasert, W. (2006) and Buchs et. al., (2015) in which they found that structured CLS significantly increase the achievement of average achievers in comparison to traditionally taught groups. Since, cooperative learning creates excellent opportunities for students to engage in problem solving activities with the help of their group member (Effandi and Iksan, 2007).

The cooperative learning classroom creates ample opportunities to the students to work interactively with their peer group and all types of students get benefitted from constant coaching, encouragement and constructive feedback from their team members. Ainley, Kos and Nicholas (2008) found in their study that 92% of learners agreed that discussing questions with others aided conceptual understanding, 82% agreed that listening explanations from others' facilitated their learning, and more than 90% reported that they felt most engaged and a active during class was when they were working with their peers in small groups. Therefore this strategy can enhance achievement of students at higher order of cognitive domain. This study further revealed that Informal CLS results in increase in achievement of higher achiever at all three levels of BAT i.e, knowledge, understanding and applying levels of cognitive domain which shows continue trends with the findings of earlier researchers Singhanayok, C. and Hooper (1998), Armstrong (1999), Khan, S. A. (2012), Numprasert, W. (2006) and Gemechu, D. & Abebe L. (2017) they all suggested that CLS improves the academic performance of higher achievers. Students of higher academic ability found that their learning became stronger and concept became clearer during cooperative learning activities. When they explain and clarifying content to others often finds gaps in their own understanding, resolved their misconceptions and fill knowledge gaps side by side. But this results are contrast with the research findings of Kenneth and Young (1999), Majoka, M. I., Saeed, M. and Mahmood, T. (2007) and Buchs et al., (2015). A cooperative method of teaching engages learners twice effectively as compare to traditional method of teaching (Hake, 1998). This engagement may ultimately contribute towards high performance of students in cooperative classroom relatively to traditional classroom (MacManaway, 1970). Our findings suggest that informal CLS is one of important pedagogy in recent educational scenario which creates many of opportunities students centred learning in traditional classroom and ensure active involvement from all diverse ability of learner and hence, improve their achievement.

CONCLUSION

The implementation of informal CLS in biology class has positive effect on diverse ability students of lower, higher and on average achievers. It significantly enhances the biology achievement of all kinds of learner to that of their traditionally taught counterpart. Amalgamation of informal Classroom with the traditional teaching learning processes creates many opportunities for active learning of the students. The classroom atmosphere is shifted from competitive to cooperative environment where, students of diverse ability help and motivate each other to learn. Thus, classroom is full of empathy, cooperation and harmony that reduce occurrence of unpleasant situation and maximizes the achievement of all diverse ability learners.

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FACILITATING UNDERGRADUATE RESEARCH IN STUDENT ATHLETICS THROUGH A FACULTY-STUDENT PARTNERSHIP: BUILDING SUPPORT STRUCTURES TO FOSTER TEACHING AND LEARNING OUTCOMES

William Sterrett, Ph.D.

Associate Professor

University of North Carolina Wilmington, Watson College of Education, Room 384
Department of Educational Leadership, 601 South College Road, Wilmington, North Carolina
sterrettw@uncw.edu

Ryan Cretens

University of North Carolina Wilmington

Sue Combs, Ph.D., Professor

University of North Carolina Wilmington

Sydney Brock

University of North Carolina Wilmington

James DeVita, Ph.D., Associate Professor

University of North Carolina Wilmington

Shauna Baker-Karl

University of North Carolina Wilmington

Madison Melnick

University of North Carolina Wilmington

Abstract: This study overviews a two-year effort collaborative mentoring project at a regional university involving 3 faculty members partnered with 3 undergraduate student-athletes and an academic advisor. The study, which focused the perceptions of student-athletes across university athletic teams through the lens of communication, yields insights on the “high impact practice” of student-faculty research. In this effort, a mentoring relationship was formed over a two-year period where faculty and undergraduate students worked as partners in seeking to better understand the needs of student-athletes across all varsity athletic teams. The faculty partnered with the student-athletes to plan, execute, and analyze a qualitative research study involving 28 student-athletes with at least one student representative from each of the 18 athletic teams. This two-year effort allowed collaborative, interdisciplinary structures to provide a framework for mentoring, research, and dissemination, and allowed the university Faculty Athletic Council to better understand student-athletes’ perspective on on-campus support systems.

Introduction

The University of North Carolina Wilmington is a regional, coastal university of over 16,000 students that is “dedicated to the integration of teaching and mentoring with research and service” (University of North Carolina Wilmington, n.d.). Located in Wilmington, North Carolina, the university celebrated its 70th anniversary during the 2017-2018 school year, has been part of the UNC system since 1969, offers bachelor’s, Master’s, and doctoral degrees, and is ranked #14 in the 2017 US News and World Report list in the South region (University of North Carolina Wilmington, n.d.). The university initiative of Experiencing Transformative Education through Applied

Learning (ETEAL) supports initiatives such as the Summer Undergraduate Research and Creativity Awards (SURCA) which provided the opportunity for three faculty members who serve on the university Faculty Athletic Council (FAC) to mentor three undergraduate student-athletes. Through this effort, a mentoring relationship was formed over a two-year period where faculty and undergraduate students worked as partners in seeking to better understand the needs of student-athletes across all varsity athletic teams.

The SURCA award provided the faculty and students a mechanism to closely study student-athletes' experiences with on-campus support structures. The faculty worked with the student-athletes to plan, execute, and analyze a qualitative research study involving 28 student-athletes with at least one student representative from each of the 18 athletic teams. A follow-up funding award allowed for framing the results in peer-reviewed manuscripts and presentations. This two-year effort allowed collaborative, interdisciplinary structures to provide a framework for mentoring, research, and dissemination, and allowed the FAC to better understand student-athletes' perspective on on-campus support systems.

This particular study seeks to answer the research question: "How do student-athletes perceive their experience as it relates to aspects of communication?" Better understanding how undergraduate student-athletes communicate with their peers, coaches, and faculty could help us understand current and potential support structures of student athletes. Research has indicated that support structures and campus-based professionals (such as athletic support staff, student affairs, counseling, first-year programming, etc.) can play a significant role in helping student-athletes at the "intersections of social and athletic identity" (Cooper, Davis, Dougherty, 2017, p.76). With over 460,000 collegiate student-athletes nationwide (National Collegiate Athletic Association, n.d.), a closer examination of their unique perspectives is warranted.

This study sought to build on the high-impact practice of student-faculty research, which offers the powerful potential of deep learning, general gains, practical gains, and personal gains (Kuh, 2008, p.15). This partnership has implications for the way in which faculty-student research efforts could be framed in an institutional context to gain valuable insights into student perspective and experiences.

Communication and Student-Athletes

Student-athlete experience is determined by not only the individual, but also the surrounding personnel that interconnect in the athlete's daily lives to create an efficacious networking environment and foundation for success. Coaches provide substantial support to athletes throughout their collegiate careers (Adams, Coffee, & Lavalley, 2015).

Each individual is different in how they interact with peers and difficulties lie in not only interpersonal faculty/coach relationships, but also in relationships with teammates, and among non-athlete students. "Part of being a college student involves learning how to balance school and non-school responsibilities while developing into an independent adult" (Evans, Forney, Guido, Patton, & Renn, 2010, p. 246). Transitions into the routines of university life as student-athletes, as well as transitions out of athletics can be challenging for undergraduate students. Schlossberg (2011) posited a Transition Model that begins with the assumption that "everyone experiences transitions" (p. 159) including "anticipated transitions" like graduating from high school or college, or starting a first job, or "unanticipated transitions" such as a major injury or surgery, or a surprise promotion. College athletics is a time of measured transition and balance, which in turn, determines a student-athlete's ability to communicate.

Coach and faculty interactions with students can vary depending on student background characteristics such as race, gender, and sociability (Comeaux & Harrison, 2006, 2007). Traditional ways of teaching and communicating are not resonating with student-athletes of this generation. As male homogeneity and discourse are still dominating the coaching world, certain aspects of a feminist ideology are starting to become more profound in the world of collegiate athletics. According to Forrest and Rosenberg (1997), "the infusion of feminist philosophies into ways of

teaching assist in balancing and integrating educational dichotomies (publicly, privately, logically, and emotionally), rethinking power and authority, creating communal classrooms, embracing, respecting, and increasing diversity and cultural change, and incorporating the notion of personal experience and social action” (p.110). Developing empathy as well as an appreciation of and understanding for diverse perspectives can be fostered through the relational aspects of being a part of a team.

It is with these coaching practices and ways of teaching that students tend to approach coaches and faculty in a more comfortable setting, allowing dialogue and relationships to form. “Such opportunities allow for mutual assistance and support as well as formal and informal communication regarding academic and personal goals” (Comeaux & Harrison, 2006, p. 522). Healthy interpersonal and collective organizational communication can thus impact student-athlete success.

A Mentoring Framework for this Study

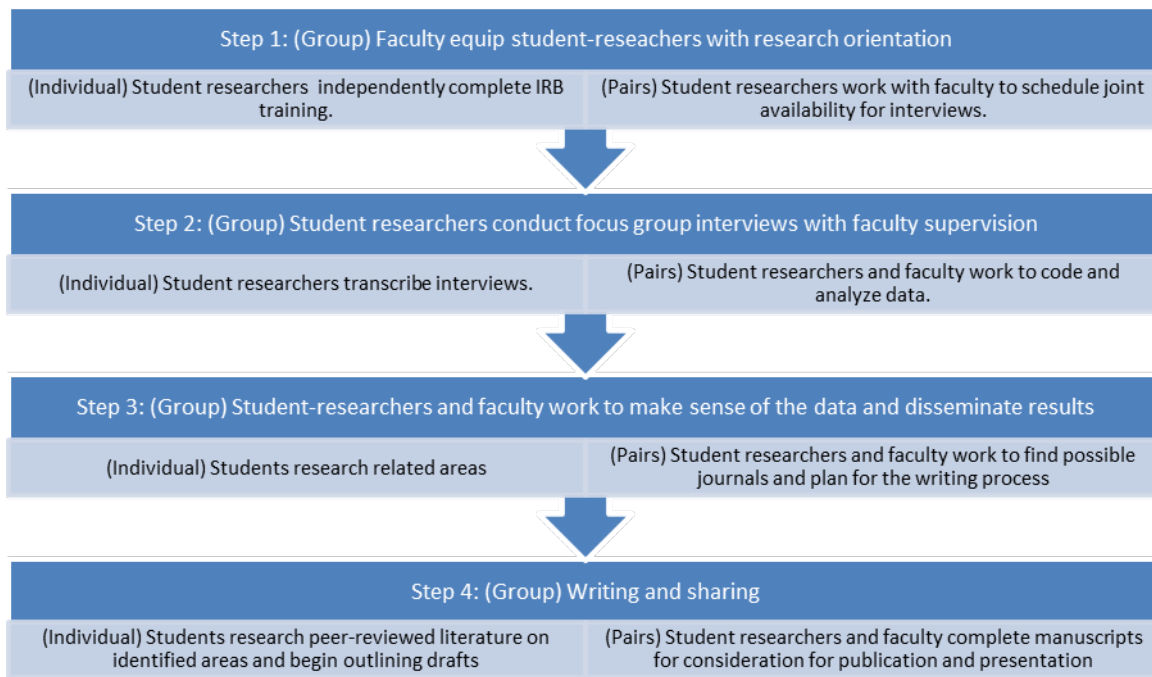
Lunsford and Brown (2017) examined the role of collegiate leadership centers in developing leaders, and noted that there is a “research-practice divide” (p. 262). The framework in this study involved three faculty members (two of which are faculty members in the educational leadership department in the College of Education and one who is in physical education in the College of Health and Human Services) partnering with three undergraduate researchers, who were each student-athletes, who majored in either business or communications. The three faculty members had served on the FAC and were, in prior years, tasked with interviewing student-athletes across the various sports teams to better understand perceptions related to their experiences with athletics, academics, living conditions, and supports. A framework to partner faculty with students to in order to “develop students as participants in research and inquiry” (Healey & Jenkins, 2009, p. 6) was seen as a viable alternative to the usual faculty-only approach and sought to enable the students to be “producers, not just consumers of knowledge” (p. 6).

The three undergraduate researchers, after learning how to plan and carry out research in a manner appropriate to the study (Brew, 2013), in turn led the qualitative inquiry with the 28 student-athletes in a manner that was Healey and Jenkins (2009) described as “research-oriented” as it was developing research and inquiry skills and techniques (p. 7, as cited in Brew, 2013)

In the spring semester of Year 1, we began by convening the full group of three faculty members and three student-athletes (Chart 1) to overview the process, get to know each other (we convened on campus weekly) and set goals for the study. Students worked independently to complete necessary paperwork such as IRB certification and time sheets for stipends, and we began working in pairs (one faculty member and one student-athlete) to devise potential questions and focus areas.

Chart 1

A Research-Oriented Study with a Faculty-Student Partnership Model



In order to first equip the student researchers, the full initial group (three faculty and three student researchers) met in the initial weeks to overview the process, introduce research methods with a focus on qualitative research. We agreed to work also in smaller groups, or pairs, to focus in on strands of research (such as communication aspects). Thus, the process involved a two-year effort organized into four overall steps (Chart 1) as a group, with individual and paired efforts moving the work along.

Methodology

This study involved a single institution case study (Yin, 2012; Stake, 1995; and Merriam, 1998) of undergraduate student athletes at UNCW. This descriptive approach was conducted to seek to describe ways in which the student-athletes experienced the environment at UNCW as student-athletes. A sample of 28 current student-athletes who responded to an initial interest-level request to all student athletes agreed to participate in the study. This *purposive sampling* ensured that there was at least one representative from each of the 18 teams (Check and Schutt, 2012, p. 104). The sample included the following demographics:

- 15 males, 13 females
- 17 students in state (NC), 8 from other states, 3 international
- 23 white, 3 Latino/Hispanic, 2 African-American
- GPA 3.42 average (4.0 scale); only 3 reported lower than 3.0 (all white males from NC)
- Majors: Business/Finance/Accounting (10), Exercise Science (5), Economics (2), Political Science (2), Biology, Chemistry, Geoscience, Literary Science, Mathematics, Public Health, Secondary Education, Undecided.

The student researchers were trained in basic qualitative research methods and transcription as a group (see Chart 1) and individually completed training modules for the Institutional Review Board at the university. The student researchers then took initiative to schedule times to meet with members of athletic teams at a time where the faculty member could be present. The interviews took place in 9 groupings (of about 3-4 students per group) across 4 evenings in the spring semester; each meeting lasted approximately 45-90 minutes. The faculty member was present to ensure consent forms were collected and materials stored. The focus group facilitators compiled field notes and, following the interviews, transcribed the interviews independently.

The data analysis was completed by the student research assistants with assistance from the faculty mentors as follows: the initial round involved an open-coding process where each researcher reviewed transcripts and identified any initial codes that stood out. Second, teams of researchers met and discussed initial codes and refined them into patterns that resembled initial themes. Third, we convened as a whole group to discuss initial codes and themes and refined them based on feedback and discussion amongst the group. Finally, we returned to our smaller teams to review the data and further refine themes and sub-themes.

We took several steps to improve the trustworthiness and reliability of our data analysis such as triangulation (using multiple researchers to complete the analysis and then coming together to discuss points of convergence and divergence) which allowed for “different sources of evidence” (Yin, 2012, p. 104). We utilized peer review in relying upon the undergraduate researchers as assistants or “gatekeepers” to make sense of the data when clarification was needed regarding their peers’ experiences and perspectives. Finally, we involved expert review as the three faculty who are experts in research methods, leadership, and general student support services.

Findings on Communication

Our initial findings on communication examined the more-frequently identified sub-themes of communication that emerged as noted in Table 1.

Table 1

Themes Related to Communication and the Student-Athlete

| <u>Theme</u> | <u>Frequency</u> |
|--|------------------|
| Communication aspects related to university resources and services | 59 |
| Coach-athlete communication | 51 |
| Team communication | 18 |
| Athlete-faculty communication | 13 |
| Athlete-athlete communication | 9 |

The researchers looked at these five sub-themes to better understand the participants’ insights regarding communication as a student-athlete. Findings from the various 28 participants sometimes reinforced each other, and at other times differing views were apparent.

University resources and services

Resources such as advising, nutrition, the academic center, and health services were discussed through the lens of communication. While student academic advisors were seen as “awesome” and supportive by some, another student-athlete noted “we went through I think four or five academic advisors my freshman and sophomore year.” Resources such as the athletic trainer were highlighted as one participant noted “She’s great, she’s like my mom here, which is nice, because I don’t see my mom very often.” Another noted that a chaplain comes to practices and though “it’s not sports-driven” that he “just kind of a guy that’s there if we need someone to talk to.” Another noted the availability of a counselor who had experience with student-athletes.

Having more helpful conversations with nutrition was noted by numerous student-athletes as one participant noted “we just need a little bit of a healthier option” or an “athletic café” rather than sharing the same options as non-student athletes. A number of participants noted that the on-campus resources, such as CARE (Collaboration for Assault Response and Education) center were accessible, observing that “the CARE center is pretty open . . . if you need to get something off your chest.” Having on-campus contacts who could listen to the student-athletes emerged as a point of discussion.

Coach-athlete communication

The perspective whether or not the coach was seen as “available” was apparent in numerous participants’ feedback. One noted that “our coach is just good at being there for everyone.” Some indicated change in perspective over time. For example, one participant, an upperclassman, noted that some underclassmen were initially hesitant to approach the coach for fear of losing playing time, but then, as they progress through the years, they realize “as you get older you kinda realize that they’re there for you. . . if you talk to them about it then they’re not going to punish you.” Some indicated that they wanted more understanding between their coach when, for example, they weren’t feeling well as “we know our bodies better than they know our bodies.” Most participants conveyed positive interactions, such as one female athlete noted “Our coaching staff is actually pretty good about that. You can talk to them about anything, and they see the bigger picture that (sport) isn’t your life, and for most people it won’t be a life after your four years out of here.” Navigating the digital landscape of communication was described as a potential challenge as one student described getting an e-mail at 3pm notifying the team of a mandatory team meeting at 7pm.

Another athlete noted how the coach had worked hard to ensure that there were not divisions on the team, explaining, “We don’t really have cliques because our coaches make it so that we don’t. And that’s one thing about my team that I really, really, really like because I feel like I can go to anybody on the team if I have a problem.” One athlete who had experienced a coaching change while at UNCW noted “I definitely felt closer to the (second coach). . . you’re not always talking about your sport with your coaches, you’re talking about life in general.”

Team communication

Team dynamics varied amongst teams, but overall, there was very positive “within-team” communication. One participant offered example:

As a freshman, I had a lot of support from my teammates and coaches. We always do this thing called Mind Gym with my team. It’s about mental toughness, basically. It’s just a session where we talk about everything that could happen in any type of situation. I think that’s really helped.

Another added “I’m the only freshman so I was worried about coming in and not knowing anyone but my teammates are very supportive of me and are always with me,” adding that “I never feel like I’m alone.” Another added “they are the strongest non-family member connections that I have.” Having common interests seemed to be a factor for one who shared “I think we just all have similar interests so it’s just easy to have real conversations.”

Athlete-faculty communications

Communications with faculty members were mostly positive, with some exceptions. One female athlete explained, “The faculty they work with us well.” Another added “Faculty are all good, have been there to help, that sums it up.” A male athlete reflected on his varied experiences, noting “Because there are some professors that I’ve had that write you off as a person, then I kind of write off their classes as a whole and (then) don’t do well.” Attendance issues were seen as a challenge for some who had to miss class due to team-related games. One student noted that overall, faculty were flexible “Yeah, most of my teachers, especially during the season, I just give them a note and let them know ahead of time” and a teammate agreed, saying “All of mine are pretty relaxed except for (specific

department), they are not very understanding, they don't really care about your absence, whether it's for a sport or not."

One student noted an overall positive approach with a rare exception, explaining "I think that most professors are great" and that "I have a pretty good relationship with all my professors, at least for the past two years," adding that "I've only had one professor that has been like completely against student-athletes as far as traveling goes and making up schoolwork."

Athlete-athlete communication

Spending significant amounts of time together with like-minded individuals seemed to foster strong athlete-athlete communication. One athlete remarked, "I'd say my relationship with other athletes is much stronger than with non-athletes just because I'm with them so much more" (this was echoed by two teammates in the focus group). Others noted that they played a mentoring role with younger athletes; one noted that underclassmen would approach them asking "What's your take on it, cause you've already been there." Another added that friendships would make transitioning out of the sport (a noted concern for many) more bearable, explaining "I'm going to keep in touch when I continue with my path with what I want in life" adding that they felt prepared to "make friends and meet people."

Discussion

Better understanding the unique perspectives of the 28 student athletes informed the researchers of aspects such as team communication and resources. This study provided reflection in regards to implications in two areas. First, it provided the researchers an opportunity to reflect on better understanding student-athlete perspectives through the lens of a faculty-student partnership that provided a research structure for student-athlete inquiry. Second, the study helped us examine the role of communication in the unique context of student athletes.

Reflections on the student-faculty partnership

The process of forming a student-faculty partnership mentoring framework was a positive experience. From moving forward as a full team through the research-oriented study as outlined in Chart 1, to growing together as small teams, we were able to gain valuable insights on student-athletes' experiences. The initial internal (SURCA) grant effort of conducting the interviews and analysis led to a follow-up SURCA grant (with a focus on writing and dissemination) as well as the three faculty members joining an external grant effort to better understand student-athlete perspectives within the conference association. Being able to work with students outside the department enabled the researchers to gain additional perspective as well as advance the notion of, as Lunsford and Brown (2017) note, "of helping undergraduate understand that leadership is a process that involves leaders, followers, and environments" (p. 263). The environmental contexts of support systems and team dynamics, for example, indeed were evident in the participants' discussions with the undergraduate researchers.

Healey and Jenkins (2009) describe undergraduate research as a "powerful way to reinvent or reinvigorate the undergraduate curriculum because the focus is on the student as a learner; it explicitly brings the student into the worlds of research; it views the student as a potential producer of research; (and) it potentially values all academic and support staff (p. 9). This project, which indeed brought together undergraduate students, undergraduate and graduate faculty, and staff to engage in the research process, was indeed a powerful way to reinvigorate the shared learning experiences of those involved.

The Faculty-Student Partnership Model (Chart 1) allows for a structure of empowering students to serve as researchers and to grow through a mentoring framework. The institution gains from gaining valuable, student-focused insights from student-athletes in order to continually improve experiences and delivery models.

Reflections on communication and student-athletes

The context of communication is indeed relevant for today's students. Our study lends insights to the importance of communication in helping students feel successful. From a professor understanding an excused absence because of a scheduled away game to a team fostering a time of discussion to prepare student-athletes for challenging situations, the relevance of communication—both within the team context and outside of the team context- was expressed by the participants. Having these additional “layers of support” (team, coach, and individual teammates) could indeed uniquely position student-athletes for success in the real-world.

Research suggests that students who participated in collegiate athletics were more open to mentoring relationship, had higher emotional intelligence, and earned higher salaries than non-athlete counterparts in their first 10 years after university study (Sauer, Desmond, & Heintzleman, 2013, p. 657). Student-athletes benefit from forming an “elevator speech” that highlights transferrable skills such as leadership, commitment, and time management to the workplace (Bjornsen & Dinkel, 2017, p. 263). Further examination of this data set, as well as future studies, could help lend insights to specific inconsistencies (such as some departments not being as supportive as others) or how student-athletes deal with both anticipated and unanticipated transitions (Schlossberg, 2011). A similar study could be replicated in other contexts (universities) to better understand student-athlete perceptions. Our research team indeed found that this study allowed us, faculty and students alike, to “experience diversity through contact with people who are different from themselves” (Kuh, 2008, p. 15) in an authentic manner.

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FULL DAY SCHOOL POLICY FOR CHILDREN'S CHARACTER DEVELOPMENT: LESSONS FROM INDONESIAN ISLAMIC EDUCATION

Abd. Madjid

Associate Professor at Department of Islamic Educational Psychology Universitas Muhammadiyah Yogyakarta,
Indonesia

madjidabdul.madjid8@gmail.com

Abstract: For decades, politicians have been debating over different ideas for education reform for Indonesian education. The idea of full-day school (FDS) might fit in the traditional schooling practices in Indonesia which can add the burden for teachers and students.

The purpose of this study was to analyze FDS policy in Indonesia for children's character building. The character of a nation is an important aspect that affects the socio-economic development. High quality character of the community will surely grow a strong desire to improve the quality of the nation. The key to successful success of a country is determined by the extent to which the public has the character that is conducive to advancing the so-called "social capital".

Based on analysis result, FDS system is beneficial to improve students' academic and non-academic aspects, including character. Character cultivation in students was performed integrately in intracurricular, cocurricular, and extracurricular activities. Students' character can be improved in FDS application because it increased children's social interaction and getting them use to positive activities. The students also received had teachers and teaching staffs as their role model.

Keywords: Character Education, Full Day School, School Day, Social Interaction.

INTRODUCTION

Education is an effort to enhance the quality of human resources. The function and purpose of education in Indonesia are stated in the Law of the Republic of Indonesia No. 20 of 2003 on National Education System. According to the Law, the function of national education is developing and sharing the character and civilization of a dignified nation to educate the lives of the nation. Meanwhile, the purposes of national education includes developing students' potential to be human who is faithful and devoted to God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and a democratic and responsible citizen.

Improvement of human resources is important to ensure the country's competitiveness in the global era. In the global era, people should master various skills related with life skills. Among important skills in the global era, one of the aspects which should be developed from school years is character. Character is a psychological aspect related to behavior, attitude, and manners, as well as qualities which set apart someone from others specifically, and able to make someone stands out over others (Rokhman et al., 2014).

Students' moral development is implicit and unavoidable in education practice standard (Narvaez & Lapsley, 2006). Character education in Indonesia has been positioned as a foundation to realize the vision of national development plan which is "Realizing people who has noble character, morality, ethics, culture, and dignity based on the philosophy of Pancasila". It's consistent with the statement of Rokhman et al. (2014) that Indonesia is one of developing countries predicted to have brilliant economic growth in 2025. Regarding the vision, character development in education is also important to solve the moral decline of children due to rapid globalization. Battistich (2011) states that school's challenge today isn't just providing academic knowledge and skills for students, but also support character development and helps solve social issues among students. Fenstermacher (1999) states that remediation/improvement of character is a component which should be applied to help students solve their problems and enable them to learn from the mistakes they make.

Character education should be a part of education, which is essentially the process of humanizing human. Students' attitudes and behaviors which are shaped at school by education process will eventually be their nature, personality, or character (Marzuki, 2012). Character education in Indonesia is now regulated in *Presidential Decree No. 87 Tahun 2017* on Character Education Reinforcement. Based on the regulation, every education unit is responsible for reinforcing students' character. Although it's widely known that character development is a necessity in education, the implementation of character education isn't fixed. So, character

education can be performed by schools by their own strategies while referring to the guideline of character education implementation published by the Ministry of National Education (2011).

The strategy to perform character education starts from the central government (top-down) with their policy on character education application. There is also practitioners' experience strategy (bottom-up) because some institutions pay attention to the improvement of character of the nation. By revitalization of supporting programs, character education is integrated into extracurricular and cocurricular activities (Saidek et al., 2016). Among character development strategies, one is adding learning period allocation. School may add learning period allocation to improve the effectiveness of cultural value cultivation.

Added learning period at school has been applied in elementary and junior high schools in Indonesia since the beginning of the discourse on full day school system. FDS system is reinforced by the release of *Ministerial Decree No. 23 Tahun 2017*. Based on the regulation, school day is 8 hours a day or 40 hours for 5 days a week. The new school day regulation is different from the previous system where students study in school for around 6 hours a day and 6 days a week.

The implementation of FDS system will increase students' interactions with other students, teachers and school community in general. Increased social interaction of students has good impacts, for example reinforcing character formed in the students (Battistich, 2011; Thompson, 2002). The character reinforcement isn't just an impact of increased social interaction, but also benefit of various self-development activities students do at school, such as extracurricular and cocurricular activities.

However, in practice the implementation of FDS system is not optimal. Not optimal implementation of FDS can be analyzed based on factors of parties involved in the teaching and learning process, i.e. student as learning subject, teacher as learning facilitator, and school as education service provider. The readiness of the three parties – student, teacher, and school – determine the implementation of the character reinforcement expected from FDS system.

THEORETICAL FRAMEWORK

1. Definition, Principle, and Characteristics of FDS Policy

Generally, FDS system is an arrangement of longer student learning period than half day school system. Time usage in schools which implement full day program is quantitatively and qualitatively different from schools which implement half day system (Plucker et al., 2004).

FDS system is increasingly common in education, even since kindergarten level. The proponents of FDS system at kindergarten level states that longer school period improves students' basic skills, lighten parents' parenting burden, and improves students' social skills by increasing interactions among students or between students and teachers (Redd et al., 2012).

The concept of FDS has been implemented for a long time in some countries, including Singapore, South Korea, China, Japan, Britain, United States, Taiwan, Spain, and Germany; it's called After School Program (ASP). Each country has different reasons to implement ASP. In South Korea, ASP is implemented to remove discrepancy between students who join tutoring and those who don't, as well as to increase the prestige of public schools. In the United States, ASP is implemented to reduce the crime rate of school age children who lack parental supervision. Meanwhile, in Singapore, ASP is implemented because school age children in the country are used to spend time for courses and finish homework after school hours (Winurini, 2016).

The discourse of FDS for elementary school and junior high school students is proposed by the Minister of Education and Culture based on the belief that the portion of character education at elementary and secondary levels is inadequate, requiring addition by holding extracurricular activities. In FDS system, children return home from school at 5 PM, like the average end of office hours of parents. Children are expected to go home with their parents, or at least have their parents supervising them when they come home from school (Winurini, 2016).

2. Advantage of FDS system in Education

FDS system is known to have some advantages based on previous studies. The advantages are related with academic and non-academic aspects. An example of advantage in academic aspect is mentioned by Redd et al. (2012). At kindergarten level, FDS system has significant positive impact on acquisition of reading and mathematics skills. The academic achievement of students who join school activities with full day system is stronger although in the school the proportion of minority students is high.

Furthermore, it's said that the more time students spend at school, the better the outcome on students to a certain level. It means, school duration which is too short or too long isn't good for students, either. Full day system is also known to benefit students with poor performance. If performed effectively, full day school program can trigger interactions between students and teachers. Students in full day program show high academic involvement.

Elicker & Marthur (1997) state that in schools with full day system, students' initiative in learning increases. Students are actively involved flexibly in various classroom learning activities. Students are also able to explore further and respond challenges in accordance with their interests and abilities. Full day system implemented at school is even known to increase students' literacy, as reported by Gibbs (2014). As we all know, literacy is a skill one must have to succeed in the future. Meanwhile, Rosalina (2012) states that in FDS system, students are given freedom by teachers to study creatively in accordance with subjects taught with reference to national standard.

The potential positive benefits of FDS include higher academic achievement, fewer grade retentions, easier transitions into first grade, better socialization and self-esteem, less hurried instruction, fewer transitions, lower child care costs, more learning opportunities for low-income children, and greater academic equity (Cooper et al., 2010; Hahn et al., 2014). On the other hand, there are several potentially negative impacts of FDS, including higher expectations, pushing first-grade material down to kindergarten, increased child fatigue, separation anxiety, less time for informal learning, less planning time for teachers, still unmet childcare needs, diminished parent responsibilities, increased costs, continued unequal access to FDS, and that it may take resources away from more effective interventions (Cooper et al., 2010).

3. Definition of Character and Its Empowerment in School Age Children

Character is an aspect related with one's overall performance and their interaction with the environment. Character covers moral, attitude, and behavior. The quality of one's character can be seen from their attitudes and actions. Therefore, character can be seen or is reflected in a person's daily habit. According to Cronbach (1977), character isn't an accumulation of separate habits and ideas. Character is an aspect of personality. Belief, feelings, and actions are interrelated, and to change character, personality rearrangement is necessary. Learning few principles won't be effective if not integrated with one's belief system on themselves, others, and good society.

Conversely, Lickona (1992) views character in three interrelated elements, which are moral knowledge, moral feelings, and moral action. Based on the elements, one is declared to have good character if they know what's good (moral knowledge), interested in good things (moral feelings), and do good things (moral action). The three elements will lead one to habits of thinking, feeling, and acting in accordance with what is good according to God Almighty, individual, society, or country and nation.

Despite the literatures, some studies have shown that quality character education isn't only effective in developing good character, but also promises to prevent various contemporary issues. The issues include aggressive and antisocial behaviors, drug abuse, early sexual activity, crime, low academic achievement, and failure in school (Battistich, 2011).

There are 18 values which underlie character development in education unit. The values are from religions, Pancasila, cultures, and national educational goals. Religions are sources of developed values because Indonesia is a country of religious people. Individual's life, community, and country are always based on religious teachings and beliefs. Politically, country life is also based on values from the state. In terms of Pancasila as a source of value, character of the nation education is aimed to prepare students to be better citizens, as citizens who have ability, was willing, and implement the values of Pancasila in their lives as citizens. Culture is a source of value because no one lives in a society without cultural values. The significance of culture in public life requires culture to be a source of value in national character education. Meanwhile, the purpose of national education covers various values of humanity which must be had by Indonesian citizens. Therefore, the purpose of national education is the source of most implementation of character of the nation education development (Saidek et al., 2016).

The values that underlie character include: (1) Religion, (2) Honesty, (3) Tolerance, (4) Discipline, (5) Hand work, (6) Creative, (7) Independence, (8) Democracy, (9) Curiosity, (10) Spirit of Nationality, (11) Love of the Country, (12) Achievement Appreciation, (13) Friendliness/Communicativeness, (14) Love for peace, (15) Love for reading, (16) Environmental Awareness, (17) Social Awareness, and (18) Responsibility (Ministry of

National Education, 2011:8). Although there are 18 values mentioned, education unit can determine values to be prioritized to continue preconditioned values which have been developed. Selection of priority value is based on interest and condition of each education unit.

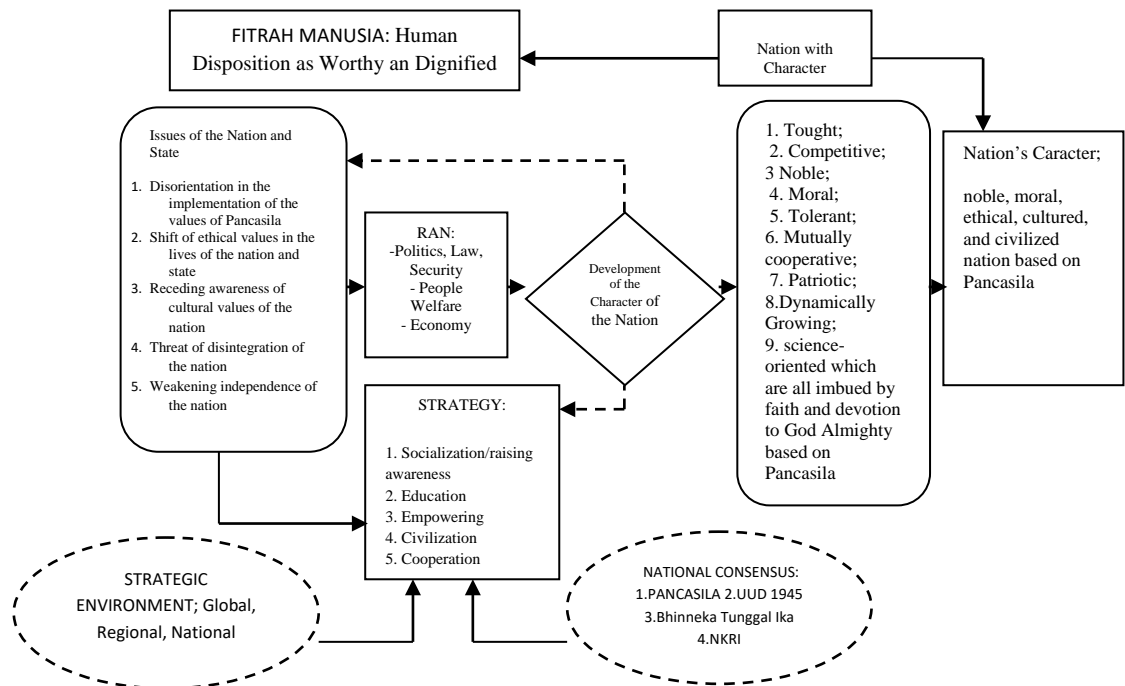


Figure 1. Mindset of Character Development (Source: Ministry of National Education, 2011)

Figure 1 show that character development of the nation is performed due to various issues, including disorientation in the implementation of Pancasila values, the shift of ethical values in the life of the nation, the receding awareness of national cultural values, threat of disintegration of the nation, and the weakening independence of the nation. The issues are solved by character education with strategy based on global, regional and national strategic environments, as well as national consensus which includes; Pancasila, Undang-Undang Dasar 1945, Bhineka Tunggal Ika, and Negara Kesatuan Republik Indonesia (NKRI).

The strategies used in character development include socialization, education, empowerment, civilizing and cooperation. The purpose of character development is creating a nation which has character, i.e. a tough, noble, moral, tolerant, mutually cooperative, patriotic, dynamically growing, and science-oriented nation imbued by faith and devotion to God Almighty based on Pancasila. If character development strategy succeeds, noble, moral, ethical, cultured, and civilized nation based on Pancasila will be created. These characteristics of Indonesia are consistent with human disposition as worthy an dignified creatures.

Character development is actually not new, but a part of human life since a long time ago. Education itself is a media to achieve knowledge and wisdom in living. The concepts of character education according to Rokhman et al. (2014) are: (1) Character isn't taught is creation of habits, such as internalizing values, making the best choices, getting used to an action, and setting example; (2) Character education in youth must include situation and condition which suit them; (3) In education, some issues to be noted are learning situation, learning process, learning material, and learning evaluation; and (4) Character education is a never-ending process.

The principles of character education according to the Ministry of National Education (2010) include the following.

- a. **Sustainable**: meaning the development process of cultural values and character of nation is a long process from elementary to secondary education.
- b. **Through all subjects, self-development, and school culture**: requirement that the development of cultural values and character of the nation is performed through all subjects, and in every curricular and extracurricular activities.
- c. **Values aren't taught but developed**: meaning cultural values and character of the nation aren't topics of discussion stated by teaching concepts, theories, procedures, or facts. Character values aren't taught like normal subjects.

- d. ***Education process is performed by students actively and joyfully***: meaning education of cultural values and character of the nation is performed by students. Not teachers. Moreover, character education process is performed in fun and non-indoctrinating learning atmosphere.

METHODOLOGY

This study used qualitative method by literature study technique. Literature study can be performed as a way to validate assumption and opinion, and comprehending dynamics which underlie a finding of another study. The findings of literature study also have the advantage of being more conclusive than the finding of one primary study (Baker, 2016).

The data in this study came from literatures, i.e. policies (Regulations of Ministers and Presidential Decrees), books, and articles; as well as relevant research results related to the implementation of FDS and student character empowerment. Data was analyzed descriptively consistent with formulation of research problem. The result of data analysis was discussed using existing theory to get research conclusion.

RESEARCH RESULT AND DISCUSSION

1. FDS; Educational Policy in Indonesian Islamic School

FDS system has started to be implemented in Indonesian schools since the discourse on the system started in the society. Since 2017/2018 academic year, the implementation of full day school system is no longer just a discourse because it's regulated in the Regulation of Minister of Education and Culture No. 23 of 2017 on School Days. The regulation is temporary until the ratification of Presidential Decree on the policy.

Based on ***Ministerial Decree No. 23 Tahun 2017***, school days are total days or hours used by teachers, teaching staffs, and students in organizing education at schools. It's established that school days in full day school system is eight hours in a day or 40 hours five days a week. The stipulation of eight hours a day or 40 hours five days a week includes breaks for half an hour a day or 2,5 hours for five days a week. However, school may add breaks to over half an hour a day. The addition of breaks isn't included in the established 8 hours a day.

During 8 hours long school days, students join intracurricular, cocurricular, and extracurricular activities. Intracurricular activity is an activity performed to satisfy curriculum consistent with the stipulations of the legislations. To reinforce and master basic competencies or indicators of subjects/fields in the curriculum, students perform cocurricular activity. Cocurricular activities include enriching subjects, scientific activity, art and cultural mentoring, or other activities which reinforce students' character.

Beside intracurricular and cocurricular activities, in FDS system at schools, students also perform extracurricular activities. Extracurricular activity is activity performed by student under school's guidance and surveillance to develop the student's potentials, talents, interests, abilities, personality, cooperation, and independence. Although not directly related with school subjects, extracurricular activities can't be taken for granted and must be performed optimally. It's because extracurricular activities essentially support the achievement of education goals. Extracurricular activities which can be selected by students at schools are *krida*, scientific work, talent/interest development, and religious activities consistent with the stipulations of the legislations.

The establishment of 8 hours long school day in ***Ministerial Decree No. 23 Tahun 2017*** only applies to schools which have sufficient resources and transportation access, except schools at kindergarten/special kindergarten/RA or the equivalent. Therefore, full day school system in Indonesia is implemented from Elementary School/Madrasah Ibtidaiyah to High School/Madrasah Aliyah levels. Fulfilling resources of schools which implement full day school system is the responsibility and authority of central and local government, consistent with the regulation of the minister. Beside central and local government, the fulfillment of resources is also the responsibility of education provider community. Fulfillment of resources and provision of transportation access during the implementation of full day school system will be monitored and evaluated regularly by the Ministry of Education and Culture.

If due to issues of fulfillment of resources and transportation access, a school can't implement FDS system yet, teachers' workload and students' burden of learning still must meet the demands of the curriculum. Teachers in schools which haven't implemented full day school still implement the 40 hours a week stipulation. Meanwhile, students who can't perform full day school still follow school hours provision with burden of learning in the curriculum and may perform cocurricular and extracurricular activities.

2. The Implementation of Full Day School System in Indonesian Islamic School

One of government's efforts to maximize character building activity is implementing full day school. There are three reasons to apply full day school system according to Minister of Education and Culture of RI. *First* is lack of subject, meaning full day school is providing extra time. However, the extra time isn't filled with subjects which bore students. The activities are extracurricular. The extracurricular activities cover 18 established characters. With additional hours at school, students are expected to be kept away from negative interactions.

The second reason is so that parents can pick up their children at school, especially in urban society. Generally, parents work until 5 PM. With this program, parents are expected to pick up their children after work. It's because it's risky for children to go home alone without being picked up by parents or relatives, i.e. they may go to non-beneficial places or meet dangerous strangers. *The third* reason is the full day school program aids teacher certification. Full day school program can help teachers get 24 hours teaching duration in a week (Leasa & Batlolona, 2017).

There have been many studies which reveal the effects of FDS system on various aspects of education. The research subjects are students from varying education levels, from elementary to secondary education. The research result of Winarni (2015:10) in MI Muhammadiyah Kartasura shows that the implementation of FDS can improve student's discipline at school and improve their character and faith.

Students' disciplines improve as long as learning activities at school are innovative and fun, so that students aren't bored. It's because the study time of students in schools which implement full day system is 8 to 9 hours. Schools must accustom students to obey rules with consistent support from teachers. Moreover, learning activity is performed using learning media which supports students' motivations.

3. Character Development through the Implementation of FDS

Based on *Presidential Decree No. 87 Tahun 2017*, the implementation of character education reinforcement is performed by education unit (school) integratedly in intracurricular, cocurricular, and extracurricular activities. Character reinforcement in intracurricular activity is performed by strengthening learning materials through methods consistent with contents of the curriculum. To reinforce character values learnt in intracurricular activities, schools also perform cocurricular activities. Meanwhile, extracurricular activities implemented to reinforce character include *krida*, scientific work, talent/interest development, and religious activities, as well as activities to reinforce faith in God Almighty consistent with the stipulation of the legislations. The religious activities are at least *pesantren kilat*, religious lecture, catechism, retreat, and/or reading/writing Al Quran and other holy books.

In terms of the religious activities, many schools have used religious activities as means of character development in students. For example, SDIT (Sekolah Dasar Islam Terpadu) Al-Irsyad Tegal uses *akhlakul karimah*, *tadarus* Al Quran, *dhuha* and *dhuhur* prayers, *juz 'amma* memorization, Al Quran translation, *kultum*, *muazin*, *wirid* and prayer, alms saving/*infaq*, *yanbu'a*, and *tahfidzul* Quran as means of character development in students (Rizky, 2015:56). The school also implements full day school system from the first to sixth grades. Furthermore, Rizky's study (2015) also finds that SDIT Al-Irsyad Tegal through full day school system habituates 4S culture (*senyum, sapa, salam, santun* or smile, greet, regard, manners), morning pledge, happy morning, *kultum/khotibah*, *tadarus*/daily prayer, prayer in congregation, physical fitness gymnastics, and *shodaqoh/infaq*.

Relating character with personality or moral is consistent with Marzuki's statement (2012). Personality according to Indonesian Dictionary means temperament, psychological natures, morals, or characters which sets apart one from others, and disposition. The personality is unique property resulted from formations from the environment. Therefore, in school, character is shaped by habituating activities, in this case religious activities.

In higher education, Leasa & Batlolona (2017) studied in Sekolah Menengah Kejuruan Negeri 13 Kota Malang. The result shows that qualification of students' character assessment by full day school is adequate to satisfying. Furthermore, it's reported that the full day school program implemented in the school is able to shape and develop the characters of the cadets who study in the school. Full day school program is specifically directed to cultivating core ethical values (e.g. perseverance, compassion, integrity, and justice) which encourage students to be productive, just, and democratic community members. Students who grow in those characters will have capacity and commitment to do the best works, do the right things, and live with clear purposes (Leasa & Batlolona, 2017).

The implementation of FDS also can help character development in students because student's meeting and interactions with teachers are longer in a day. In the longer duration, students can follow positive characters cultivated at schools. Battistich (2011) states that schools and teachers can help the development of students' positive character by: (1) building loving and supporting relations in classrooms and the whole school, (2) modeling positive behavior to the students, (3) creating opportunities for the students to be actively involved in significant classroom and school activities, (4) teaching important social and emotional skills, (5) involving the students in moral lesson, (6) making lessons and tasks which are significant and relevant in students' lives, and (7) not leaving any student behind in any activity.

In terms of positive behavior modeling and character habituation at school, Thompson's study (2002) reports that the habituation eventually triggers changes of students' behaviors to the better. The most common behavior change is related with responsibility. Students' responsibilities at home include doing tasks well and punctually. Another observed change is enhanced respect to others. Children are more respectful to parents, friends, teachers, and relatives. In terms of attitude to school, parents state that the change is children are happier and love their teachers and schools more. The attitudes are also affected by how teachers treat the students at school. Therefore, in schools which implement FDS system, the attitudes of teachers, principal, and all staffs must be able to support the development of good feelings within the students.

Consistent with the above statement, Berkowitz (2005) describes that to enhance the effectiveness of character development, there are some components which must be present in the implemented program. The components include social skill and awareness, self-regulation and -awareness (*self-management*), problem solving and decision making, explicit focus on values or ethics, integration with academic curriculum, professional development, and interactive learning strategy. In full day school system, some of the components are covered. For example, students studying in FDS environment will be trained to always socialize, regular study time efficiently, and able to identify the most suitable learning strategy for them. Moreover, values like manners and ethics to teachers, other students and the environment are also always emphasized in schools which implement full day school system.

4. Obstacles of the Implementation of Full Day School and the Alternative Solutions

Some obstacles in applying full day school system are related with parents, students, and school.

a. Parent cooperation

A relatively new system in Indonesian education, FDS system receives various responses from parents. Parents' characteristics vary, so not all parents support the implementation of FDS system. The varying parents' characteristics are mentioned as one of the inhibiting factors of FDS in Khusnaya's study (2016). It's unfortunate that some parents object to the implementation of full day school system because family and society participation or support determines the success of character education. Berkowitz (2005) states that the active involvement of parents of family is as important in determining the effectiveness of character education. Although in the implementation of full day school students' study time at schools is longer, the time spent by students with their teachers at schools isn't as long as the time spent with their parents or families.

Not only school teachers and personnel, but also parents and family around students can be students' role models. The role models are the foundation of character education program. Parents and other relatives can participate in modeling positive characters such as fairness, honesty, respect, and attentiveness (Harney, 2014). Therefore, it's clear that families and society also play important roles as stakeholders in developing and supporting the implementation of character education program through the implementation FDS in the children's schools. Parents' responsibility to cultivate character in children can be shared with schools and environment because sometimes parents can't fully participate in character education for one reason or another, and schools are reliable institutions for the development of children's character (Demirel et al., 2016)

Nevertheless, FDS program policy for character education is significant. The important point is emphasizing primary prevention by developing a program which enables students to develop positive character from young age. It's performed before they are more involved in problematic behaviors and trapped in negative influences which will be hard to change (Battistich, 2011). Today, FDS system has been implemented from kindergarten level so the habituation of positive character is started as soon as possible.

Considering some of the obstacles mentioned above, the proposed solution is maintaining communication with students' parents or families as well as possible. Schools must inform any activity or program applied on students in the implementation of full day school. With information transparency, families will support school

policies, so the implementation of FDS system to support character development will be smoother and more effective.

b. Student readiness

As the main subjects in education, students' role can't be ignored. In reality, in the implementation of FDS system, students aren't entirely ready, especially students in lower grades. Rizky's study (2015) shows that 1st grade students in SDIT Al-Irsyad Tegal still can't adjust with additional hours in full day school system. Longer study time makes students lack spirit, tired, or bored with the activities at the school all day. Regarding this, Leasa & Batlolona (2017) state that every student has their own internal condition which includes maturity, experience, social transmission, and equilibration. Students in lower grades, e.g. 1st grade, don't necessarily have the maturity and learning experience of students in higher grades. So, they're more prone to boredom in FDS system.

Students' boredom in the implementation of FDS system can be solved by addressing the activities in schools. The study states that teachers in SDIT Al-Irsyad are equipped with strategies of method selection and utilization and the appropriate media in teaching. In FDS system, it's very important to create fun learning atmosphere. Harney (2014) states that developing safe and supportive community at school starts from safe and supporting classroom atmosphere. With significant, contextual and fun learning atmosphere, students won't be bored in studying, so it's easier to understand what they learn and the character integrate in learning also can be internalized by the students.

Moreover, another issue is students are tired when they return home so the tasks given by teachers aren't finished or done optimally. It's consistent with Thoidis & Chaniotakis' finding (2015) that students don't do their homework, especially tasks of the last subjects due to lack of students' spare time at home, or because students are overwhelmed by the amount of study time and tasks. If this isn't addressed, students may ignore their tasks or copy other students. These behaviors don't reflect good character. Therefore, the difficulty level of tasks and time required to finish tasks should be rationally adjusted.

c. School and teacher readiness

Beside students and parents, school has similarly large role. To implement FDS, school must have other things beside teacher and school staff readiness and commitment. Facilities and infrastructures are important supports of effective implementation of full day school system. Winarni (2015) states that facilities and infrastructures aren't only necessary as media in learning activity, but also support the implementation of full day school system which takes all day.

To implement FDS system which effectively empower students' character, schools must prepare not only conducive classroom, but also supporting infrastructures, e.g. bathrooms, clinic, canteen, and other supporting facilities, such as rooms for extracurricular and self-development activities. Facilities and infrastructures are also important to reinforce character, as referred to in *Pasal 9 Presidential Decree No. 87 Tahun 2017*. The article states that education units and school/madrasah committees must consider the adequacy of educators and education staffs, availability of facilities and infrastructures, local wisdom, and opinions of public figures and/or religious figures outside of the school/madrasah committees.

Obstacles also may happen if school hasn't prepared adequate facilities and infrastructures for the implementation of full day school. To keep the obstacles from reducing the potentials of the implementation of full day system in developing students' character, schools should adjust school activities, allocate budget appropriately, to make students comfortable when studying. Furthermore, if school's resources and transportation access aren't adequate, the implementation of FDS system with 8 hours long school days can be performed gradually, as regulated in *Pasal 9 Presidential Decree No 23 Tahun 2017*.

Beside readiness of facilities and infrastructures, teacher readiness is also an important factor. Teachers should prepare themselves to be students' role models. So that students follow good character, teachers should reflect good characters in their words, attitudes, and behaviors. Therefore, teachers' competence in social and personality issues should be very thorough. Moreover, teachers should prepare varying teaching models to not bore students and so learning is more fun. Teachers should also be able to work together well with colleagues and residents of the school. Thoidis & Chaniotakis (2015) state that lack of cooperation among teachers is a factor causing problems in the implementation of full day school.

For the implementation of FDS system with its pros and cons, Winurini (2016) gives some suggestions so that full day school can be utilized well. The government should refine the concept of full day school and do the following preparations.

- a. Solve issues in the education system
- b. Make clear panning on full day school system
- c. Map the needs of full day school in every region to align the purposes of the program and activity implementation
- d. Study children development and children's psychological readiness as reference of implementation of activity model, substance of activity, and determination of length of school hour
- e. Study the readiness of school resources, e.g. facilities, infrastructures, and teachers
- f. Study the allocation of available fund. The study result is the basis for the government to assess whether FDS can be implemented effectively and on target. In this case, People's Representative Council (Dewan Perwakilan Rakyat), should monitor the government's study to ensure that full days is beneficial for the society and the state.

CONCLUSION

Based on the research result and discussion, the conclusions are as follows.

- a. The FDS system policy is stated in **Ministerial Decree** No. 23 Tahun 2017 on School Days. In the regulation, it's known that school days in FDS system are 8 hours a day, or 40 hours 5 days a week. School days are used by students to perform intracurricular, cocurricular, and extracurricular activities. Schools which haven't implemented full day school system still have to fulfill the provisions of the curriculum on students' study time and teacher workload.
- b. Most schools in Indonesia have implemented FDS system. The implementation of FDS system is useful in improving students' academic and non-academic aspects, including character.
- c. The development of children's character can be performed by FDS system. In full day school system, children's social interactions increase and they're used to positive activities. During study time at schools, students also get good examples from teachers and teaching staffs as their role models.
- d. The obstacles of the implementation of FDS system may come from parent cooperation, student readiness, and school readiness. To FDS system optimally in character development, the aspects should be addressed first.

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HIGHER-ORDER THINKING SKILLS OF JUNIOR HIGH SCHOOL STUDENTS

Artha Mahindra Diputera

Postgraduate Universitas Negeri Semarang Indonesia
arthalwides@gmail.com

Dewi Liesnoor Setyowati

Postgraduate Universitas Negeri Semarang Indonesia

Endang Susilaningsih

Postgraduate Universitas Negeri Semarang Indonesia

Abstract: Essay tests have the ability to interpret the value of individual tests in relation to a set of goals, skills or competencies. The study aims to determine the ability of high-school students to think high. The research was conducted by quantitative technique with 30 samples on small scale test and 105 students on large scale test. Samples were taken randomly from the population. data collection techniques using Tests. Students do not seem too different because they get the ability to answer a short enough question. The results of large-scale test ability of analysis of 43% very high, 26% High, 26% medium, and 6% low. Evaluation ability of 30% very high, 21% high, 20% medium, 29% low, and 1% very low. Create ability 29% very high, 28% high, 41% medium, and 3% low. Analyze and create capabilities have the same percentage for each category. Large-scale tests show an increase in ability of each ability. Decreasing the category is very effective, teachers need to improve their ability and evaluation. Category Low and very low in the category of evaluation. Teachers are encouraged to use learning models that train high-order thinking skills.

INTRODUCTION

The test is one of the instruments used to collect the information required in the evaluation, consisting of a number of questions or items that are used to obtain data or information through the response of the test participants (Rusilowati, 2017). The item in the test requires the subject to show what is known or what the subject has learned by answering the question (Azwar, 2010, p. 3). Opinion Rusilowati and Azwar in line with the delivered Hambelton and Rogers which states that the tests referred to by the norm are designed primarily to facilitate and compare between individuals or groups about the properties measured in the test. The tests referred to by criteria such as proficiency tests, mastery tests, competency tests, and basic skill tests are built to enable interpretation of individual test scores with respect to a set of clear goals, skills or competencies (Hambelton & Rogers, 2000, p. 4).

Research to compare the effectiveness of essay test forms (descriptions) and multiple choice with the application of Graded Response Model (GRM). The results showed empirically and simulated tests presented in the essay form tended to have a higher functional item information value of the multiple choice. Essay tests to tend to be more effective than multiple choice. Test that use larger sample sizes, there is a tendency towards the form of essay tests to have a higher functional value of the information item information than in the form of multiple choice (Sasongko, 2010) (La Fave, 1966).

Essay type tests have the advantage that is relatively easier to make. It is easier to use to reveal a high level of competence. The essay test is able to uncover capabilities related to verbal-write expressions (Azwar, 2010, p. 76). Teachers should be aware that essay tests will result in high-order thinking expressions of learners in lengthy writing, so that items are arranged in small amounts. Essay tests can reveal to remember, understand, and organize ideas or things that have been learned, by expressing or expressing ideas in the form of written descriptions using his own words. Topics taught to require feedback from learners not just choose the answer then it should be developed item (Ridlo, 2011, p. 41).

Essay Test Characteristics

Assessment in writing is done by written test. Written test is a test that the problem and the answer given to the students in the form of writing. Learners in answering questions do not always respond to the form of writing answers, but can be other forms such as marking, coloring, drawing, and so on (Majid, 2015, p. 190).

There are 2 forms of written test questions, namely:

1. Choose an answer, which is divided into a) multiple choice; b) two choices (right-wrong, yes-no); c) match; d) cause and effect.
2. Supplying answers, differentiated between: a) stuffing or completing; b) short or short answers and c) descriptions / essays.

The preparation of a written assessment instrument needs to consider the following:

1. Characteristics of subjects and breadth of the scope of the material under test.
2. Materials, such as conformity with competency standards, basic competencies, and achievement indicators in the curriculum.
3. Construction, for example, the formulation of questions or questions must be clear and assertive.
4. Language, such as the formulation of the problem does not use words / sentences that give rise to multiple interpretations.

A written essay test requires learners to remember, understand and organize ideas or things they have learned. Learners express or express the idea of the form of a written description using their own words. Specifications of mental processes related to construction and the extent to which learners report awareness and use of processes in academic problem-solving situations (Armour-Thomas et al, 1992). Supardi (2015, p. 48) explains the essay test is a form of question that requires learners to answer in the form of describing, explaining, discussing, comparing, giving reasons, and other similar forms according to the demands of questions using their own words and language.

Essay test has several advantages including:

1. Measuring high mental processes or high cognitive aspects.
2. Develop language skills both orals and written well and correctly in accordance with the rules that apply. Essay tests is effective against improving the achievement of essay test, there is no significant difference between students who have disabilities in reading and writing ability (Therrien et al, 2009).
3. Train the ability to think regularly or reasoning, ie logical thinking, analytical and systematic. Essay tests can show evidence of awareness in the meta-cognitive understanding of the usefulness of feedback and formative assessment procedures (Ellery, 2008).
4. Develop problem solving skills.
5. The existence of technical advantages such as easy to make without requiring a long time.

Essay tests has the characteristics of the question preceded by words such as describing, explain, why, how, compare, conclude, and so on. The question on the essay test form are usually not many, only about 5-10 pieces in about 90-120 minutes. Essay test in short requires students to be able to remember and recognize again and especially must have a high creativity (Arikunto, 2007, p. 162). The ability to write in essay tests may link scores if the level of writing ability in acceptance rather than the placement test of learners (Goodwin, 2016). (Day et al., 1990) essay tests can be constructed covering the domain of clinical judgment. Essay tests results are associated with other clinical competencies, so as to provide information. (Widoyoko, 2016, p. 83) describes the type of essay tests based on the degree of freedom of the test participants to answer the question. Essay tests can generally be divided into two forms, namely: free expression test or extended response and an open description test (restricted response).

- 1) Extended Response Test. The free description test has a form of description test that gives the testee the freedom to organize and express her thoughts and ideas in answering test questions. Test participants' answers are open, flexible and unstructured. The free description form is excellent for measuring learning outcomes of application level, analysis, evaluation and creativity.
- 2) Restricted Response Test. The limited description test is a form of description test that gives certain restrictions or guidelines to test participants in answering test questions. The limited test description should determine the desired answer limit. This type of item of limited free description should be used to measure learning outcomes of understanding, application and analysis.

Higher Order Thinking Skills

Krathwohl & Anderson (2010) mentions Bloom developing his taxonomy into six categories of cognitive domains. Bloom's taxonomy categories are Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. All Unless Application categories each has subcategories. Bloom's taxonomy is not the only

formulation of the competency level, but it still seems to be the most popular and thorough coverage (Azwar, 2010, p. 63).

Brookhart in Kusuma et al, (2017, p. 26) states that higher-order thinking is considered the upper end of Bloom's taxonomy. "The ability to think" means learners can apply the knowledge and skills they develop during their learning to the new context. (Zohar et al, 2001) suggests that 45% of teachers believe high-level thinking is not suitable for underachieving students

Krathwohl & Anderson (2010) revised Bloom's taxonomy. Number of categories maintained six, but with important changes. Three categories are renamed, the second sequence is switched and the category names maintained are converted into verb forms to fit the way they are used in the goal. Taxonomic revisions can be seen in Table 1. Schraw in Zetriuslita et al (2016, p. 27) classifies thinking skills into two categories namely low-order thinking of knowledge, understanding and application. High-level thinking skills consists of analysis, synthesis and evaluation (Khoiriyah, Jalmo, & Abdurrahman, 2018).

The teacher gives examples of real-world problems, encouraging open class discussions, encouraging inquiry experiments, the potential for developing the consequences of critical thinking skills (Miri et al, 2007). Preparation of Higher Order Thinking using Problem Based Learning needs to consider educational goals and teachers should design problems to meet the stated goals (Weiss, 2003). Model of learning problem based learning and problem solving condition learners to develop thinking ability (Sucipto, 2017). Barnett & Francis (2012) conducted a study to test whether quizzes containing high-order thinking questions are related to critical thinking and performance tests when used simultaneously. The results show that critical thinking increases equally in all sections. The sections that receive the higher-order thinking quiz are done significantly better than the other two sections in the multiple choice and essay sections.

Research Method

Participant

Research using quantitative research techniques. The study used a sample of 135 learners at the junior high school level that were taken randomly in West Bandung District. Students are given 20 essay test items to work on. Test results are used to categorize learners' abilities.

Instrument

The instrument in this study is a set of essay tests consisting of grids, essay items, scoring guidelines, and assessment sheets.

Procedure

Researchers conducted in 2 stages of research that is small scale of 30 students and large scale of 105 students. students do essay to see the value of learning result. Learning outcomes is incorporated into categories using formulas. Researchers conducted data analysis based on learning outcomes and high-order thinking skills category.

Result

The results are divided into 2 parts, namely small scale and large scale. The results of the measurement of high-level thinking ability on a small scale using 30 samples were divided into 3 components. The results can be seen in Table 1 and Table 2. Table 1 presents the results of small-scale test and Table 2 presents the results of large-scale test.

Table 1. Small Scale Test Results

| Skills | Percentage of students | | | | |
|------------|------------------------|------|--------|-----|----------|
| | Very High | High | Medium | Low | Very Low |
| Analysis | 0 | 33 | 23 | 43 | 0 |
| Evaluation | 0 | 33 | 37 | 30 | 0 |
| Create | 0 | 33 | 23 | 43 | 0 |

Table 2. Large Scale Test Results

| Skills | Percentage of students | | | | |
|------------|------------------------|------|--------|-----|----------|
| | Very High | High | Medium | Low | Very Low |
| Analysis | 43 | 26 | 26 | 6 | 0 |
| Evaluation | 30 | 21 | 20 | 29 | 1 |
| Create | 29 | 28 | 41 | 3 | 0 |

Discussion

The researchers obtained data onto small-scale test results. Students do essay test of 20 items for 90 minutes. Table 1 shows the results of small-scale test of the ability of analysis, evaluation and creation of junior high school students none in the very high category. students are not in very high category because the time given is not proportional to the number of items. students get time to work 4.5 minutes per item.

Higher order thinking skill analysis is more common to low category sees in Figure 1. Students with low category analysis ability of 43%. However, students 'junior high school students' analytical skills are still offset by High's 33% and medium 23%. Ability analysis is the ability of high-level thinking that wants students to be able to describe a problem to know the elements and can determine the interrelationship between the elements. The findings of the study indicate that high-order thinking skills of junior high school students' level of analysis are still low. The junior high student has not been able to find the elements of a problem and determine the linkage.

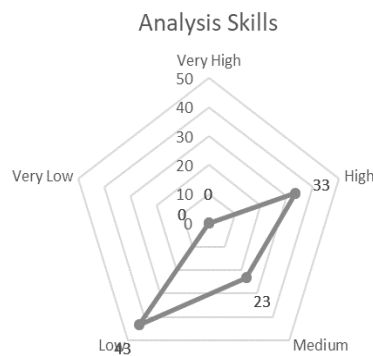


Figure 1. Analytical Skill of small scale test

Higher order thinking skills is more dominant in the medium category see Figure 2. However, the ability of middle school students to evaluate can be called balanced with high, medium and low. Evaluation ability is the ability to consider based on criteria or standards. Students are asked to criticize or check. Junior high school students have a moderate ability to evaluate.

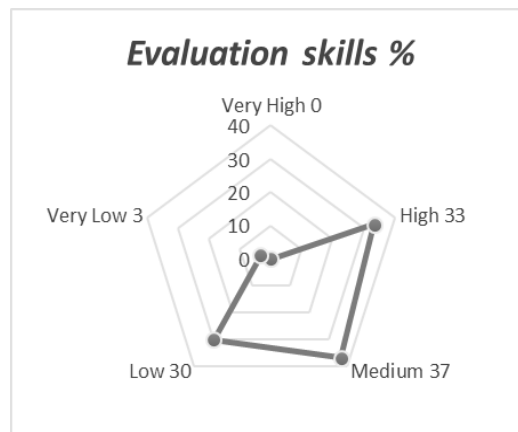


Figure 2. Evaluation Skills of small-scale test

The ability to think in a high level of create level is similar to analytical skills see Figure 3. The dominant student in the Low category is 43%. The ability to create is the ability to combine several elements into unity. The junior high school students are still low in doing the create.

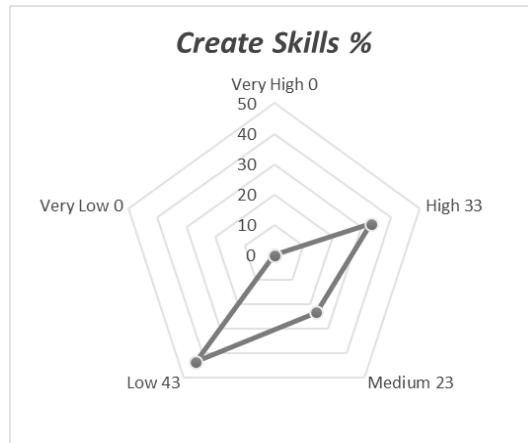


Figure 3. Create Skills small-scale test

The large-scale test using an assessment of 105 samples. The test uses 15 items that have been revised after a small-scale test. students get longer time of small scale test. students get 6 minutes per item. Large-scale test results are divided into 3 parts namely the ability of analysis, evaluation ability, and creativity.

Figure 4 shows the results of analysis analysis on a large scale scale. Found in Very High category. Students are not found in very low categories. However, found 6% of students in the low category. The category of students is very high increased from small-scale test, previously not found in very high category students. Improve your ability to get longer results. Question items allow analysis to be done, and students can understand the questions. Students can translate several elements into a single product or argument.

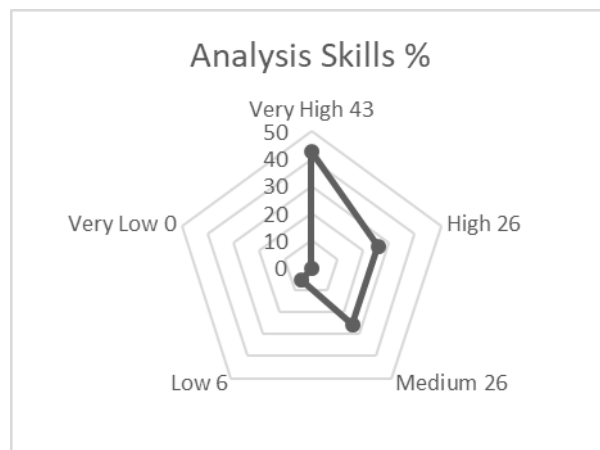


Figure 4. Analysis Large scale test skill

Students experience an increase and decrease to some categories. Students experience an increase in the category of very high compared to small-scale test. Evaluation ability decreases to high, medium and low category in figure 5. The decreasing ability is very significant in the very low category. The diminished item affects the ability of the evaluation. Students that have the intelligence can go in to answer questions well. However, students who are less clever then unable to conduct an evaluation.

Evaluation Skill %

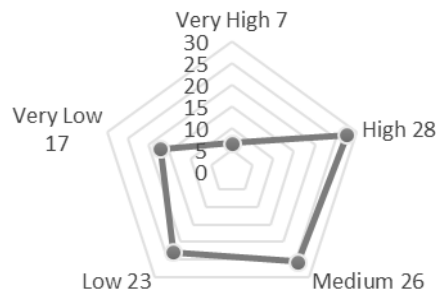


Figure 5. Evaluation Skill of large-scale test

Students in the measurement of high-order thinking ability have increased and decreased to some categories. Students experience an increase in the category of very high compared to small-scale test. The ability to create has increased significantly to the medium category. Students are able to answer questions on their language according to their ability to make an argument based on their knowledge.

Create Skills %

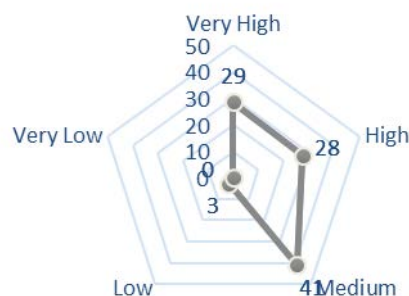


Figure 6. Create Large scale test skill

CONCLUSIONS

Students have high-level thinking skills based on a revised taxonomy of bloom. High-level thinking skills consisted of analysis, evaluation and create. Small-scale tests show relatively similar abilities. Students do not seem too different because they get the ability to answer a short enough question. Analyze and create capabilities have the same percentage for each category. Large-scale tests show an increase in ability of each ability. But the discovery of students that are very low category of the need for attention by the teacher. Decreasing the category is very effective, teachers need to improve their ability and evaluation. Category Low and very low in the category of evaluation.

Teachers are encouraged to use learning models that train high-order thinking skills. Students can improve their analytical, evaluation and creational skills by being trained sustainably in learning. Students can better master the questions that measure high-order thinking skills. Students who have high-level thinking skills will be able to deal with problems with a complex and comprehensive. Prepare patterns of thought for higher education.

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HOW TEACHERS FEEL ABOUT FEEDBACK FROM ADMINISTRATORS

Thomas Roberge, PhD
Assistant Professor Physical Education
Norwich University, 158 Harmon Drive, Northfield, VT 05663, USA
troberge@norwich.edu

Abstract: The problem investigated for this research study was communication disparity evidenced by how teachers interpret and react to principal's feedback. Principal-to-teacher communication disparity is causing teachers to become dissatisfied and elevating teacher attrition. This study identified and helped to understand how K-12 teachers in a representative school district perceive their principal's evaluations and feedback in the forms of written, verbal, and a combination of the two. The intent of this qualitative inquiry and phenomenological design was to explore the essence of the phenomenon of principal-to-teacher performance evaluation to better understand objective feedback and evaluation. Of the 200 K-12 teachers recruited, 129 completed and submitted an online survey requesting their perceptions of principal feedback (response rate of 65%). Based on the submitted survey, 15 participants were selected to participate in interviews. Selection was based on having an administrative evaluation in the past three years and their willingness to participate in a live interview. Interviews and survey results from this study indicate teachers understood the importance of evaluations and thought their principal's intentions were respectable. More than half believed principal evaluations were unproductive and their manner of communication had an effect on teachers' job satisfaction. Keywords/phrases: teacher discontentment, feedback, communication disparity, teacher retention, job satisfaction, teaching performance assessment

Introduction

The social dynamic between professionals in schools may not be accurately portrayed. Feedback may not be effective in some instances as some teachers, for various reasons, fear being evaluated (Conley & Glasman, 2008). Many subordinates may be able to relate to a boss being critical of an employee's performance. However, there is also research showing there are administrators psychologically and emotionally abusing teachers (Blasé & Blasé, 2006, Blasé, Blasé, & Du, 2008). In these cases, feedback for those directly and indirectly affected may never be the same, as teachers' trust of administrators will be damaged.

Politicians, taxpayers, and the media are scrutinizing public education more than ever. Some motivations to analyze education include the increased cost of education, the funding of education through taxes, and the increase in home-schooling now deemed acceptable by 43% of the population (Cooper & Sureau, 2007). The passage of the *No Child Left Behind Act* (NCLB) in 2002, whose aim is to increase schools' and teachers' accountability, has contributed significantly to putting education under the microscope. The pressure to increase student performance has affected the relationships between teachers and administrators.

Teacher evaluations are not accomplishing what they were designed for; improving teaching and student performance (Shao, Anderson, & Newsome, 2007). Teacher evaluations are causing dissention between teachers and administrators. This dissention will be defined as the phenomenon *communication disparity*. The problem investigated in this research study was how communication disparity between teachers and administrators regarding performance feedback contributes to *teacher discontentment*. The result is teachers are leaving the school they teach in or the teaching profession entirely (Brown & Schinker, 2008).

Fundamental communications between teachers and principals, which have a propensity to be sensitive, are teacher evaluations. Many teacher evaluations are subjective and are heavily influenced by student achievement including standardized test scores (Torff & Sessions, 2009). Furthermore, principals approach teacher evaluations as supervisory duties rather than an evaluation of teacher job performance (Range, Holtz, Scherz, & Young, 2011). Whether these occurrences are intentional or accidental needs further attention to improve teacher-administrator relations, which can improve teacher job satisfaction and lower teacher attrition.

The working and social components of the school setting can be complex and challenging. The working conditions that the leader creates, including psychological and emotional conditions, can dictate whether quality teachers stay or leave a school (Blasé & Blasé, 2006; Conley & Glasman, 2008; Ladd, 2011). This is important to bear in mind for the purpose of this study and improving the quality of communication between teacher and principal. This study was intended to determine the barriers of communication between teachers and administrators in an effort to bridge that gap in the research, and to determine if and what differences between teacher and administrator perceptions exist. Neglecting research in the area of principal-to-teacher

communication may further compromise the relationship between the two and affect future teacher recruitment and retention (Doti & Cardinal, 2005).

Literature Review

Communication is fundamental to any relationship particularly feedback and evaluations from superior to subordinate. The relationship between administrative leadership and employee commitment is a significant working dynamic every employer should consider (Fugate, et al., 2008). The role of leader and their relationship with the people that they oversee are also critical to the effectiveness of the organization (Yariv, 2009). This is especially true for our public schools as the importance of education has grown exponentially.

Education is currently experiencing difficult challenges as many try to measure and quantify our schools' performance; notably teachers' performance. The No Child Left Behind Act (NCLB) is adding to the accountability that we hold for our education system and the teachers facilitating learning. This added pressure is straining an already arduous relationship between principals and teachers, as principals must evaluate teachers' performance more critically and effectively (Namaghi, 2010; Danielson, 2000).

The Purpose of Teacher Evaluations and Feedback

In the past, teachers perceived evaluations as a method to find fault with teachers in any subjective manner the principal chose. The evaluation was viewed or perceived as a means to reprimand and not as a mechanism to improve teaching (Sullivan, 2012). Evaluation procedures were performed by the principal or superintendent utilizing subjective judgment of the teachers' performance and ability. In the 1950s and 1960s, evaluation was seen more as supervision where if the principal saw the teacher performing teacher acts like writing on the chalkboard, lecturing the class, and using pushpins, they were teaching (Range, 2011; Sullivan, 2012). Teachers perceived any focused conversation and attention regarding their performance, outside of being told "good job", as threatening.

In the 1970s and 1980s, teacher evaluation was substantially modified to be more objective. The focus was shifted away from the prescribed curriculum model and teacher character traits and more to a prescribed teaching model (Kersten & Israel, 2005). Checklists were used to verify the curriculum model and that its various structures were being followed. Indications were that "The building principal was equipped with a checklist to document simultaneous interdependence, student roles, and individual productivity" (Kersten & Israel, 2005, p. 48). Teaching was much more quantifiable and was looked upon as black and white, especially by the teacher unions and administration.

Evaluations and feedback are also designed to show support for teachers (Feeney, 2007). By providing regular attention through evaluations, administrators show that they care about what is going on in their schools and about the individuals inside the schools. Supervision can have highly positive effects on the quality of teaching and schooling (Fraser, 2005). Considering the stakes involved by the NCLB act, supervisory direction should be informed by research. As the emphasis on student standards and standardized testing increases, it is important to identify and research how these and other factors change teachers' working conditions and contribute to teachers' job satisfaction (Ladd, 2012).

Evaluations of teachers could be similar to evaluations of students. Some of the same questions are used when evaluating a teacher as are used to enhance student assessment. "Where am I going? Where am I now? How can I close the gap" (Chappius & Chappius, 2008, p.17)? These questions are essentially what Danielson and McGreal (2000), Jensen and Overman (2003), Namaghi (2010) and others recommended as necessary in teacher evaluation. These questions should also take priority when teachers are formulating goals. The student who desires a grade of an 'A' must design a strategy to receive their desired mark, and so must a teacher design a strategy to produce their goals. Teachers perceive that the responsibility of the administrator is to provide resources for them to attain their goals (Celebi, 2010).

For teacher evaluation to be effective some crucial areas need to be addressed; a consistent definition of good teaching, a transparent and credible evaluation system, opportunities to engage in meaningful conversations about practice, and a focus on what really matters (Danielson, 2011). For novice teachers, the principal's role in establishing a healthy school climate and meeting the perceived personal needs of the novice teachers is a key part of formative evaluation (Bickmore & Bickmore, 2010).

However, research on teacher evaluations indicates that very little helpful feedback is offered to teachers and that a teacher evaluation is frequently viewed as little more than a ritual required by state lawmakers (Mahar & Strobert, 2010). Teacher evaluations are not accomplishing what they were designed for; improving teaching and

student performance (Shao, et al., 2007). This is important to bear in mind for the purpose of this study and improving the quality of communication between teacher and principal.

Jensen and Overman emphasize five principles that should be employed when evaluating teachers:

- It should enhance growth and development of the teacher.
- Its main focus should be on teacher effectiveness.
- Evaluation should include a discussion of goals for the future and how they can be achieved.
- It should involve the person being evaluated in penetrating self-analysis.
- Some aspects of the evaluation should be formalized with pre- and post-observation conferences, and these should be carried out in a non-threatening manner (Jensen & Overman, 2003).

Perceptions of the Evaluators Themselves

There are particular areas of concern regarding evaluators. The first is that evaluators are not prepared to perform effective evaluations of teachers. Evaluators must be able to assess teachers correctly, provide meaningful feedback, and engage teachers in productive dialogue concerning teaching (Danielson, 2011). If the purpose of evaluating and providing feedback to teachers is for teachers to improve, they must have a coach who knows the game. It is not necessary for a principal to be competent or proficient in a subject area, but it is necessary for them to be fluent in pedagogy. This research could uncover any anxiety for the teacher created by this type of situation.

The second area of concern is administrators finding or making time to have productive dialogue pertaining to a teacher's performance (Danielson, 2011). Skills in maintaining a positive and objective conversation focusing on the act or art of teaching, not focusing on the person, are vital for a productive conversation. Teacher's and principal's school schedules should allow time for reflection and dialogue. Time can be saved if a principal is allowed to have brief and informal drop-in observations to gather information to be shared with the teacher (Danielson, 2011).

Teacher Perceptions of Feedback from Administrators

Relationships are of primary concern when people must communicate with one another. School climates can become very emotional, especially in this time of accountability and reform in education (Arlestig, 2007). Understanding how to measure where people are mentally and emotionally at a particular time can benefit in establishing effective relationships between administrators and teachers. How teachers perceive feedback is central to this specific research. Feedback provided to teachers by school administrators has significant value in job satisfaction (Celebi, 2010; Cohrs, et al., 2006; Ozel et al., 2007). There are certain characteristics needing attention when issuing and receiving feedback that can make the feedback effective and useful for both teachers and administrators.

Perceptions from teachers of their administrators performing evaluations are clear; principals do not perform enough evaluations or focused evaluations. Teachers feel administrators rarely visit teachers' classrooms throughout the school year and when they do they receive little to no useful feedback at all (Celebi, 2010; Papay, 2012). Administrators performing evaluations spend little time on the teacher's lessons but typically show interest in yearly plans, student projects and homework, and classroom management (Feeney, 2007; Hershberg & Robertson-Kraft, 2010). Teachers feel that principals do not complete an evaluation regarding the development of their school. Teachers found evaluations and appraisals to be insensitive; instead of being supportive in the teaching methodology (Celebi, 2010). This can happen when the evaluation is being used as a disciplinary protocol.

Several studies have suggested trust as a potential hurdle for an effective employee-employer relationship. Holtzhausen and Fourie (2009) stated "trust has several core dimensions, namely integrity, dependability, and competence that together describe confidence and a willingness to participate in the relationship" (p. 4). Leadership style has a motivational and lasting impression on the employee's experience and job satisfaction. If the leader possesses good structure practices and has good relationship with the employees, the employees' effectiveness will be enhanced (Bhatti, et al., 2012). Trust and other non-visual elements like the organizations values and objectives have contributed to increased job satisfaction for employees (Holtzhausen & Fourie, 2009).

Teachers feel school administrators have a responsibility to foster the well-being of faculty and staff. Principals who regulated and observed school conditions, social relationships, means for self-fulfillment, and health status pertaining to teachers were viewed as supportive (Togari, Yamazaki, Takayama, Yamaki, Nakayama, 2008). Teachers perceiving support in these areas and who were enabled to contribute were more satisfied with their jobs and more committed to their organizations (Konu, et al., 2010). To help teachers prepare for feedback and

evaluations administrators could encourage and foster teacher to teacher dialogue. Building relationships and trust is important for any organization as it binds individuals together, but for teachers who share students, it is critical (Mangrum, 2010).

Beyond the non-visual elements is the exchange idea. Here the employee feels obligated to repay the organization for the organization showing faith in them; the employee then expects they will be rewarded for their good deeds, and the cycle continues (Bogler & Nir, 2012). The feelings and obligations felt by the employer and employee after the good deeds are performed back and forth builds trust in one another. Opening dialogue with teachers regarding administrative and organizational issues without adding responsibilities to teachers have been perceived favorably by teachers. Other strategies for building trust and hope include shared strategic planning sessions, teacher involvement in allocation of resources, blueprint planning and design, ongoing assessment, and administrative and organizational support (Hodge & Ozag, 2007). This empowerment bestowed by the administration to the teachers is perceived positively as long as the process is seen to advance the organization (Bogler & Nir, 2012).

In other studies, teacher perceptions of their administrators have been favorable. In Wideen's study, teachers' principals demonstrated support in a number of ways: supplying release time for the teachers by relieving them from some non-teaching duties, finding financial support for their efforts outside of school and in professional development, and taking risks with the teachers by trying out new teaching ideas (Meister, 2010). Subsequently, the teachers reported the perception of being treated fairly and being supported by the principal. The teachers thereafter found a willingness to share in decision-making with the principal (Meister, 2010). However, this study did not investigate whether the administrators had to perform any evaluations or provide feedback on job performance for the teachers reporting principal support.

Feedback was an area of focus in another study. A school improvement initiative program found that 75 percent of teachers said they saw improvement in their teaching when working with a specialized coach (Nelsestuen, Scott, Hanita, Robinson, & Coskie, 2009). The teachers received generous amounts of feedback and were evaluated informally by the coaches. Although the coaches were not administrators, it is noteworthy to address the receptiveness of teachers to new initiatives when administered by individuals with a different title, different goals, and a consistent focus. Teachers perceive feedback as worthwhile and necessary. Teachers also feel collaboration should be an element of feedback and that collaboration is necessary to facilitate change (Nelsestuen, et al., 2009). Noteworthy and beneficial information from this study could be teachers' perception of someone providing feedback as an ally.

Humor has been proven to increase teachers' perceptions of job satisfaction (Hurren, 2006). However, teaching is usually perceived as not a very highly valued activity (Smith & Welicker-Pollak, 2008) and relying on humor too heavily can be damaging to the profession. Emotional intelligence has also played a role in teacher perceptions of feedback and evaluations. Intrapersonal familiarity can help an individual prepare for formal principal evaluations. Emotional intelligence can be conceptualized as a set of natural abilities to manage, assess, and evaluate one's own emotions reducing stress and increasing focus and management for personal excellence (Chopra & Kanji, 2010). Emotional intelligence can be linked to how teachers perceive evaluations from administrators. Emotional intelligence is also a clear indicator of job satisfaction (Yariv, 2009).

Finally, it appears what teachers deem as responsible and desirable traits of a principal are condoned by researchers of supervisory assessments. The Vanderbilt Assessment of Leadership in Education along with the Wallace Foundation concurred that principals must communicate a shared direction, engage others, create enabling conditions, and maintain systems of exchange within the school (Portin & The Wallace Foundation, 2009). Teachers yearn for support and to grow in their field. Teachers want to see students succeed and are willing to work with others to accomplish educational goals (Redding, 2008).

Research Method

The purpose of this qualitative method, phenomenological design, was to better understand the essence of the phenomenon of principal-to-teacher performance evaluation resulting in communication disparity. Five research questions guided the inquiry:

Research Question 1: What are school teachers' reactions to feedback from administrators regarding their teaching performance?

Research Question 2: What factors contribute to how teachers feel about feedback from administrators?

Research Question 3: How do teachers consider the intentions of an administrator and their feedback?

Research Question 4: How do teachers react to feedback from administrators to improve their teaching?

Research Question 5. What types of communication do teachers prefer when receiving feedback from supervisory administrators?

Materials/Instruments

To capture a thorough comprehension of the phenomenon being studied, two instruments consisting of three different data sources were utilized. The first instrument contained a forced-choice questionnaire and an open-ended question. A pre-existing questionnaire, *Special Education Teachers' Perceptions of Administrative Support*, a 20-item Likert Rating Scale forced-choice questionnaire (1 = not important at all to 4 = extremely important), developed by Weiss (2001) was used in the initial section of the study. Obtaining specific information to the phenomenon of teachers' personal experiences with administrative communication and feedback was summative and leaned towards a case study approach.

The second instrument was an open-ended survey question regarding teachers' general reactions and feelings about feedback from administrators. The third instrument was an interview to reflect on administrator feedback provided during their teacher evaluations and the communication between each of them and their respective administrator. The questions were designed based on the results from the teacher survey. Main questions and probing sub-questions were developed with the intent to understand the opinions, judgments, perspectives, and values of the participants as it related to the phenomenon being studied, communication disparity. The questions were:

1. Please describe how you felt regarding performance feedback from your administrator.
 - A. What were your perceptions of your evaluation prior to being evaluated?
 - B. What were your thoughts and feelings during your teacher performance evaluation?
 - C. What were your thoughts and feelings after your teacher performance evaluation?
2. Please describe any factors that contribute to how you feel about feedback from administrators.
 - A. Were you prepped or communicated to about the evaluation in any way? If so, by whom and how?
 - B. Were you introduced to or taught about being evaluated by an administrator in undergrad? If so, how?
 - C. Did any prior experiences help you? If so, what experiences helped you?
 - D. Are there any other factors that contribute to your perception of teacher evaluation?
3. Describe how you consider the intentions of an administrator and their feedback.
 - A. What do you believe is the purpose of evaluations?
 - B. What do you believe was the intention of your evaluator?
 - C. Was the evaluator's purpose for the evaluation communicated to you? If so, how?
4. Please describe your reactions and perceptions of feedback from administrators to improve your teaching.
 - A. What was your reaction to the evaluator's feedback regarding your improvement?
 - B. Was the feedback from the evaluator regarding your performance helpful? How?
 - C. What are your perceptions of teacher performance evaluations after having gone through them?
 - D. Did the evaluation cause you to want to leave teaching or relocate?
 - E. Did the evaluator cause you to want to leave teaching or relocate?

5. Please describe what types of communication you prefer when receiving feedback from an administrator.
 - A. What type of communication feedback do you prefer?
 - B. Can you explain any concerns about the types of feedback used by administrators?

Participants

The public school district chosen for this study was located in northwestern Vermont and consisted of 200 K-12 teachers, who have been evaluated by an educational instructor within the past three years. A reminder to the teachers to submit the surveys, if they had not already submitted, was sent out two weeks after the survey was initially sent out. This reminder resulted in an increase of the response rate by 27 respondents for a total of 149. Although 149 surveys were returned, 20 were incomplete; obtaining partial data was unacceptable and were discarded (response rate overall was 65%). Five teachers from each of the three grade clusters (K-5, 6-8, and 9-12) represented the interviewee group. To maintain confidentiality, participants' nom de plumes were derived from former Boston Celtic basketball players (Bird, Tiny, DJ, Parrish, Heinsohn, etc). Interviews were conducted over a four-week period. The time for each interview ranged from 25 minutes to 45 minutes.

Data Analysis

Research question 1 asked what school teachers' reactions were to feedback from administrators regarding their teaching performance. Participants stated that initially feedback from administrators made them nervous, especially the anticipation of being watched and then the angst of what was going to be reported. Eleven out of the 15 (73%) teachers interviewed expressed that they were nervous the first time that they were evaluated, with many still nervous about being evaluated. Many participants in the study (33%) referred to their teacher evaluations as validating. Parrish stated that they believed evaluations of performances are a vital tool to make teachers think critically about themselves. This finding supports what was found in the literature, teachers perceive that it is the responsibility of the administrator to provide resources for them to achieve their goals (Celebi, 2010). The survey respondents concurred this as 78% believe that it is very important to extremely important for the principal to provide current information about teaching and learning.

Teacher evaluations in the past have been perceived as a means to reprimand and not as a mechanism to improve teaching (Sullivan, 2012). Many teachers in this study clearly perceived a principal's evaluation of teaching performance as a checklist item as nine out of 15 (60%) teachers interviewed referred to the teacher evaluation as a checklist that the principal was held accountable to perform. This finding supports that a communication disparity exists between teachers and administrators. Considering how many teachers responded that they were appreciative of the administrator's feedback and how validating the feedback was, it was odd to find the number of teachers contradicting their statements with calling the process a checklist item for the principal. It would appear teachers may revert to the customary slant on administrators and their role of evaluating teaching. After all, there has been a long-established understanding that evaluations also serve to fix a problem and move poor teachers out of the system (Hershberg & Robertson-Kraft, 2010; Jacobs, 2011).

The high expectations of some teachers being evaluated may again be a tactic to justify their deficiencies. Three teachers interviewed (20%) stated some resentment regarding the feedback that they received due to the evaluator not being able to grasp what they are teaching because they are not familiar in the teachers' subject area. This was also corroborated from a comment from the survey as a respondent stated, "Administrators with little or no classroom experience are hard to take seriously." These findings substantiate a communication disparity between teachers and administrators.

Research question 2 asked what factors contribute to how teachers feel about feedback from administrators? One factor that contributed to how teachers feel about feedback from administrators is if the administrator is compassionate and cares. It is the principal's responsibility to cultivate an encouraging positive atmosphere for the school community (Weathers, 2011). If the teacher knew the principal's primary intention is to do what's best for children and the teacher, then the teacher would have perceived evaluations as more favorable. When speaking of their evaluator, 12 of the interviewees (80%) had good things to say about their administrator's demeanor, using comments like, the principal's desire to improve teaching, strengthen learning, and to give advice for improvement. Four (27%) people interviewed referred to how positive the principal performing the evaluation was throughout the process. Nine teachers (60%) interviewed made known how appreciative they were of and for the feedback from their administrator, which supports past research (Bhatti, et al., 2012; Ladd, 2011; Weathers, 2011).

Research has shown that teachers have felt principals do not visit teachers' classrooms enough throughout the school-year and when they do the feedback that they receive is minimal and has not been useful (Celebi, 2010; Papay, 2012). Teacher's perceptions of the feedback that they received from administrators in this study varied. From the survey, respondents (78%) showed that it was very important to extremely important that principals provide feedback about their teaching. Ten out of 15 teachers (67%) interviewed said that their current principals' intentions were to improve or validate the teacher's performance. However, concurring to other research is in this study, nine out of 15 teachers (60%) interviewed referred to the evaluations as a form of checklist that the principal must perform. Many teachers alluded that they felt the principal showed more of a desire to get through with the evaluation doing the bare minimum. There was also evidence of too much responsibility outside of teaching being placed on teachers (Berrhill, et al., 2009). Parrish commented that principals should also consider the other duties teachers perform as part of their evaluation.

Leadership style was another factor and had a motivational and lasting impression on the employee's experience and contentment. The findings from this study supported what was found in the literature; if the leader possessed good structure practices and established good relationships with the employees, the employees' commitment and effectiveness would be better (Bhatti, et al., 2012). From the survey, there were comments that allude to principals caring about teachers and children. Teachers wanted the principal in the classroom more often. If this were to happen, the teachers would have viewed the principal's intentions for evaluating in more of a positive manner and would have received the administrator's feedback more constructively. Trust and other non-visual elements like the organizations values and objectives have also contributed to increased job satisfaction for employees (Holtzhausen & Fourie, 2009), which was commented on in the surveys. Teacher contentment was illustrated through statements like, "The administrator should bring a positive and collaborative feeling to the school environment, encouraging people to work together," and, "Respect and trust needs to be a key part of any administrator's job."

The trust factor also contributed to how teachers feel about feedback from principals when the teacher knew that their job was not on the line or that they were not in the checklist category of "evaluate to eliminate." In today's epoch of accountability, teachers may be evaluated for purposes of their dismissal. External stakeholders are faulting schools for not competing internationally (Conley & Glasman, 2008), and some administrators are using this to make harsh decisions at teachers' expense. When schools make harsh decisions based on students' low-test scores and low student performance (Johnson, 2012; Blasé & Blasé, 2006), it puts the teachers being evaluated on the defense. This may be the source described by Walton and how she was feeling towards evaluations when she stated, "Evaluations seem subjective. If a principal wants to they can manipulate an evaluation." Although the level of pressure by outside sources such as test scores was not specifically addressed in this study, it could be surmised that these outside pressures do exist. Parrish commented, "I'm concerned about where evaluations may move. We have a lot of poor data, i.e., standardized tests." A respondent from the survey also stated, "Testing should not direct where the school is going."

Depending on their discipline, four teachers (27%) were concerned about being evaluated if they knew that their position may be in jeopardy due to budget constraints. It was apparently normal for some teachers to become anxious about being evaluated, even when they knew that it is their turn in the cycle. A survey respondent stated that they wanted their administrator to "be more accessible and not play favorites" when evaluating teachers. They added that they felt the principal "was not approachable to all," and that "principals should be ready to help all teachers grow to be their best." Another survey respondent added principals should "be equitable and fair in dealing with faculty, (i.e., no favorites)." These comments confirm preconceived notions about how administrators communicate with teachers with past research (Blasé & Blasé, 2006; Blasé, et al., 2008; Conley & Glasman, 2008).

Another factor that contributed to how teachers feel about feedback from administrators is if they were prepped. The teachers stated that the in-service day training was thorough and was followed up at other times during the school year. Four participants (27%) stated that they were prepared by either a thorough undergraduate professor or were prepared through their graduate program. The other 11 teachers interviewed mentioned that they thought their undergraduate program should have provided additional training. Parrish stated that he had had an extensive observation and reflective experience in graduate school, which consisted of a lot of feedback opportunities. The four teachers with some form of preparation for being evaluated seemed to have less of a communication disparity with their administrator. Their comments about the evaluation experience included "validating," "helpful," and that they were "appreciative of the principal's feedback and perspective." These teachers seemed more open to communication from their principal regarding their teaching performance.

A communication disparity between teachers and administrators was revealed by whether the principal had experience in the classroom as a teacher, especially in the content area of the teacher that they were evaluating. Participants stated their difficulty in accepting feedback from an administrator with minimal classroom experience, as evidenced by the respondent who wrote, "Administrators with little or no classroom experience are hard to take seriously." McHale observed the detachment principals have from teaching, and how their job has evolved away from teachers. McHale went on to add how principals don't truly understand what teachers do today and the feedback that they give are not genuine, especially knowing the administrator lacks background in the specific grade levels and subjects. In some cases, the school official will rate an unsatisfactory teacher as satisfactory because the evaluator believes that poor teacher evaluations reflect negatively on their own performance (Celebi, 2010). This may compound the problem and if administrators are insecure about their evaluation of a teacher, it is best for everyone if they honestly address their issue, and then address the teacher's potential ineffectiveness (Celebi, 2010).

Two other factors that negatively impact how teachers felt about evaluations were favoritism and abuse, which lead to teacher discontentment. There is evidence from the literature of principals exercising emotional abuse, abusive disrespect, bullying, harassment, and mistreatment directed at teachers (Blasé & Blasé, 2006). There is ample evidence of teacher maltreatment, and in this study two teachers commented on the survey about principal bullying and being yelled at by a principal. Some reports show abuse to teachers may be as high as 27 percent in the United States (Blasé, et al., 2008). Scores of teachers already fear the uncertainties of being evaluated, fear of evaluation consequences, fear of perceptions of teachers as professionals, and fear their professional standing will be put at risk (Conley & Glasman, 2008). This is unsettling and unfortunate, and certainly contributes to negative atmosphere created around principal evaluating teachers. This study corroborates past research in the area of how teachers feel about administrators evaluating teachers and supports a communication disparity exists between the two.

Research question 3 asked how teachers consider the intentions of an administrator and their feedback. Teachers felt principal's intentions should be to help teachers and children. The interviews confirmed that teachers saw and felt that the intentions of principals were to help teachers and children. Terms gathered from the surveys and interviews included "appreciative," "valid," "useful," and "objective." The survey data indicated teachers considered the intention of administrative feedback is to help teachers. Teachers felt strongly about principals' encouragement of teachers to try new ideas, as 86% of respondents thought this was either very important or extremely important. It was also important to teachers to know that principals are in the education profession for the same reasons that they are, which is for children, as attested by a five of the 15 interviewees (33%). As stated earlier from survey respondents' comments, this relationship requires trust from teachers and principals, and building trust between the two has been viewed as the most important predictor of the teachers' rating of reflection on practice (Bogler & Nir, 2012; Korkmaz, 2007; Ladd, 2011; Range, et al., 2013).

It may seem obvious, but teachers described a large part of a principal's job description includes being the leader of the school. However, teachers see administrators as overseers of the system, not educational leaders. Two teachers interviewed alluded to a quota of evaluations each year that the principal had to meet to keep the superintendent satisfied. Ozel, et al. (2007) found 71.9% of the teachers in their study thought that their principals were managers, not educational leaders, and that many teachers see their administrators as physical equipment managers who deal with regulations. The interviews of this study revealed nine out of 15 teachers (60%) referred to teacher evaluations as a principal's to-do list or a checklist duty, basically managing the day-to-day operations of the school. NCLB has aided in fostering these perceptions, especially with the pressure on administrators to guide their school to reach academic standards related to national tests. This causes teachers to perceive principals more as political figures focusing on educational reforms and agendas, and not prioritizing teacher well-being (Konu, 2010; Leech, 2008). This may explain why teachers see principal's evaluations of teachers as taking care of their checklist. This seems to create teacher discontentment as evidenced by Heinsohn's remark about feeling that the principal "had no idea what I was teaching," and Ainge's response to his reaction about the feedback that he received as "nothing specific; unimpressed."

In the past, checklists were used to authenticate that the school districts' curriculum model was being followed. The building principal was equipped with a checklist to document simultaneous interdependence, student roles, and individual productivity (Kersten & Israel, 2005). Teaching was quantifiable and was looked upon as black and white, especially by the teacher unions and administration. Ten out of 15 (67%) teachers interviewed said that their current principals' intentions were to improve or validate the teacher's performance. Four of those 10 (27%) teachers added that the process was more of a "checklist" or "to-do list." This is clear evidence that a communication disparity exists between teachers and principals. The other five (33%, or 60% of the total) teachers alluded to the principal's intentions as "getting through a list." These interpretations from teachers are

seen all over the world where teachers feel that their principal is evaluating them in the form of a checklist (Celebi, 2010). It can be concluded that the intentions of administrators' feedback are viewed differently than what evaluations are intended to be and that this communication disparity can lead to teacher discontentment.

It is evident that the teacher's union plays a role in the principal's intentions. Three (20%) teachers mentioned that the teacher's union in one form or another in conjunction with their evaluator's list. Maravich mentioned that the union "keeping the administrators in line to the protocols of the evaluation process." There were three survey respondents who mentioned that the effect of unions on the management of the school. Principals have been known to turn a blind eye towards ineffectiveness from teachers until the behavior becomes continual and is noticed by others. Then, the principal will act on the teacher behavior, as it stands to affect the health of the organization or the principal's reputation and influence (Korkmaz, 2007). Further evidence of teacher discontentment was found in the surveys where a number of respondents made comments like, "Principals should be fair and consistent." Walton stated, "Administrators are afraid of the union. They just want to make everyone happy. The bar does change for different teachers. They know who will and won't challenge them; it's subjective."

Research question 4 asked how teachers react to feedback from administrators to improve their teaching. Participants' reactions to feedback from administrators to improve their teaching are either acceptance of the principal's findings and suggestions, or non-acceptance. Many of the teachers interviewed (73%) and the survey respondents (91%) felt a sincere intention from the evaluator to help children learn and help the teachers improve their teaching. Five out of the fifteen (33%) teachers interviewed and two survey respondents used the term "validate" in their description of the intentions of the administrator's feedback and their reactions to the feedback. When teachers' disposition is positive and accepting, the research has shown that the teacher community within schools has a positive effect on student achievement, teacher instructional practices, organizational learning and teacher commitment (Weathers, 2011). Eleven of the fifteen (73%) teachers interviewed reacted favorably to their administrator's feedback to improve their teaching. One survey respondent conveyed, "I am very satisfied with the quality of feedback and guidance we receive." Another wrote, "I appreciate the support and encouragement from my principal." Their acceptance and willingness to use the feedback is encouraging for their school and learning community.

There is, however, another side to the coin. McHale stated that the feedback to improve their teaching was valuable but because there was no follow-up the changes suggested were short lived and they reverted to past practice. Heinsohn stated that he received no specific feedback that he could use to improve his teaching. Research on teacher evaluations explains minimal useful feedback is presented to teachers and that a teacher evaluation is frequently viewed as little more than a ritual required by state lawmakers (Frase, 2005; Mahar & Strobert, 2010). Walton stated,

Being evaluated at the end of the day, at the end of a long week, right before a vacation can be a blessing or a curse; either the principal will be wrung out, so they'll rifle through the evaluation and give you a pass. Or they will be in a terrible mood and pissed off because they have to do this evaluation and bring the hammer down on you.

Bullying and harassment from administrators does occur in our schools. A set of follow-up questions showed a different reaction by teachers and revealed clear teacher discontentment directly related to communication disparity between teachers and principals. The questions were directed at whether an evaluation or an evaluator was the source of the teacher wanting to relocate themselves and continue teaching or change professions entirely. These questions divulged three out of the 11 teachers who responded (27%) thought about relocating their careers, and one out of the 11 teachers (9%) thought about leaving the teaching profession following their evaluation experience. In each situation, the evaluation itself and the evaluator was the source of the teachers feeling a change was necessary. Maravich stated that it was after her first evaluation and they were "critiqued pretty hard." This can cause emotional exhaustion, which may affect teacher focus and commitment, enthusiasm, and possibly cause teachers to leave the profession (Berryhill, et al., 2009).

Authoritarian style principals are controlling, commanding, and do not show a willingness to share power (Dambe & Moorad, 2008). Power can be exerted through evaluations and these have been used as scare tactics with principals being accused of bullying and harassment (Blasé, et al., 2008). Evidence from this study reveals unproductive styles and forms of leadership leads to communication disparity between teachers and principals leading to teacher discontentment. Comments from the survey respondents included statements disapproving of and forbidding principals to bully. One survey respondent commented, "I've seen good teachers driven into the ground by poor admins who refused to compromise or take suggestions. They should not bully (yes, I have seen

this in several admins over the years).” It is clear bullying and harassment from administrators occurs. This may cause teachers to at least consider leaving the school that they are teaching in or the teaching profession.

The findings from the teachers whose reactions were of non-acceptance of the feedback that they received contained more conviction. Issues of non-trust and skepticism of the principal’s capabilities surfaced. Heinsohn felt that his principal was not familiar with his subject area, and further noted that a lot of the feedback addressed general classroom management and acknowledgment of “localized dynamics” or the obvious occurrences. Heinsohn felt that there was no specific feedback that he could use to improve his teaching. Walton found that the time of day which the evaluation occurred impacted how thorough and genuine an evaluation was. Walton stated,

Being evaluated at the end of the day, at the end of a long week, right before a vacation can be a blessing or a curse; either the principal will be wrung out, so they’ll rifle through the evaluation and give you a pass. Or they will be in a terrible mood and pissed off because they have to do this evaluation and bring the hammer down on you.

These findings corroborate past research on teacher job dissatisfaction causing issues in recruitment and retention (Arlestig, 2007; Bird, et al., 2009; Blasé, et al., 2008; Gilley, et al., 2008; Ladd, 2011; Moos, et al., 2008; Oliva, et al., 2009; Ozel, et al., 2007). Although, this study specifically addressed communication disparity between teachers and administrators regarding performance feedback, the findings show a principal and their evaluation of a teacher can be a factor in teacher discontentment.

Research question 5 asked what types of communication teachers prefer when receiving feedback from supervisory administrators. One theme emerged from the participant’s responses and that was verbal and written responses were preferred. Although the survey did not yield results to this question, three of the teachers (20%) interviewed preferred verbal, one teacher (7%) preferred written, and 11 teachers (73%) preferred both verbal and written. Heinsohn emphasized face-to-face conversation, saying that this did not always happen, and that the telephone had been used for discussion. Havlicek stated that they had been given only written feedback earlier in their career and that they did not like this because there was no face time to ask questions and seek explanations. Tiny thought a discussion of job performance was good, but that this had to be followed up with written feedback on the spot, because they were left with some serious concerns without a reference. Tiny stated,

“We can sit down and talk about my teaching, but as soon as you tell me one thing I need to address that is all I’m thinking about. Everything else you say means nothing to me because I’m thinking about that negative piece you found.”

Recommendations

Based on the results of this study and the review of the literature, the insights from this qualitative phenomenological study did not appear to be unique to this particular school district. Therefore, the lived experiences of participants in this study may be extended to any school district in the United States that requires administrators to evaluate their teachers. The findings can be of value to undergraduate and graduate institutions preparing students to become teachers. The findings can also serve those with the authority to be policy and decision-makers tasked with finding current and future strategies for evaluating teachers. As these policy and decision-makers develop strategies and rationales for evaluating teachers, they may miss opportunities for important insights from an important population of this process: teachers. It is critical to include teachers in designing and devising teacher evaluation plans, policies, and procedures (Danielson, 2007; Derrington, 2011; Sullivan, 2012). Future qualitative studies on communication disparity open opportunities to explore the lived experiences of their student teachers and other additional findings. More specific recommendations will now be focused in two areas: recommendations for schools, teachers, and administrators, and recommendations for teacher preparatory programs. These recommendations are intended to improve the communication disparity that exists between teachers and administrators regarding teacher evaluations and performance feedback that contributes to teacher discontentment.

Conclusions

A review of literature about the purpose of feedback, teacher perceptions of feedback, teacher perceptions of evaluators, supervisor and administrator perceptions of teacher evaluations, unproductive measures of teacher evaluation improvement, the effect of change in schools, and concerns about teacher recruitment and retention were used to validate the findings from this study. Based on the research conducted by Ladd (2011), further efforts to understand teachers’ perceptions of their working conditions are needed. What principals say and how they say it has an enormous impact on teachers’ sense of value within the school (Albertson, 2009). How teachers perceive feedback from administrators is essential considering the high number of teachers either leaving their districts or leaving the teaching profession (Bird, et al., 2009; Gilley, et al., 2008; Ladd, 2011;

Moos, et al., 2008; Oliva, et al., 2009).

This study was developed to fill a void in the research by documenting the first hand lived experience of teachers receiving feedback from an administrator in a teacher evaluation format. This study will contribute to the field of study, specifically educational leadership, in regards to the phenomenon of principal-to-teacher performance evaluation resulting in communication disparity. This study will also aid in further research in the areas of teacher attrition, teacher morale, and teacher job satisfaction.

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IMPACTS OF A STUDY ABROAD PROGRAM IN NORTHWEST CHINA ON TEACHER EDUCATION STUDENTS IN THE UNITED STATES

Yuliang Liu, Ph. D.

Professor Instructional Technology, Department of Educational Leadership, Southern Illinois University
Edwardsville, Edwardsville, Illinois 62026, USA

E-mail: yliu@siue.edu

Craig Miner, Ph.D.

Professor

Special Education, Department of Teaching and Learning, Southern Illinois University Edwardsville,
Edwardsville, Illinois 62026, USA

E-mail: cminer@siue.edu

Abstract: The study was designed to investigate how a study abroad program with an experiential learning experience in China affected teacher education students in the U. S. in May 2016. The study used the exploratory mixed methods design to collect data. A group of 16 undergraduate and graduate students enrolled in study abroad. Student performance was assessed based on (a) participation, journals, reflection papers, and electronic portfolios as well as (b) the diversity standard of the Illinois Professional Teaching Standards in the U.S. Results indicated all participants enjoyed the program and benefited professionally from it in a variety of aspects such as their increased understandings of culture and diversity, the similarities and differences between the Chinese and the American educational systems, as well as teacher's identity and professionalism. International implications resulted from the study findings.

Keywords: China, experiential learning, special and general education, K-12, study abroad,

Introduction

Research context

Study abroad programs in the U.S. are not new. Today, diversity education, cultural awareness, and internationalization have become an integral part of college and university programs and curriculum (King & Young, 1994). Just as Lumby and Foskett (2016) point out, internationalization has become a significant issue in higher education, driven by both business objectives and educational philosophy. Early in 1959, Leonard conducted a dissertation study about the selected general outcomes of a foreign travel study program of American college students. Leonard concluded that "Without exception, the students gained in their general knowledge of current affairs, important persons, and the problems of the area visited. These gains were not the result of formal classroom work" (p. 1644). According to Mukherjee (2012), the Higher Education Act of 1965 for the first time gave discretionary authority to colleges and universities to use federal financial aid to support student study abroad. Since then, U.S. study abroad has evolved significantly. According to the Lincoln Commission (2005), the U.S. proposed sending about one million students abroad each year to promote educational and cultural exchange for intercultural understanding, peace and global citizenship (p. iv). The Lincoln Commission further stated that "What nations don't know can hurt them. The stakes involved in study abroad are that simple, that straightforward, and that important. For their own future and that of the nation, college graduates today must be internationally competent" (p. i).

Literature review

Study abroad programs have demonstrated a variety of profound benefits for students. Praetzel and Curcio (1996) pointed out that "study abroad fosters improved understanding of foreign cultures, people, and institutions, develops more open mindedness and tolerance, instills greater confidence, and promotes faster maturation" (p. 177-178). Additionally, Peden (2001) described five major benefits that college students receive from study abroad programs: (1) academic credit, (2) language credit, (3) practical experience, (4) résumé building, and (5) an experience of a lifetime. The major benefits based on recent literature in study abroad are reviewed and summarized as follows.

1. Impact on globalization

Recent research has indicated that study abroad programs have impacted students' ideas related to globalization. Egron-Polak, Hudson, and Gacel-Avila (2010) reported that over 90% of participants in study abroad programs agreed that the internationalization programs result in significant benefits, including the broader international outlook of faculty and students and an enhanced quality of academic work. Douglas and Jones-Ridders (2001) later conducted a preliminary study of the relationship between study abroad programs and the programs' location and student worldmindedness or globalization. They found that (1) students with study abroad experiences have a stronger sense of worldmindedness than their counterparts without such experiences and (2)

the extent of the cultural differences between a student's point of origin and host site significantly affects his/her sense of worldmindedness.

2. Impact on personal development

Recent research has indicated that study abroad programs have impacted students' ideas related to personal development. Brindley, Quinn, and Morton's (2009) review of student teachers from an international internship identified a growing sense of professionalism and understanding of cultural differences. Chieffo and Griffiths (2004) conducted a large impact study of short-term abroad programs based on data collected over a two-year period from over 2,300 students. They concluded that short-term study abroad programs are "worthwhile educational endeavors that have significant self-perceived impacts on students' intellectual and personal lives" (p. 174). In addition, Dolby (2004) studied the relationship between study abroad and national identity among a group of American college students. Dolby found that study abroad provides participants with the possibility of encountering both the world and oneself—particularly one's national identity—in a context that may stimulate new inquiries and formulations of that self. Further, Dolby concluded that "the perspectives that students bring back with them are part of public discourse in the United States and have implications for the future of American democracy, the public good, and the constant renegotiation of the material and imaginative space that is America" (p. 173).

In addition, Cushner and Mahon (2002) studied the nature of the international student teaching experience and its impact on the professional and personal development of 50 new teachers. Participants reported how such an experience affected them personally as well as professionally. These impacts included their beliefs about self and others as reflected via increased cultural awareness and improved self-efficacy, as well as professional development related to globalmindedness.

3. Impact on career choice and professionalism

Recent research has indicated that study abroad programs have impacted students' ideas related to career choice and professionalism. Norris and Gillespie (2009) conducted a survey study based on data collected by the Institute for the International Education of Students. The data involved 17,000 participants of its programs between 1950 and 1999. They found that the study abroad program can help participants further reflect on their own academic study and has significantly impacted the majority of participants' future career choices, specifically related to global aspects. Such results were also supported by later researchers. Franklin (2010) found that "study abroad has significant long-lasting career impact and professional applicability. Results demonstrate that a majority of study abroad alumni in the sample gravitate toward a line of work with an international or multicultural dimension" (p. 186).

4. Impact on the understanding and practices of teacher education students

The impact is especially true for teacher education majors. Recent research has indicated that study abroad programs have impacted teacher education students' ideas related to teaching. Just as Batey and Lupi (2012) point out, "More than ever, there is the need for pre-service teachers to have significant cross-cultural experiences that enable them to teach with, work with, and continue to learn from people different from themselves" (p. 42). Sandgren, Elig, Hovde, Krejci, and Rice (1999) surveyed and interviewed a group of college faculty with short-term study abroad faculty leading experience to locations worldwide. They found that short-term study abroad experiences have a positive influence on "globalizing" pre-service teacher participants' teaching.

Based on Marx and Moss (2011), student participation in a teacher education study abroad program had positive influences on students' intercultural development in terms of culture and languages. Mahan and Stachowski (1994) described that pre-service teachers who chose to participate in an international teaching experience were more likely to reflect on themselves both professionally and personally than their peers who remained in the home student teaching placement. This result was supported by other researchers, such as Cushner (2007). According to Cushner, pre-service teachers thought that study abroad programs could offer a broader view of teaching than that in the home student teaching placement. Clement and Outlaw (2002) point out another major benefit of participating in a student teaching placement abroad: the program can offer pre-service teachers the opportunity to contrast and compare their classroom teaching experiences abroad with their experience in the U.S. In addition, Lupi, Batey, and Turner (2012) examined a group of 56 pre-service teachers during a three-week international internship in UK. They found that American students not only "reported differences in almost every aspect of their involvement in the British schools" (p. 492), but also "were able to articulate the deeper meaning of an international internship" (p. 493).

Based on the above literature, study abroad programs have reported a variety of impacts related to students both personally and professionally. It is clear that the personal and professional benefits of study abroad programs on participants are profound and lifelong in a variety of aspects. But as Hackney, Boggs, and Borozan (2012) suggest, the predicting student participation in study abroad programs is a complicated process that is affected by various internal and external factors including personal, situational, and program features.

Purpose of the Study

As mentioned previously, there is not much research that specifically focuses on the impact of study abroad on teacher education. This study was to investigate how a study abroad program with an experiential learning experience in China affected teacher education students in a variety of ways. The authors' university currently has about 1200 educational students enrolled in nine undergraduate programs. Students in all of these undergraduate programs have not been exposed to any study abroad programs in China due to the university's past academic focus and availability of funding in travel study. This study was selected to be funded by the Excellence in Undergraduate Education (EUE) program from the Provost Office in the authors' institution in 2015. This funded project has created a new, unique opportunity for general and special education, psychology, and learning, culture, and society majors at both the graduate and undergraduate levels. Specifically, this program offered a choice for education students to enroll in any of these existing special topics courses: Health Education, Curriculum & Instruction, Special Education, Interdisciplinary Studies, and Educational Psychology, Foundations, & Research.

Research Questions

The major research question was: How did the study abroad program impact pre-service teachers' understandings of (a) culture and diversity in terms of social and cultural factors influencing teaching and learning in special and general education at elementary and secondary schools in Lanzhou, China, (b) the major similarities and differences between the Chinese and the American elementary and secondary educational systems, and (c) teacher identity and professionalism?

Method

Participants

Participants were drawn from a mid-size midwest public university in the U.S. in fall 2015 and spring 2016. Initially, 24 students aging from 21 to 46 years old applied for the program, but only 16 students were selected to participate based on the predetermined screening criteria. Those criteria included students' motivational levels, GPA, academic backgrounds, professional goals, and related travel experiences. Two faculty members led the program in May 2016. The first faculty, a native Chinese speaker, received his PhD in educational psychology in the United States about 20 years ago. The second faculty is a Caucasian faculty specializing in special education. Therefore, both faculty have adequately complementary expertise to lead this group.

Of the 16 students, there were 2 males (1 Caucasian and 1 African American) and 14 females (12 Caucasians and 2 African Americans), 13 undergraduates, and 3 graduate students. Their majors were as follows: 8 juniors and seniors in special education, 3 in early childhood education, 2 in secondary education, 1 in physical education, 1 in psychology, and 1 in learning, culture, and society. Two of them (one male and one female) were vegetarian. There were students, including the 3 graduate students, enrolled in 6 credit hours while 9 students enrolled in 3 credit hours. None of the 16 students had visited China previously; a majority of them had no previous international travel experience. The gender representation in this program was consistent with findings from other recent national studies. That is, a majority of the participants were Caucasian females (Hoffa, 2007; Lincoln Commission, 2005; NAFSA: Association of International Educators, 2003; Stroud, 2010).

Research design

This project used the exploratory mixed methods design to collect data due to the nature of the study (Gay, Mills, & Airasian, 2011). Specifically, first, qualitative data were collected first from participants' field notes and journals and was more heavily weighted than quantitative data in the analysis. Second, the quantitative was collected online via Blackboard twice: as a pretest before flight departure in the beginning of May and as a posttest after the return to the U. S. at the end of May 2016.

Procedure and data collection

This study was approved by the IRB at the authors' institution. The faculty leaders offered several lecture/orientation sessions in the U.S. before the trip. They included: (a) introduction to special, general, and higher education in China and the U.S., (b) overview of cultural factors influencing education in China, and (c) political and social factors influencing education in China.

The study had field visits in Lanzhou and Beijing, China in May 2016. During these visits, participants experienced Chinese culture and toured two universities and eight elementary and secondary schools. In Lanzhou and Beijing, China, the faculty leaders offered daily organizational morning debriefings and reflections from the previous day activities. These helped the group instill a sense of class discipline and provided opportunities for discussing important daily problems and issues.

The group spent 10 days in Lanzhou, northwest China. The group visited Northwest Normal University (NWNNU) and its affiliated elementary, middle, and high schools, three private special education schools, one public middle school, and one public school for Tibetans only (grades 7-12). NWNNU faculty members in China gave 2 focused speeches to the group about the special, general, and higher educational systems and culture in northwest China. In addition, the group visited Labuleng Lamasery (an ancient Tibetan Temple and University) and toured Lanzhou city. In Beijing, the group spent two days on university tour and cultural visits including Beijing University of Technology, the Great Wall, Ming Tombs, Forbidden City, Temple of Heaven, and Tiananmen Square.

The group were required to write the daily journal reflections focusing on expressing personal perspectives on the events occurring and/or discussing questions related to the field trip of the day. Most students worked hard to write the required journals every day, especially in the evening. Such journals not only helped students collect data for a variety of course projects and provided an avenue to explore the cultural significance of the events and/or field trips, but also helped them to reflect on their visits to educational establishments, what they learnt and how it made them re-evaluate their own practice in the US.

The quantitative data were collected using an online survey based on one of the Illinois Professional Teaching Standards (<http://www.isbe.net/rules/archive/pdfs/24ark.pdf>) to evaluate the effectiveness of the program. The standard assessed is a required one about diversity: "The competent teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners". The survey had six items to be assessed against the 6 Knowledge Indicators related to the diversity standard using a 5-point Likert scale; "1" was the lowest rating and "5" was the highest. The surveys were completed by students using the online Blackboard and were used to measure any attitude changes between the pretest before the trip and the posttest after the return to the U.S.

Students' performance assessments were based on several components. They included: (a) participation in lecture/orientation sessions held in both the U.S. and China, (b) daily morning debriefings in Lanzhou and Beijing, (c) daily journal reflections, (d) participation in field visits, and (e) reflection papers about important personal observations and reflections about education in China along with examples and literatures to support reflections by comparing and contrasting China with the U.S.

Results and Discussion

Overall, several major themes emerged from the results of qualitative data and they were also supported by the quantitative data. The findings of the study indicate that the study abroad program made an important impact on students' understandings of culture and diversity, the similarities and differences between the Chinese and the American educational systems, as well as teacher's identity and professionalism. Specific student increased understandings of these issues are reported below. Those included culture, career and professional goals, interaction and socialization, similarities and differences in elementary and secondary education between China and the U.S., how the U.S. should learn from China, special education in China, overall personal development, lifetime learning, and diversity. While some results are consistent with recent findings in the literature, others have added new and unique perspectives in the literature related to teacher education.

I. Understandings of Culture and Diversity

Impact on cultural understanding

Students' personal reflections in the study consistently indicated the study abroad program made a significant impact on their understandings of the Chinese culture, family, and educational system. This is consistent with findings from other recent studies (e. g., Lincoln Commission, 2005; Praetzel & Curcio, 1996). Before the study abroad trip, most students did not understand much about the Chinese culture, family, and educational system. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools and universities in China, as well as communications with the persons they met and talked with.

After the trip, students reflected in connecting study abroad experiences and related readings in the literature. They found that they have learned some unique aspects related to the Chinese culture, family, and educational system. Specifically, their reflections included, but were not limited to the following. For example, most Chinese

people are the most warm and welcoming group of people they have ever had the pleasure of meeting. Anywhere they went, they felt comfortable, happy, and welcome. In China, generally, people are excited and openly curious to other people, including foreigners. In contrast, the American people are cautious to new people, as well as are courteous and polite but will keep a safe distance. Family is probably the number one priority for the culture and that is making school a very close second. This showed that family is very important, but education is right behind it. The Chinese people are extremely obedient and respect their elders and teachers, way more than they have experienced in America.

Impact on interaction and socialization

Some participants indicated that the study abroad program impacted their interaction and socialization styles, which will affect their teaching styles in classroom. Before the study abroad trip, most students did not understand how the study abroad program can impact their interaction and socialization styles in education. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools, universities, and Labuleng Lamasery in China, as well as communications with the persons they met and talked with. This is consistent with findings from other recent studies (e. g. Chieffo & Griffiths, 2004; Brindley, Quinn, & Morton, 2009).

After the trip, students reflected in connecting study abroad experiences and related readings about the religions of Buddhism and Taoismi in the literature. They found that the experience they had at the Lamasery would profoundly change their impression with life and their positions in it. Further, that experience also gave them a little more reflection on how they treat and interact with each other not only in life, but in the opportunities they provide for those they deem less fortunate than them.

Impact on diversity understanding

In addition to the above qualitative comments, the quantitative data related to diversity from the Illinois Professional Teaching Standards were analyzed using SPSS Version 23. Tables 1 and 2 below indicate that the results of the paired sample *t* test in diversity items at pretest and posttest indicated that there were statistically significant mean differences in the two diversity items regarding (a) second language strategies and (b) cultural perspectives and biases. Specifically, the quantitative scores in those two items were significantly higher at posttest than those at pretest. Additionally, since the sample size was small, a nonparametric statistical procedure, Wilcoxon Signed Ranks Test (Siegel & Castellan, 1988) was calculated. Table 3 below indicates that the results of parametric paired sample *t* test and the nonparametric Wilcoxon Signed Ranks Test were consistent. Therefore, the students’ qualitative comments mentioned previously also supported the quantitative results in the study.

Table 1
Descriptive Statistics of Diversity Items at Pretest and Posttest

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|---|------|----|----------------|-----------------|
| Pair 1 | 1exceptionality in learning | 4.06 | 16 | 1.06 | .26 |
| | 2exceptionality in learning | 4.3 | 16 | .87 | .22 |
| Pair 2 | 1second language strategies | 3.38 | 16 | 1.31 | .33 |
| | 2second language strategies | 4.44 | 16 | .89 | .22 |
| Pair 3 | 1impact of individual experiences | 4.88 | 16 | .34 | .09 |
| | 2impact of individual experiences | 4.94 | 16 | .25 | .06 |
| Pair 4 | 1differences in approaches to learning | 4.56 | 16 | .63 | .16 |
| | 2differences in approaches to learning | 4.75 | 16 | .44 | .12 |
| Pair 5 | 1impact of cultural and community diversity | 4.50 | 16 | .52 | .13 |
| | 2impact of cultural and community diversity | 4.69 | 16 | .478 | .12 |
| Pair 6 | 1cultural perspectives and biases | 4.38 | 16 | .719 | .18 |
| | 2cultural perspectives and biases | 4.98 | 16 | .25 | .06 |

Table 2
Results of Paired *t* Test in Diversity Items at Pretest and Posttest

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|--------|--|--------------------|-------------------|-----------------------|---|-------|-------|----|--------------------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | 1exceptionality in learning - 2exceptionality in learning | -.25 | 1.57 | .39 | -1.09 | .59 | -.64 | 15 | .53 |
| Pair 2 | 1second language strategies - 2second language strategies | -1.06 | 1.77 | .44 | -2.01 | -.12 | -2.40 | 15 | .03* |
| Pair 3 | 1impact of individual experiences - 2impact of individual experiences | -.06 | .44 | .11 | -.29 | .17 | -.57 | 15 | .58 |
| Pair 4 | 1differences in approaches to learning - 2differences in approaches to learning | -.18 | .66 | .16 | -.53 | .16 | -1.15 | 15 | .27 |
| Pair 5 | 1impact of cultural and community diversity - 2impact of cultural and community diversity | -.19 | .83 | .21 | -.63 | .26 | -.89 | 15 | .38 |
| Pair 6 | 1cultural perspectives and biases - 2cultural perspectives and biases | -.56 | .81 | .20 | -.99 | -.13 | -2.76 | 15 | .01** |

* $< .05$; ** $< .01$

Table 3

Wilcoxon Signed Ranks Test

| Ranks | | N | Mean Rank | Sum of Ranks | | |
|---|--|--|--|--|--|--|
| 2exceptionality in learning - 1exceptionality in learning | Negative Ranks | 4 ^a | 6.50 | 26.00 | | |
| | Positive Ranks | 7 ^b | 5.71 | 40.00 | | |
| | Ties | 5 ^c | | | | |
| | Total | 16 | | | | |
| 2second language strategies - 1second language strategies | Negative Ranks | 2 ^d | 7.25 | 14.50 | | |
| | Positive Ranks | 11 ^e | 6.95 | 76.50 | | |
| | Ties | 3 ^f | | | | |
| | Total | 16 | | | | |
| 2impact of individual experiences - 1impact of individual experiences | Negative Ranks | 1 ^g | 2.00 | 2.00 | | |
| | Positive Ranks | 2 ^h | 2.00 | 4.00 | | |
| | Ties | 13 ⁱ | | | | |
| | Total | 16 | | | | |
| 2differences in approaches to learning - 1differences in approaches to learning | Negative Ranks | 2 ^j | 4.00 | 8.00 | | |
| | Positive Ranks | 5 ^k | 4.00 | 20.00 | | |
| | Ties | 9 ^l | | | | |
| | Total | 16 | | | | |
| 2impact of cultural and community diversity - 1impact of cultural and community diversity | Negative Ranks | 4 ^m | 6.00 | 24.00 | | |
| | Positive Ranks | 7 ⁿ | 6.00 | 42.00 | | |
| | Ties | 5 ^o | | | | |
| | Total | 16 | | | | |
| 2cultural perspectives and biases - 1cultural perspectives and biases | Negative Ranks | 1 ^p | 4.00 | 4.00 | | |
| | Positive Ranks | 8 ^q | 5.13 | 41.00 | | |
| | Ties | 7 ^r | | | | |
| | Total | 16 | | | | |
| Test Statistics^a | | | | | | |
| | 2 exceptionality in learning - 1exceptionality in learning | 2 second language strategies - 1second language strategies | 2 impact of individual experiences - 1impact of individual experiences | 2 differences in approaches to learning - 1differences in approaches to learning | 2 impact of cultural and community diversity - 1impact of cultural and community diversity | 2 cultural perspectives and biases - 1cultural perspectives and biases |
| Z | -.642 ^b | -2.207 ^b | -.577 ^b | -1.134 ^b | -.905 ^b | -2.310 ^b |
| Asymp. Sig. (2- | .521 | .027* | .564 | .257 | .366 | .021* |

| | | | | | | |
|---------|--|--|--|--|--|--|
| tailed) | | | | | | |
|---------|--|--|--|--|--|--|

a. Wilcoxon Signed Ranks Test; b. Based on negative ranks; * < .05

II. *The Similarities and Differences between the Chinese and the American Educational Systems Impact on understanding similarities and differences in elementary and secondary education between China and the U.S.*

Some participants indicated that the study abroad program impacted their understanding of similarities and differences in elementary and secondary education between both countries. This is consistent with findings from other recent studies (e. g., Batey & Lupi, 2012; Cushner, 2007; Marx & Moss, 2011). Before the study abroad trip, most students did not understand how the study abroad program can help them understand similarities and differences in elementary and secondary education between both countries. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools and universities in China, as well as communications with the persons they met and talked with.

After the trip, students reflected in connecting study abroad experiences and related readings in the literature. They found that they noticed a few major differences in the American and Chinese education systems. Specifically, their reflections included, but were not limited to the following. For example, China has different policies and practices for education majors and teaching experiences as well as high stakes testing. China has some of the highest test scores in the entire world. America doesn't even come close to China. But why are schools in China excelling at a more rapid rate than in the United States? The Chinese attitude toward education is different. For example, the Chinese value education much more than the U. S. In addition, some students found that respect was one of the first things they noticed when we visited the many general education schools in China. Losing respect or showing disrespect is seen as a dishonor to themselves, family, friends, or to the Chinese culture. The Chinese students are respectful to their teachers and behavior management and punishment procedures are pretty much non-existent. They think this is due to the parental involvement and respect that is taught in the Chinese culture.

Meantime, some students' observations have led them to believe that the systems are very similar in both countries. For example, instruction is very similar. In addition, every school they visited, including both universities they stayed at, was big on extra-curricular activities like sports and several types of out-of-the-ordinary clubs. One middle school even offered Tai Chi as an elective. One of the high schools even had study abroad opportunities, which was unexpected. This could help to shed an important light on the expectations of the US students.

Impact on understanding of special education in China

Some participants indicated that the study abroad program impacted their understanding of how special education is operated in China. Before the study abroad trip, although about half of the group has interest in special education, most students did not understand how special education is operated in China. This is another unique result not widely reported in the literature. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools and universities in China, as well as communications with the persons they met and talked with.

After the trip, students reflected in connecting study abroad experiences and related readings in the literature. They found that special education was a little different from the U. S. in spite of the same goal of making a difference in the student's life. Specifically, their reflections included, but were not limited to the following. For example, special education schools are separate than general education schools in China and they have a different curriculum than students in general education. But in the U.S., we value inclusion in our schools.

Impact on how the U.S. should learn from China

Some participants indicated that the study abroad program impacted their understanding of how the U.S. should learn from China in elementary and secondary education. This is a unique result not widely reported in the literature. Before the study abroad trip, most students did not understand why the U.S. should learn from China. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools and universities in China, as well as communications with the persons they met and talked with.

After the trip, students reflected in connecting study abroad experiences and related readings in the literature. They found that the United States could really benefit from China's system in the following ways as well. Specifically, their reflections included, but were not limited to the following. For example, the American students would really benefit from learning other languages and cultures from an early age as the Chinese do. The more you know about other cultures the more holistic a society can be. In addition, the U. S. students should

be required to learn a second language starting in kindergarten. Whether it be Spanish, French, or any other language, students should be required to learn another language. Starting a second language in high school is not beneficial. Additionally, the U.S. government could provide assistance when it comes to prioritizing schools in the budget. Both countries have great school systems in spite of different political contexts but they could also really learn and grow from each other.

III. Teacher's Identity and Professionalism Impacts on teaching career and professional goals

Some participants indicated that the study abroad program impacted their career choices in education. This is consistent with findings from other recent studies (e. g., Franklin, 2010; Norris & Gillespie, 2009). Before the study abroad trip, most students did not understand how the study abroad program can impact their career choices in education. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools and universities in China, as well as communications with the persons they met and talked with.

After the trip, students reflected in connecting study abroad experiences and readings in the literature. They found that the trip has really opened their eyes to a whole new world of education and culture about career goals. Specifically, their reflections included, but were not limited to the following. For example, one student mentioned that the trip would have chosen her educational field differently and would go into special education. That student contacted some really amazing special education teachers and students in the region and really saw what a real difference special education can make on a special needs students in the U.S. and China. In addition, one student mentioned that she is an elementary education major but she has been considering endorsing in special education because of the opportunity experienced in China.

Impact on overall personal development

A majority of the participants indicated that the study abroad program impacted their overall personal development, which positively affected their teaching styles in the classroom. This is consistent with findings from other recent studies (e. g., Brindley, Quinn, & Morton, 2009; Chieffo & Griffiths, 2004; Dolby, 2004). Before the study abroad trip, most students did not understand how and whether the study abroad program impacted their overall personal developments. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools and universities in China, as well as communications with the persons they met and talked with.

After the trip, students reflected in connecting study abroad experiences and related readings in the literature. They found that the trip to China was definitely one of the best experiences they have ever had. However, the findings here have all been mediated through the 'lens' of the researchers. Specifically, their reflections included, but were not limited to the following. For example, first, this journey of self-exploration and education through the culture of Northwest China has turned into beautiful memories and they would hold them in a special place in their hearts forever. Second, some students realized how many preconceived notions they had about China and how much that can hinder a person who is trying to learn about the culture with an open mind. They were thankful for the experience and had a much better understanding of the two countries. Third, this was a great opportunity to not only open their eyes and soften their hearts, but to be able to empower cultural understanding, broaden their educational knowledge, and change the lives of others (as well as their own) and that is invaluable. Finally, some reflected that they enjoy diversity and meeting people. They are looking forward to continuing their journey toward learning Mandarin in order to understand the Chinese culture well.

Impact on lifetime learning

Many participants indicated that the study abroad program impacted their understanding of lifetime learning. This is consistent with findings from other recent studies (e. g., Peden, 2001; Praetzel & Curcio, 1996). Before the study abroad trip, most students did not understand how the study abroad program can impact their lifetime learning. During the trip, students learned a lot about those issues based on the daily field visits, observations in schools and universities in China, as well as communications with the persons they met and talked with.

After the trip, students reflected in connecting study abroad experiences and related readings in the literature. They found that this experience was truly the trip of a lifetime. Specifically, their reflections included, but were not limited to the following. For example, they loved meeting new people and exploring such a wonderful culture. The schools, teachers, and students were so welcoming that it made the trip even better. Being able to see schools from a different culture gave them ideas for their future classrooms and also gave them ideas to share with their classmates. Some are even already planning a next trip to China. In addition, some even expressed that they could not wait to take their experiences and knowledge of education in another culture and incorporate that

into their future general education classrooms. They were also excited about how beneficial experiencing another culture and education could be to a future teacher's classroom and teaching style.

Conclusion

There is not much research that specifically focuses on the impact of study abroad on teacher education. This program provided a much-needed, relevant, and meaningful contribution to teacher education students' global and international perspectives. As seen from the previous section, the research question has been answered. In other words, the study abroad program to northwest China in 2016 made significant impacts on students' understanding of culture and diversity, the similarities and differences between the Chinese and the American educational systems, as well as teacher identity and professionalism. First, the students' qualitative comments indicate that there were several clear themes and patterns consistent with the quantitative results described previously. Second, the results from the quantitative data indicated that the study abroad program has greatly enhanced students' understandings of culture and diversity issues related to the second language strategies, cultural perspectives, and biases in educational settings.

As indicated above, the major findings about students' increased understandings resulting from the study abroad include: impact on students' culture, career, and professional goals; impact on students' understanding of interaction and socialization; impact on understanding of similarities and differences in elementary and secondary education between China and the U.S.; impact on understanding of how the U.S. should learn from China; impact on understanding of special education in China; impact on students' overall personal development; impact on understanding of lifetime learning; as well as impact on understanding of diversity in elementary and secondary education. In all, as mentioned previously, some of the findings have added to the current literature while the others have supported the current literature in the field.

Limitations of the Study

However, similar to any other programs, this study abroad program is not perfect, especially since it was the first time the program was offered to education majors. There were issues that could be improved with more care and planning in the future. For instance, initially, we planned to provide opportunities for students to teach mini-lessons to students in China; however, that could not be accommodated, just as one student mentioned "I was disappointed that we didn't get to teach mini-lessons to the students, because of time constraints. I was really looking forward to being able to connect on a deeper level with these students..." In addition, the group was mixed with both undergraduate and graduate students. It was very challenging to accommodate both subgroups in many aspects such as differing academic disciplines and standards due to their maturity levels and educational objectives. Meantime, one undergraduate student unknowingly lost her U.S. passport upon arrival in Lanzhou in the first night. Therefore, more care such as security precautions should be given to students throughout the trip, from initial departure to the return to the U.S.

International Implications

This study has significant and international practical and theoretical implications for teacher education in the future. As discussed previously, theoretically, this study has not only supported the recent literature, but also enriched the literature by adding new contributions to the literature. Practically, this study has also exhibited a few implications below.

First, for students who have never travelled abroad, the faculty lead should provide more and detailed guides about how to prepare for smooth international travels abroad in the future. This is especially important for any faculty leading international study abroad programs. By addressing the above mentioned limitations, it is expected that the study abroad program will enable students to gain more fruitful and enjoyable experiences.

Second, the impact on students in this study has gradually been exhibited in many ways compared to their peers. Findings indicated there was a shift in our student teachers' identity and professionalism following their study abroad. Many of them shared their study abroad experiences and persuaded their peers to participate in the study abroad programs if available. They mentioned how they will teach differently in the future based on their study abroad experiences. They also highlighted their study abroad experiences on their resumes when they were looking for jobs. Their study abroad experiences have given them a privilege and positive results in seeking jobs in both general and special education areas. Some students even expressed interest in seeking teacher education jobs in China.

Third, teachers with study abroad experience will potentially understand the diverse student needs better and teach them more effectively than those without. Recently, informal conversations with those in the study have

indicated that those students are more confident and prepared when meeting and teaching the minority groups in their student placement.

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IMPLEMENTING NEW LITERACIES INSTRUCTION AND DESIGN THROUGH A CROSS-INSTITUTIONAL PEER REVIEW PROCESS WITH PRE-SERVICE EARLY CHILDHOOD EDUCATORS

Jennifer Barrett-Tatum, Ph.D.

Western Carolina University, 91 Killian Bldg. Ln Room 120 B, Cullowhee, N.C. 28723
jabarrett@wcu.edu & jabarrett@email.wcu.edu

Lori Caudle, Ph.D.

Western Carolina University
91 Killian Bldg. Ln Room 218 C Cullowhee, N.C. 28723

Abstract: Teacher education programs are challenged in supporting pre-service teachers' emerging understandings of literacy-based instructional practices. Peer reviews have been shown to enhance knowledge among pre-service teachers. This study investigated how pre-service teachers in two early childhood programs utilized a critical peer review process focused on peers' instructional and digital design techniques. Two instructors paired pre-service teachers from face-to-face and distance learning early childhood programs for a critical review activity. Pre-service teachers designed a digital literacy lesson and provided feedback to their partners through a peer critique form. Charmaz's (2006) constant comparative method was used to guide an analysis of what pre-service teachers prioritized in the peer reviews. Findings indicated the review feedback focused on three pedagogical practices: (1) content-based skills, (2) multimodalities to increase engagement, (3) and developmentally appropriate simplicity and interactional design for young children. Implications include how critical peer processes help instructors identify instructional priorities of pre-service teachers.

Keywords: New literacies, pre-service teachers, early childhood education, cross-institutional, peer review

Implementing New Literacies Instruction and Design through a Cross-institutional Peer Review Process with Pre-service Early Childhood Educators

Early childhood educators are responsible for helping young children become *literate* in a world of ever-changing *literacies*. In 2013, the National Council for Teachers of English (NCTE) proposed the following position statement regarding the definition of literacy:

Literacy has always been a collection of cultural and communicative practices shared among members of particular groups. As society and technology change, so does literacy. Because technology has increased the intensity and complexity of literate environments, the 21st century demands that a literate person possess a wide range of abilities and competencies, many literacies. These literacies are multiple, dynamic, and malleable.

In order for children to become critical citizens of a culturally diverse global community who are proficient at using and interpreting tools of technology, higher education programs must prepare future teachers to be proficient in these same skills (Lapp, Moss, & Roswell, 2012). Early childhood educators should learn to take risks and expand their ways of thinking in order to be comfortable with creating, manipulating, critiquing, and receiving critiques of multimedia texts (Sanderson, 2015). Preservice teachers should leave teacher education programs with foundational understandings of the fluidity of literacies, and how technology influences literacy knowledge and skills (Ajayi, 2011).

Purpose of the Study

The purpose of this study was to facilitate literacies instruction and digital design through a peer review process with pre-service teachers from a face-to-face early childhood teacher preparation program in the Southern coastal region of the U.S. and an early childhood distance education teacher preparation program in the Appalachian region of the U.S.. Through cross-institution pairing, each pre-service teacher had the opportunity to critique a digital literacy assignment of a peer from another institution through a peer feedback activity. For the purpose of this article, the term "pre-service teacher" is used when referring to all participating students enrolled in the higher education programs, even though students from the non-traditional program entered the study with many years of experience in the field. Peer critiques were multifaceted due to the complexity of the assignment. The assignment was to create a digital literacy project that children could interact with alone or with a partner. The project was to serve as a mini-lesson on phonics that was contextually based with known items within the community, an interactive phonics game, and as a teacher feedback or facilitator, all without the physical presence of a teacher. The instructors believed the role of the peer in critiquing the complex assignment was one of importance. This raised the following questions:

How does the critical peer review process contribute to pre-service teachers' literacy instruction and text design strategies?

How does pre-service teachers' pedagogy and content knowledge influence literacy instruction design and the critical peer review process?

Review of Literature

The foundation of this study is warranted through literature highlighting the virtues of innovative literacy instructional strategies and effective peer review processes. The following review of literature discusses the benefits of pairing cross-institutional peer review with new literacies instructional practices to promote individual and peer growth among pre-service teachers.

Pedagogy and Practice for Literacies Instruction

The Technological Pedagogical Content Knowledge (TPCK) framework integrates technology, pedagogy, and area content (Koehler & Mishra, 2005). In this framework, individuals' pedagogical beliefs and knowledge of specific content affect how they use technology to disseminate information. A decade later, this framework was adapted for literacy instruction practices with young children (Belo, McKenney, Voogt, & Bradley, 2016). In a meta-analysis of literature on the use of technology to teach young children early literacy skills, Belo et al. focused on how developmentally appropriate pedagogies and content knowledge are related to teachers' use of technology.

Early childhood teachers have successfully used multimedia texts as methods for differentiation or intervention. Penuela et al. (2012) indicated the use of media-rich interventions have the potential to positively impact the cognition and literacy learning of children from low-income backgrounds. Over 400 preschool children participated in a 10-week intervention using specific clips from PBS educational programs intended to improve literacy skills, including *Sesame Street*, *Between the Lions*, and *Super Why!* This intervention method improved children's recognition of letters, sounds of letters and initial sounds of words, and children's concepts of story and print. While some technology does not have educational benefits, the purposeful use of high quality and engaging media has the power to positively impact children's literacy abilities.

As the educational system shifts its view of the types of texts and literacies young children should understand, educators transition from consumers to producers of technology that supports early literacy learning (Sanderson, 2015). Pre-service preparation programs and professional development opportunities should guide emerging teachers' exploration of their roles as technology producers (Yeo, 2007). Using a constructivist approach, Wang, Hsu, Reeves, and Coster (2014) implemented professional development activities in efforts to expand science teachers' use of technology as cognitive tools for promoting students' critical thinking. Observations revealed positive shifts in teachers' instructional practices from teacher-based to student learning tools, which resulted in increased new literacy skills among students.

Similar to Wang et al. (2014), the cross-institution study described in this article adopted a socio-constructivist approach to learning by facilitating pre-service teachers' design of multimodal texts for literacy learning. Through coupling structured peer reviews with a digital literacy project, pre-service teachers were challenged to utilize key tenets of the TPCK framework as they engaged in shared critical inquiry. Consequently, this study adds to teacher preparation literature by investigating critical peer review processes that increase (1) literacy content knowledge, and (2) technology-based pedagogical practices based on multiple means of representation.

Benefits of the Peer Review Process

Research indicates the critical peer review process contributes to pre-service teachers' cognitive development as self- and peer-assessors, and is essential for critical examination of one's own instructional practices, and that of colleagues, in future endeavors (Buchanan and Stern, 2012; Lynch, McNamara, & Seely, 2012). Pre-service teachers also need to improve their metacognition for preparing and assessing their own work to help scaffold the process in young children (Buchanan & Stern, 2012). The globalization of professional learning communities and educator professional development has grown rapidly (Darling-Hammond & Richardson, 2009). Cross-institutional pairings of pre-service teachers embodies reflection of their developing teacher identities from the position of another geographic and social culture (Bozalek & Matthews, 2009).

The peer review process has well-documented benefits for the reviewers, reviewees, and instructors (Nicol, Thomson, & Breslin, 2014). In this study, the definition of a peer review process mirrors that of Yu and Wu (2013) in that the peer review process is seen as an exchange products that undergoes a constructive critique, and is followed by feedback that should be aligned to a pre-designed set of criteria. When pre-service teachers are

asked to peer review, they engage in critical practices of examining a piece of work through the framework and objectives of the course assignment. Peer review may be viewed as a type of formative assessment. It typically does not serve as a summative assessment used for the formal grading process in a course (Boase-Jelinek, Parker, & Herrington, 2013), but as a method for improving one's reflective process by identifying strengths and weaknesses in the work of others; this typically leads to critical thinking about how to improve one's own work (Topping, 2009).

For reviewers, the peer review process "involves them in both invoking and applying criteria to explain those judgments; and that it shifts control of feedback processes into students' hands," which may eventually lead to critically critiquing and improving their own work, thus reducing the need for external feedback (Nicol, Thomson, & Breslin, 2014, p. 102). It is through the reflective practice of comparing another student's work to the course rubric and objectives that students begin to internalize the process of being purposefully reflective (Zhi-Feng Liu & Lee, 2013; Nicol, Thomson, Breslin, 2014). As individuals recognize strengths, weaknesses, and areas for creative license in another's work, they begin to realize the possibilities within their own work (Topping, 2009). Therefore, peer review is beneficial not only for the individual whose assignment is being critiqued or assessed. The assessment process and the extrinsic feedback from peers regulate pre-service teachers' cognitive processes and create new learned behaviors (Zhi-Feng Liu & Lee, 2013). Research indicates peer feedback is a significant element in pre-service teachers' cognitive development as self- and peer-assessors, and is essential to future abilities to critically examining their own instructional practices and that of their peers in educational communities (Buchanan, 2012; Lynch, McNamara, & Seely, 2012).

Reviewees often perceive multiple benefits from receiving peer reviews. They receive constructive feedback from peers and are left with options to evaluate their own work with new perspectives offered in the reviews (Nicole et al., 2014). Individuals often use feedback presented from critical peers to make changes within their products before submitting for a grade (Mulder, Pearce, Baik, 2014; van den Berg, Admiraal, Pilot, 2006). Conversely, they may also demonstrate individual evaluative skills based on their own judgments and expectations of feedback by opting to disregard their peer reviewers' suggestions, and do not make changes to their work.

Cross-Institutional Peer Review Process to Expand Critical Literacies

Current research on peer review in higher education focuses heavily on student writing and mathematical processing. Few peer review studies relate to the design and learning components of literacy, as most with a design focus have investigated software development (Knight & Steinbach, 2011). Organizing an assignment within two courses across different institutions for peer review is a long, complex process with many unforeseen variables; yet, Ross, Zufan, and Rosenbloom (2008) argue its worth. In an international study across three universities, business management students completed peer reviews of a writing assignment. Despite difficulties with technology, aligning a course assignment, and students' variability in knowledge, Ross et al. felt students gained new conceptual insights and improved their own thinking processes. Students and faculty were able to understand cultural aspects that influenced student thinking and learning, which is important in an ever-growing global society.

Similarly, Bozalack and Matthews (2009) anticipated students engaging in a peer review project across two social work higher education programs in the USA and South Africa would learn how to be more aware of their own culture and social identity. Instructors were curious as to how the process influences students' positioning when reviewing a peer's work on similar content, and how this might turn their eyes inward when examining their own work. Students reported working with someone from another culture opened their eyes to more universal issues and made them re-examine their own judgments and values, which is important when working with children and families; this reevaluation of values and beliefs is equally important for education students.

In this study, under the instructors' sociocultural and constructivist frameworks, an important goal was to have pre-service teachers in the teacher preparation program help to critique and provide constructive feedback as to how create a digital project that would connect basic phonological skills with what children experience as part of their life in the community outside of the classroom (Morrell, 2009). A review of literature about peer critiquing in teacher preparation programs produced few studies related to this goal.

Utilizing the Peer Review Process Teacher Preparation Programs

Limited studies on the peer review process in pre-service teacher education programs exist. In one such study, Lynch, McNamara, and Seery (2012) measured the effectiveness of online peer review with 47 pre-service teachers majoring in engineering education. Pre-service teachers submitted a project after completing a project-based learning activity and anonymous peer reviews. Significant improvement in module grades was observed.

Pre-service teachers later completed an online survey that indicated they believed self and peer evaluations were significant to their own cognition and development. In Lin's 2018 study of pre-service teachers' use of peer assessment in an online learning application, anonymity was essential in the increased quantity of cognitive feedback amongst peers in a pre-service group participating in an online learning application. Compared to a control group in which peers knew the identities of their partners, pre-service teachers who did not know their partners perceived that they learned more from peer assessment and had a more positive attitude towards the peer assessment.

In a study by Beaver and Beaver (2015), pre-service elementary and middle school mathematics teachers noted a similar shift in increased reports of positive growth and cognitive thinking following peer assessments. Thirty students were asked to answer prompts concerning perceptions of their writing and mathematical skills before and after the peer assessment process. The study contained a control group of 28 students who did not participate in peer evaluations during the course. More than half of the students in the peer assessment group reported positive growth in the perceptions of their mathematical and writing skills, while only one third of the control group indicated positive changes in their self-reflection of skills; another third responded with increased negativity.

In teacher preparation programs, it is valuable to understand one's own cognitive processes while simultaneously recognizing the differences, and value, of how others process information. While it is sometimes difficult to accept critical feedback from peers, it is valuable to view such feedback as opportunities for growth. In Buchanan and Stern's (2012) study of 60 secondary education pre-service teachers, attitudes concerning peer feedback went from seemingly negative to positive learning opportunities. In this study, pre-service teachers were split into groups of 20 and assigned tutorials and workshops. Pre-service teachers took turns evaluating and presenting seminars on their topics. At the onset of the study, students reported viewing peer evaluation as a negative means of interrogation and critique. However, after reading the peer evaluations, pre-service teachers perceived the peer review process as constructive and beneficial towards understanding their own strengths and weaknesses as teachers. They also noted the peer review experience improved their ability to think critically about themselves as teachers.

Significance of the Study

The study reported here seeks to add to the sparse body of literature on the use of peer review processes in teacher education programs to improve cognition, reflection, and literacy instructional practices of early childhood pre-service teachers. More attention is needed on the benefits of peer critiques in early childhood education teacher preparation programs (Nicole et al., 2014). Additionally, examining a peer review process across face-to-face and online programs, with diverse student populations, is uncommon in the literature. In this study, two diverse groups of early childhood pre-service teachers facilitated peer literacies instruction and digital design through a critical review process.

Methods

Instructors of two early childhood literacy courses facilitated a cross-institutional study by requiring an identical course assignment that involved the use of Pre-K or Kindergarten foundational phonological skills standard to design a multimodal, new literacies activity for young children. Too often technology is used as low-end processing skills or skill and drill approaches to learning new information (Bean, Readence & Dunkerly-Bean, 2017). New literacies is a term that reflects the multiple features of 21st century literacy concepts, such as the consideration towards multiple literacies, including digital literacies and concepts related to critical literacies that consider socially and culturally-based language and literacy knowledge (Street, 1997; Luke & Woods, 2009). The assignment also included critical literacies as it was a requirement to tap into children's local knowledge by using culturally relevant items as phonics examples without taking a "tourist" approach to the areas.

The course instructors collaborated on the design, expectations, and delivery of the assignment before launching the partnership. The assignment was required to be digital, interactive, and recognize children's local culture. Developed from the findings of Belo et al. (2016), this assignment focused on key aspects of Technological Pedagogical Content Knowledge: (1) user friendliness and accessibility are necessary prerequisites for designing the literacy learning project, and (2) instructional strategies and specific functions of the design must support early literacy development. Thus, the courses' project description and assessment rubric included defining, modeling, and providing opportunities for children to learn a foundational skill related to phonology in interactive, engaging, and developmentally appropriate ways.

Participants

To broaden and increase learning opportunities, pre-service teachers from two culturally dissimilar geographic regions and institutional environments were paired for the purpose of cross-institution peer review. In this review process, each student was asked to review and respond to the peer's digital literacies project they created for children in pre-k and kindergarten. A total of 29 early childhood education pre-service teachers participated in this study (see Table 1). All students were enrolled in an early childhood literacies instructional methods course at two differing higher education institutions in the Southeastern region of the United States.

Table 1

Demographic Participant Data

| Demographic Characteristics | Traditional | Non-Traditional |
|------------------------------------|---|---|
| Students | 13 females, 1 male | 15 females |
| Ethnicity | All Caucasian | All Caucasian |
| Age | Range: 20-25 | Range: 20s-50s (over 50% age 35 and over) |
| Educational Degrees | All seeking BA in Early Childhood Education with no previous degrees or certifications | <ul style="list-style-type: none"> • 63% associate's degree • 18% bachelor's degree (not ECE) |
| Teaching Experience | <ul style="list-style-type: none"> • 2 were assistants in the college's early childhood development centers • Nanny experiences • After school care/summer counselors, or tutors | 71% had worked in a teaching, teaching assistant, or administrative role in ECE setting |

| | | |
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| <p>Regional Culture</p> | <p>Low Country Region</p> <ul style="list-style-type: none"> ● Average household income in county where university is located, \$53,437* ● Located near multiple beaches, rivers, swamp and wetlands, historical landmarks and forts ● Local community includes large population of Gullah people on coastal islands ● Located within technology corridor, though more distant rural areas rely on satellite access ● Majority public school systems fully equipped with internet, interactive and smart technology, fully time technology specialist, and one to one student devices (either permanent or roaming) | <p>Appalachian Region</p> <ul style="list-style-type: none"> ● Average household income in county where university is located, \$38,015* ● Located within short driving distance to national park, large agricultural communities, lakes, rivers, and waterfalls ● Local community includes a large Native American reservation ● Most early childhood educational settings include limited technology, except in public school preK and kindergarten classrooms ● Mountainous areas cause some issues with internet reliability and/or service |
|-------------------------|--|--|

| | | |
|--------------------------------|--|--|
| <p>Programmatic Structures</p> | <ul style="list-style-type: none"> ● Face-to-face classes ● PreK-3rd grade focus ● Sequenced cohort model ● 2 literacy courses (semester one language and literacy development, semester two literacy methods course) ● 1 education technology course (semester one) ● all participating students in semester two of program, and considered juniors | <ul style="list-style-type: none"> ● Distance learning format ● Birth-Kindergarten focus ● Non-cohort model ● 2 literacy courses with literacy infused into other methods courses ● No specific educational technology course required, but technology embedded into course content ● Focus literacy course considered junior-level, but participating students at varied points in program completion |
|--------------------------------|--|--|

*Retrieved from www.census.gov

Fourteen pre-service teachers from a face-to-face traditional early childhood literacy course, housed at an institution in the Southern Coastal region, agreed to participate in this study. This course covered literacies instructional methods for grades prek-3rd grade. All participants were Caucasian females, with the exception of one Caucasian male. These participants were traditional college-age, ranging between 20 and 23 years old. Many had worked in a childcare after school or summer program, nannied, or tutored. Two pre-service teachers worked in the college's early childhood center as student assistants. However, none held a lead teaching or assistant position, and none held a degree beyond high school. All of these participants were pursuing a bachelor's degree in early childhood education.

Fifteen pre-service teachers from a distance education early childhood literacy course, that was part of a program located at a university in the Appalachian region, agreed to participate. This was an online course focusing on literacies instruction for children 0-5 years of age. All were female, with ages ranging from early 20's to late 50's; a majority of them (53%) were 35 or above. All but one student were Caucasian. Among these participants, 65% held an associate's degree and 18% had obtained a bachelor's degree in another field than early childhood education. When asked about their experience holding a teaching position (as either lead or assistant), or an administrative role, the years of experience in these positions varied (see Table 2). These pre-service teachers were working toward (1) a four-year degree in early childhood and teacher licensure in birth-kindergarten, (2) a four-year degree in early childhood, or (3) solely teacher licensure in birth-kindergarten, and were declared non-degree seeking/alternative licensure students.

Table 2
Non-Traditional Pre-Service Teachers' Years of Experience

| #Years Experience | % of Non-Traditional Students |
|-------------------|-------------------------------|
| 0-1 | 18% |
| 2-5 | 41% |
| 6-10 | 12% |
| 11-5 | 12% |
| 16-20 | 6% |

Data Collection

One joint, synchronous live class session was held with students and instructors from both courses. This session provided a review of the base knowledge for foundational, digital, and critical literacies skills required for the assignment, as well as the details of the assignment and peer critique. Students listened, took notes, and asked questions. After the combined session, the pre-service teachers were assigned a peer reviewer from the other class, and began working on their digital literacies activities. Instructors paired partners based on their selected foundational phonological literacy standards, and asked to provide their contact information for sharing projects and peer reviews via a virtual shared space. Instructors provided details and a scoring rubric for the assignment (see Appendix A). Instructors also provided sample assignments from past semesters, a checklist for completing a quality assignment, and online training modules for how to use digital platforms (ex. iMovie).

To enhance the success of the peer review process, pre-service teachers were provided a technology resource for sharing large media files. Each pre-service teacher was required to use a designated peer feedback form to evaluate his/her partner's assignment (see Appendix B). Paired critical peers scored the digital literacy activity based on the course assessment rubric, in addition to providing specific written feedback about the concepts and design of the lesson. The feedback template required strengths and areas for growth, as well as provided opportunities for peers to make suggestions for revisions or additions.

Analysis

Charmaz's (2006) constant comparison methods were used to analyze the peer review feedback forms. Constant comparison analyses provided the opportunity to compare and contrast data from the two pre-service teacher responses to the digital literacy lesson and the critical peer process. Coding occurred in multiple phases: (1) initial sentence-by-sentence open coding, (2) initial coding based upon emerging themes within the open codes that reflected the study's research questions, (3) selective focused coding which helped organize and synthesize the multiple initial codes into super codes and subcategories (Charmaz, 2006). *ATLAS.ti* data analysis software (Friese, 2012) was used to help organize data, coding schemes, and researcher memos.

All data sources underwent open coding by the first and second authors. The original action-based, open codes were synthesized into the initial coding scheme. During this phase, both raters noted several of the sentence-level data points had dual codes. Codes were organized in *ATLAS.ti* to examine overlapping commonalities and overarching themes. Categories, or supercodes, were established to represent areas of overlapping data (e.g. *engagement strategy* vs. *developmentally appropriate strategy* became *developmentally appropriate engagement strategy*). Once the authors organized smaller codes to form specific categories, or supercodes, the data were grouped within the categories by subcategories. Descriptive frequencies are reported to delineate categories and subcategories.

Findings

Analyses revealed peer reviewers produced a high quantity of responses. There were a total of 171 feedback comments from the 29 participants, creating an average of 6 unique statements per person on the five-item feedback form. While some pre-service teachers provided multiple responses within one item, others elected to not respond to prompts that related to providing suggestions. Not all areas of the form were completed by all

pre-service teachers; nearly 8% of all possible components of the form the peer reviewers remarked they did not have any comments, or left the section(s) blank. Of the 171 coded comments, approximately 9% of responses were positive reinforcement lacking substance, such as “good job,” and just over 90% of the responses present consisted of constructive critiques. Using a constant comparative analysis, the following coding categories were developed and utilized across peer feedback forms.

Table 3
Categories of Peer Feedback Codes

| Category | Definition | Percentage |
|---|--|-------------------|
| Developmentally Appropriate Teaching Strategy Recommendations | Peer recommendation for a developmentally appropriate teaching strategy to be included in partner’s project that would enhance student learning | 31% |
| Developmentally Appropriate Teaching Strategy Used | Peer comment that indicates the partner’s use of a developmentally appropriate teaching strategy within the project | 31 % |
| Null Feedback | Comment that offered no specific content or direction, more positive reinforcement (ex. Nice job! I love this!). | 9% |
| Culturally Related Component | Comment to partner that related to something from the local culture of environment (ex. “The children will love the pictures of the beach” for partner’s who taught in an ocean front community) | 8% |
| Failure to Participate | Areas of the feedback form that were left blank or partner said “I don’t have anything to say here.” | 8% |
| Technical Organization | Comments directed towards how the technical components of the project were organized (ex. The picture is blurry, the sound is not playing correctly on slide 2) | 8% |

| | | |
|----------------------------|--|----|
| Reflecting Back to Oneself | Comments that reflect back to the critical partner's own project. (ex. I was thinking about using a video here like you did. I really like how you use this and I think I'm going to add one too.) | 5% |
|----------------------------|--|----|

Of these 7 categories, 62% of the peer feedback related to developmentally appropriate teaching strategies. Developmentally appropriate design strategies were broken into two categories: strategies the creator used that were recognized as quality by the peer reviewer vs. design strategies that the peer reviewer recommended the creator implement. The majority of constructive responses consisted of feedback for developmentally appropriate teaching strategies focused on: (1) skills-based strategies, (2) multimodalities for engagement, (3) simplicity or clarity of activity and instructional strategies, and (4) making the activity interactive for children. The sub-categories of the developmentally appropriate teaching strategies, both used and recommended, are detailed below (Table 4). Additionally, the peer reviewers were noted to reflect upon their own work as part of their peer critiques; this is evidenced in prior literature that demonstrates how reviewers improve metacognition by positioning their reviews inwards (Topping, 2009).

Table 4
Subcategories of Peer Feedback Teaching Strategies Codes

| Developmentally Appropriate Teaching Strategy | Definition | Frequency Used/Recommended |
|--|---|-----------------------------------|
| Skill/objective related | Teaching strategy related to the learning skill or objective | Used: 5 Recommended: 19 |
| Multimodality | Teaching strategy that incorporated specific modalities for the purpose of learning | Used: 13 Recommended: 10 |
| Simplicity/Clarity | Teaching strategy meant to simplify or clarify what children should learn or do within the lesson | Used: 11 Recommended: 11 |
| Interactive | Teaching strategy used to engage the child in interaction with the digital lesson | Used: 12 Recommended: 9 |

Skill/Objective

The majority of peer review comments were related to a component of teaching a foundational literacy skill related to a pre-k or kindergarten standards' learning objective. Skills-based teaching incorporation was the most highly recommended strategy, yet was evidenced the least in project design. This finding indicates, while

pre-service teachers did recognize the importance of skills-based methods, they were rarely incorporating them within their projects, when compared to the other teaching strategies.

Most of the recognized skills-based teaching methods related to how the pre-service teachers used local and cultural knowledge to enhance the foundational literacy skill. The following peer reviewer statements clearly emphasize this incorporation: “I particularly liked how you added background information in the beginning and during every letter. You made it clear what the objective was and how this theme related to the students themselves,” and

“I particularly liked how you tied alphabetic principles with letters that spelled out Uwharrie National Forest – that was very clever and creative!” Many of the comments related to the need to incorporate skills-based teaching, and how the pre-service teachers could integrate better modeling or use of resources to enhance children’s understanding of the skill-based learning objective. For example, one reviewer noted, “Did you think about maybe providing an example of how to figure out the rhyming word? Maybe just provide an example at the beginning to illustrate how to complete the task.”

Reviewers provided very specific suggestions for not only how to incorporate teaching strategies, such as, “At the beginning when you introduce each vowel, introduce the sounds of the long and short vowel sounds to prepare them for the sounds to listen for in the words,” but also noted what resources might be useful to incorporate:

On the Creative Commons, you can find images that are free for all users. On PicMonkey, you can edit and crop pictures. I noticed that on the “Z” slide you had one image with the owner's name on it, and the Zebra picture had other animals that you could crop. It would help make the images more clear to the children.

By providing specific strategies and resources, reviewers both scaffolded their peers’ pedagogical thought processes as well as their own. The pre-service teachers were able to put themselves in the other person’s position, and consider how they would teach the standards-based skill themselves.

The non-traditional pre-service teachers’ recommendations on skills or learning objectives were all instructional strategies or methods to teach the topic, indicating that methods for teaching content was an area of strength in which they were able to supply feedback or recommendations. They also frequently made positive comments about how the peer had connected the skill-based strategy to a cultural component from the local area. They were very aware of how to incorporate this strategy into instructional methods. The traditional cohort was 75% less likely to comment on critical peer’s use of culture despite its presence in the activity. Rather, the traditional cohort divided in topic with half of the comments from the concerning “how to methods” to teach the skill, while the other half were discussions about how to provide a child-friendly learning objective at the beginning of the project to prepare and focus the children on what they were about to learn.

Multimodalities

Peer reviewers from both groups equally noted the importance of the designer’s use of multimodalities within the project. New literacy skills include using and comprehending information through a wide variety of modalities (Kist, 2004), and thus was a significant component to the digital foundational literacies project. Pre-service teachers identified how each project met the requirement of three or more modalities, yet many reviewers made special note as to how the modality may be seen as good use of developmentally appropriate engagement. For example, one peer stated, “I also liked how you had instructions every step of the way through audio. These were clear instructions for young children, who will need to be directed throughout the entire activity.” Comments were also directed to the ways in which designers used their voices to enhance engagement of young children, such as, “I loved how you engage the children by talking about the pictures in an exciting way (which were great visuals).”

There were frequent comments from peer reviewers about how the children’s learning could be enhanced by adding a modality to the project as well. Enhancing multimodalities was noted as a way to retain attention of small children:

You might want to consider providing some sort of video or moving visual aid. The pictures are great, and match perfectly with the objective and voiceover, but sometimes a video in the beginning or towards the middle of a presentation can really grab any students who are starting to get distracted.

Other critical reviews noted the power of adding a form of modality to help support children’s cognitive abilities and working memory:

I wondered about the children being able to remember the exact names of the places on the pages where you are asking for them to pick the picture that matches the sound. Since you are using this with kindergarten you might want to label the pictures or put sound to the pictures.

Simplicity/Clarity

While incorporating multiple modalities is engaging and cognitively beneficial for the learning, it is also complex and has the possibility of becoming too overwhelming for young children. While both groups noted the importance of simplicity and clarity, it was a significantly larger concern for the traditional pre-service teacher who had more experience with educational technology. Based on the requirements of the project, children would see the digital project introduced and modeled, but would not have the benefit of a teacher's full-time supervision. Many of the designers took this into consideration while creating the project, as noted by the positive feedback from reviewers. Multiple comments referred to the appropriate pace of the voice recordings embedded within the projects, and the easy to follow progression of the content: "I love the repetition and simplicity of this activity... You also did a great job speaking slowly and clearly for young children to understand."

Reviewers were also concerned with the length of the projects and the simplicity of the tasks and resources used; thus, many recommendations focused on increasing the developmental appropriateness. The following excerpts are clear illustrations of efforts to simplify the content and design based on age-appropriate needs:

1. "I wonder if you could make the video a bit shorter. Unfortunately, students who are 4-6 have short attention spans and they may lose interest before the completion of the video."
2. "You might want to consider using simpler words in some of the slides. There were some words that kindergarten students may not understand."

Interactive

Based on their beliefs about developmentally appropriate practices for young children and the use of technology, the pre-service teachers felt including opportunities for children to interact with the media was imperative (Koehler & Mishra 2005; NAEYC, 2009, NCTE 2013). They did not want the project to be a digital activity in which children were not active learners (e.g. watching an educational video). The feedback forms revealed many instances in which the reviewers acknowledged the designers' efforts to increase children's action. In particular, many noted the design of encouraging children to manipulate the project, such as:

I particularly liked the interactive part of the presentation. I loved the popping balloons game and the sing-a-long!!" —and—"I also liked the interaction by dragging the pictures and the immediate feedback they would get if it was wrong.

Other forms of recognition for interactive design included how the pre-service teacher scaffolded the child to respond to the instruction on screen through statements such as, "I particularly liked...the way you tailored it to be amusing for small children. You get them to interact and it is very similar to a 'Dora the Explorer' type format."

Though the pre-service teachers were effectively using interaction as a developmentally appropriate engagement tool for learning, some reviewers prompted their critical partners to go a step further when adding interactive components to the project, as seen in this reviewer's statement, "I wondered about.... what other ways students could be interactive with your presentation. I think clicking the letters is great and keeps them engaged, but maybe you could get them to interact in other ways while you're talking, too. For example: When you are on the "B/b" slide, you could ask the children to growl like a bear." This excerpt exemplifies how the pre-service teachers were thinking beyond meeting the specifications of the course rubric to what practices teachers should consider in helping young children be actively engaged in their own learning. The non-traditional cohort was twice as likely to provide positive feedback about use of interactivity within their projects, while the traditional cohort was twice as likely to recommend interactive strategies with technology.

Discussion

Findings from this study indicate pre-service teachers, both traditional and non-traditional, were able to comprehend and design new literacies components in their instruction of foundational literacy skills. As observed within the project scoring rubric, all participants across courses, demographics, and experiences were able to design multimodal learning activities rooted in basic phonological and phonemic skills that incorporated children's own local and cultural knowledge. Peer feedback was heavily focused on the learning skill and developmental strategy used within the project rather than cultural connections. Pre-service teachers were able to address foundational skills for reading and writing through new literacies methods, even though there was considerable variation in technology-based instructional experiences. They were also able to apply skills-based

and pedagogically sound critiques to their critical partners. Pre-service teachers from both programs noted both areas of strength, and offered specific support for how to improve design and instructional methods. Some pre-service teachers were also actively reflecting upon their own work during the review process, as evidenced by comments to their peers in the feedback forms.

Additionally, this study demonstrates the influence of Belo et al.'s (2016) TPCK framework on teachers' instructional decision making. Pre-service teachers' pedagogy concerning developmentally appropriate practices and content knowledge about children's early literacies skills and development played a substantial role in the design of literacy instruction, as well as how pre-service teachers framed critical peer feedback. Within their commentary, the pre-service teachers focused heavily on developmentally appropriate design that aligned to early literacy learning skills and objectives. This is suggestive of a strong understanding of both child development and foundational literacy skills across participants in both programs. The acknowledgement of peers' usage of multimodality was prominent throughout the feedback, which is not unforeseen since the assignment required the use of at least three modes of digital literacy. However, the substantial level of feedback responses regarding teaching strategies that targeted children's acquisition of early literacy skills is particularly noteworthy.

The use of multimodalities to increase children's engagement is inevitably linked to improving their content knowledge. In early literacy learning, children should be developing both sound and sight to strengthen literacy skills (Ehri, 2000). While technology's ability to enhance learning through multimodal opportunities is highly beneficial, it is also possible to create cognitive overload when the design requires too much multi-tasking or overstimulation (Bus, Takacs, & Kegel, 2015). Pre-service teachers in this study exhibited both an understanding of increasing engagement through multimodalities, but also recognized the need to keep designs simple and clear for age appropriate audiences.

One key element of interactive technology design involves feedback that is used authentically as a scaffolding tool to support children's understanding (Dooley, Flint, Holbrook, May, & Albers, 2011). Effective technology tools include functions in which the device takes on the role of the more developed other who models and facilitates learning (Belo et al., 2016). Feedback entails a time of interactivity that allows for conversations between the user and digital literacy program. Considerations of design for feedback include having the program move from lower-level to higher-level cognitive tasks, including linguistic complexities. This was not an aspect named as used or recommended by the pre-service teachers, but a concept that could be strengthened through instructor modeling and discussion.

Differences in the peer feedback comments between the traditional and non-traditional groups may be related to variations in geographic, programmatic, and age-related cultures. Pre-service teachers in the non-traditional cohort attended a regional higher education institution, and most were native to rural areas across the Appalachians Mountains. Many of the pre-service teachers were first generation college students, enrolled in the program while also working full-time. The non-traditional pre-service teachers had, on average, over a decade more of teaching experience when compared to the traditional cohort. These differences may account for their feedback focusing on (1) developmentally appropriate, instructional strategies for teaching learning objectives, and (2) cultural components presented by the traditional group.

The traditional pre-service teachers were enrolled at a coastal, liberal arts institution. This state institution has a large number of students from across the country that are often second or third generation college students, some of who have attended private boarding schools. The traditional cohort lived and worked within a geographic location that had easy access and support for technology, schools with large amounts of one to one technology, and with a university that included a course for the use of educational technology. Furthermore, the traditional pre-service were, on average, 15 years younger than the non-traditional cohort, which may relate to a differing comfort and exposure level to technology. While both groups were able to successfully navigate the technological components of the new literacies design, these differences may account for the traditional cohorts' notable focus of feedback in technological interactions and desire for clarity and simplicity of digital design components. Therein, this study highlights the influence of educators' social and cultural experiences and geographic location on instructional practices and peer-reflections (Bozalek & Matthews, 2009).

Conclusions

Critical peer feedback is a constructive method for supporting teacher's cognitive, reflective, and instructional practices. It complements the development of new literacies practices since it is socially, culturally, and critically framed (Lankshear & Knoebel, 2011). Pre-service teachers can identify and use developmentally appropriate practices in literacy through digitally-designed multimodal lessons. Pre-service teachers can provide

critical feedback in ways that actively build upon best practices from the field. Students recognize the benefits from collaborating with peers from different programs, indicating a need for further work investigating the benefits of cross institutional pairings.

Further research is needed to examine how pre-service teachers incorporate feedback into their own work. Additional investigation is needed to analyze how instructors may scaffold the peer review process for maximum benefit. This study also provides instructors with unique glimpses into pre-service teachers' understandings of strategies and teaching methods and what they value in regards to designing experiences for young children. Additionally, when instructors become aware of the resources pre-service teachers recommend to others, they are able to recognize areas of need for students and either elect to use these resources in their own course content or provide higher-quality resources, as needed.

Limitations

The implementation of cross-institution peer feedback partnerships in higher education is complex, particularly when one program is face-to-face and the other is facilitated fully online. Technology variation and ease, or lack thereof, across a wide breadth of media should be taken into consideration. Differences in instructor experiences and content knowledge should be recognized, as well as differences in pre-service teacher experiences within programs and technological capabilities. Due to the small sample size of the study, findings should not be generalized to all populations, though the varied demographics of participants is a strength.

Implications

Purposeful implementation of these partnerships by course instructors is imperative to their success. Pre-service teachers need ongoing support from instructors to provide high quality critical feedback to peers (Topping, 2009; Walker, 2015). Since effective guidance is critical in implementing peer reviews (Mulder et al., 2014), future studies should focus on the instructors' roles in the execution of cross-institution peer review processes from a variety of geographic and cultural backgrounds. Data regarding the differences between instructional strategies and the role of the instructors warrant a separate analysis from findings presented in this study. Additional studies are also needed with an in-depth focus on how instructors establish expectations and provide guidance regarding the pre-service teachers' delivery of feedback, both in online and face-to-face programs. Further, research is needed on how pre-service teachers utilize cross-institutional peer feedback to improve their course assignments and ultimately their pedagogical practices. As opinions and policies change to assess children's literacy knowledge in multimodal and digital formats, teacher preparation for providing these multiliteracies in instruction and assessment remains crucial (Ajayi, 2011). The need for critical examination and reflection of pre-service teacher pedagogical and content-based knowledge in 21st century literacies is essential as "we are currently embarking on the new 'great are currently frontier' education: for embarking early digital childhood on tools the new and are 'great frontier' for early childhood and elementary education" (Dooley, Flint, Holbrook, May, and Albers, 2011, p. 83).

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Appendix A
New Literacies' Project Scoring Rubric

| | | |
|--|--------|------------------|
| Project was presented in a multimodal format (3 or more modes: picture, sound, text, moving pictures, links to activities, manipulation) | ____/8 | Comments: |
| Project is child-friendly and age appropriate/developmentally appropriate | ____/4 | Comments: |
| Project clearly states a specific grade level state standard and the learning objective (What is the standard? What is it you are going to learn by doing this activity?) | ____/4 | Comments: |
| Project defines and provides examples of a specific foundational literacy skill (Describe the skill in child friendly language, give an example of it) | ____/6 | Comments: |
| The project is centered around a theme specific to the local community to highlight and build on students' local knowledge/culture | ____/8 | Comments: |

Appendix B
Peer Feedback Form

| |
|--|
| Thoughts for: |
| Critical Friend _____ Date ____ _____ |
| Rubric Score (complete for each of the five areas): *Use the Assignment Rubric to help provide feedback. Which areas may not receive full points? |
| I particularly liked.... |
| You might want to consider.... |
| Did you think about.... |
| I wondered about.... |
| You might be interested in the following resources... |

LEARNING VOCABULARY AT TERTIARY LEVEL: STRATEGIES, TECHNIQUES AND MATERIALS

Md. Alaul Alam

Lecturer in English Language, Prime University Language Institute, Mirpur-1, Dhaka, Bangladesh. Email: malaulalam@gmail.com

Md. Ashrafuzzaman

Senior Lecturer, Department of Education, Prime University, Mirpur-1, Dhaka, Bangladesh. Email: ashraf_ier@yahoo.com ; ashraf_ier@primeuniversity.edu.bd

Abstract: This paper shows the strategies taken by the learners at the tertiary level to enrich vocabulary skills and the materials which are used by the learners in terms of acquiring vocabulary. Besides, this study aims to investigate the self-selected techniques of L2 learners in the context of Bangladesh. This research was qualitative in nature. Data were collected from the students and teachers of Private Universities. Data were collected through a semi-structured interview questionnaire for the students, a semi-structured interview schedule for the teachers and a focus group discussion guideline for the students. Major findings of the study showed that contextual reading, using dictionary, using online social platform, watching movie, taking note, listening lectures, memorizing, listening audio-visual materials and reading billboard were taken by the learners as the strategies to enrich vocabulary. Moreover, learners discovered self-selected techniques either in the sub-conscious or in the conscious state of mind.

Keywords: Learning Vocabulary, Strategies, Techniques; Materials, Tertiary Level

1. Introduction

Mastering in English is a great challenge to the EFL learners unless vocabulary is ensured for the appropriate circumstances as we know that no language can give the message to its receivers without words, despite being flourished with structure and grammar (Schmitt and McCarthy, 1997; Yaacob et al, 2018). Learning any language is explicitly influenced with vocabulary. Vocabulary plays the most outstanding role in respect of learning a language. L2 learners rely heavily on vocabulary knowledge and the lack of that knowledge is the main and the largest obstacle for them to develop English learning skills. Learners bring dictionary which convey that lack of vocabulary is a major problem on the way of productive communication (Huckin, 1995, Wilkins, 1972 & Maximo, 2000). According to McLaughlin, vocabulary development is the prime concern of L2 learners and this concept is supported by Nation (2001). It is found from the studies (Susanto, 2016; Marion, 2008; Nation, 2001 & 2005; Maximo 2000; Read, 2000 & 2004; Gu, 2003; Laufer and Nation, 1999) improving vocabulary is a part and parcel to have a good command in foreign language. In a broad sense, language learning is concerned with different strategies that can be defined from different outlooks and approaches and as vocabulary is the most important tool of a language, different strategies which attracted the attention of SLA learners, have been taken to increase vocabulary learning (Schmitt, 1997 & Nyikos & Fan, 2007).

The present study outlines the vocabulary learning strategies adopted by the learners of the tertiary level to enrich vocabulary skills and the materials they use to develop vocabulary in the self-selected ways. The self-techniques may be present in the learners' mind subconsciously or consciously, which directly contribute to the development of vocabulary among the learners of the tertiary level.

2. Literature Review

Adopting different strategies in learning vocabulary has been added a new dimension and learners are not confined to single or traditional strategy of learning vocabulary. The studies from (Zhang, 2001; Gu & Johnson, 1996; Hulstijn, 1993) confirmed that more proficient learners use different strategies of vocabulary learning rather than depending blindly on dictionary. A considerable amount of work has been accomplished home and abroad regarding teaching-learning vocabulary.

It is pointed out from the studies of Koolstra and Beentjes (1999) as cited in Rokni and Atae, (2014), Lertola (2012), Koskenin et al,(1985) as cited in Yuksel & Tanriverdi (2009), Vanderplank,(1988), that watching movie with sub-titles helps to enrich vocabulary of the learners as in their subconscious mind, they learn vocabulary from the movies or audiovisual materials. The studies also reveal that subtitled videos perform significantly better on a word recognition and help in increasing vocabulary. Huang and Yang (2012), Nation & Meara (2002), Shu et al. (1995) found that learning from contextual reading ensures the increase of vocabulary

among the learner. They also point out that contextual and incidental reading smooth the way to learn and capture vocabulary from different sources. Hong (2010) found that contextual vocabulary learning was considered an integral part of L2 vocabulary learning as it covers three vocabulary learning strategies-glossing, guessing from context and using dictionary. In the same echo, Schmitt and McCarthy (1997) outlined that guessing from context, using word parts and mnemonic techniques to remember words, and using vocabulary cards to remember foreign language and first language word pairs are the important strategies of learning vocabulary. Moreover, Murcia (2001) reported the same techniques in order to achieve vocabulary especially in English language. Again, Furqon (2013) stated that knowing 90 percent words of a text helps the learners to cover the rest 10 percent which they do not know but can easily guess. Murcia (2001) stated that a rich context is enough to give adequate clues to guess the words' meaning. Moreover, Hulstijn (1993), Laufer & Levitzky-Aviad (2003), Peters (2009) overviewed that learners are less interested to find a word from the dictionary if it is easily guessed.

But Laufer (1990) asserted that though a word in a sentence looks familiar to the learners, it is difficult to guess the meaning of an unknown word and in most cases, it is rarely accurate. Kaivanpanah and Alavi's (2008) stated that the inferences about the meaning of unfamiliar vocabulary are not always reliable and so, teachers should encourage the learners to find the particular meaning of the desired words. Besides, learners become confident if they find the meaning of the words in a dictionary, they inferred from the contextual information. Access to a dictionary makes the learners more autonomous to see appropriate interpretations of unfamiliar words in sentences without teachers' explanations in the classroom (Gu 2003; Miyanaga, 2006). This finding was also supported by Walz (1990), Hayati and Fattahzadh (2006). In this connection, based on memorization fact, Cortazzi & Jin (1994) stated that Chinese tertiary-level students became habituated to memorizing words from vocabulary books and dictionaries as well as vocabulary note book as their main means of vocabulary learning.

In another perspective, the findings of Nader (1996) and Warschaur (1995) revealed that social media plays an important role in learning vocabulary for the learners within individual and group activities and so, teachers should make the social platform usable with a view to creating awareness in terms of learning vocabulary. They further added that technology can be an important tool to the teaching-learning strategies of vocabulary. This present study only deals with the strategies which are followed by the tertiary learners, is a unique research in this context which was dealt with the common practices of the learners in order to show the real scenario in improving vocabulary skills in the context of Bangladesh.

3. Rationale of the Study

Learning vocabulary has been a great challenge for the L2 learners for many factors because in different times teaching-learning approach has been directed and redirected by the linguists and language specialists (Meara, 1995; Nation, 2001; & Schmitt, 2010). Schmitt (1997) argued that the mechanics of vocabulary acquisition are one of the most challenging tasks in L2 learners.

At the beginning of the 20th century, vocabulary learning was considered as the influential issue of L2 learning. In this connection Wilkins (1972) stated that vocabulary is the main component of language as without grammar a little can be conveyed but without word nothing can be conveyed. But at the middle of the 20th century the interest of vocabulary declined due to the Chomsky's theory which redirected the approach of learning vocabulary. Rather more emphasis was given to the structure and grammar, than the words or vocabulary needed for communication. However, in present time, the focus goes to the vocabulary learning in order to have the perfection in the second or foreign language. The previous studies cover a great number of work in terms of learning and acquiring vocabulary. But researchers hardly find any work related to learning vocabulary with self-selected approaches in Bangladesh. In many cases students are very reluctant to increase their vocabulary as teachers and classroom do not play an influential role in order to have good command in acquiring vocabulary what they adopt or follow depending on their own will, except memorizing and getting pressured by the teachers. Finally, the present study explores the strategies, the tertiary learners follow to enrich their vocabulary and the research will help language teachers, students, material developers and policy makers to go into the depth of findings and to have the necessary actions to the development of English vocabulary learning strategies.

4. Objective of the Research

The main objective of the study is to explore the strategies followed by the L2 learners at the tertiary level in Bangladesh. Besides, the materials they follow or adopt to enrich their vocabulary are to be shown in this study so that all the concerned can have decision in regard of learning and teaching vocabulary following the real context of the self-selected strategies of the learners.

5. Research Questions

1. What strategies are followed by the tertiary learners of Bangladesh to enrich vocabulary?
2. Which materials are followed by them in learning vocabulary?

6. Methodology

This research was qualitative in nature (Creswell, 2008). Data were collected from the students of three private universities, who are studying in different departments in the first and second semester and they all have a credit course in English language. Thirty students were selected for this purpose randomly and 6 English teachers were interviewed, who are teaching English at tertiary level. Among the respondents, fifteen percent were females. Finally, three focus group discussions were conducted with the selected respondents. Three males and three females took part in each focus group discussion. The open ended data were collected through interview of the respondents as well as the teachers. Thematic approach was applied to analyze the collected data as well as to enter into the depth of the research (Boyatzis, 1998).

7. Analysis of the Study

7.1 Contextual Reading

The data shows that contextual reading helps to learn vocabulary and it is developed through real encounters with the words in context. Contextual vocabulary traces the mind of the readers more than the list of vocabulary, learners are accustomed to memorize. It is found from the interviews that majority of the student state that they learn vocabulary through reading different types of books, magazines and newspapers especially by reading comprehension or passages which are included in their curriculum. From the FGD, maximum students notify that contextual reading enhances their vocabulary stock. They also state that it is one of the easiest ways to learn vocabulary because it happens in the subconscious mind of the learners.

One of the students says,

“I have grown the habit of English newspaper reading which helps me to cope with the vocabulary; moreover, I can guess the theme from the reading context and it is always better understanding”.

From the interview of the teachers it is found that one teacher agrees with the fact that reading helps grasping vocabulary, no doubt. The other teacher states *“vocabulary learning gets its maximum output when contextual interaction, collaboration and peer feedback are to be considered and performed”*. So, Contextual reading finds out the way to learn new vocabulary.

7.2 Using Dictionary

From the data, it is found that learners are fond of using dictionary and there is hardly any students who do not have any dictionary. Some of the students said that they use dictionary when they need to know the Bangla meaning of any word and so they have grown the habit of using dictionary. One of the students asserts in this connection that dictionary gets the first priority to the learners because they hardly see any alternative way to learning vocabulary, here they also opine that dictionary provides not only vocabulary but also the meaning of the desired words. Another student say,

“Dictionary is written alphabetically, so it is very easy to find out the word from the dictionary book within a moment, besides, we are able to learn synonyms and antonyms of the word easily.”

From FGD, it is opined by the learners that dictionary is a very useful material for learning vocabulary, spelling, and pronunciation and in general synonyms and antonyms. Some students say that they use dictionary on their mobile for easy access. From the teachers' interview, it is found that majority of the teachers suggest the students to use portable dictionary with them at any place so that students can be able to learn words. One of the teachers states that learning vocabulary is a very crucial issue for the learners and most of the students find no interest to enrich their vocabulary stock, so dictionary helps them to pick up the desired words with the quickest possible time and in the context of Bangladesh, maintaining dictionary has been an integral part of learning English.

7.3 Using Online Social Platform

The study reveals that learners learn and pick up vocabulary from online social platform. Students assert that online social platform is a place where learners get acquainted with different types of vocabularies which help to improve their vocabulary stock. One of the students says that their use of everyday words with the friends and family members make them think and the transcribed words on the online sites have longer lasting effects to their minds.

One of the students says,

“They get introduced with different types of words and these words are exchanged from person to person through online media and therefore, they have ample scope to have a look into many new words”

each day. In the same connection, sometimes using their hypothesis or assumption they try to use some sorts of words having no prior conception of the meaning of words”.

One of the teachers in this regard states,

“Social platform makes the learners acquainted with every day necessary words and these words can have a permanent impact through utilizing and exchanging in the daily affairs. However, code switching frequently occurs due to the intentional use of the social platform.”

7.4 Watching Movie

Students find more opportunities to enhance their vocabularies using audio-visual aids especially through watching movies. The study reveals that watching movie helps students to improve their limited vocabulary, grammar and listening skills. One of the students mentions that watching subtitled movies facilitate them in vocabulary building especially when it comes to English language learning. From FGD, maximum respondents say,

“We can easily concentrate on words or phrases while movie runs because in English movie we see the subtitles just below the pictures and so, it is interesting and effective to increase vocabularies through watching movie.”

One English teacher says,

“Subtitled videos, movies and films are a rich source in communicative language in use and through them there is a lot of opportunities of the learners to increase the vocabulary stock because subtitled movies give language learners more motivations and comforts, as well as the production of new terms, words, phrases and idioms.”

Two students add that vocabulary learning becomes a fun when teachers teach them showing movies and films and they never feel boring in this process but they feel awkward when they go through memorizing a list of vocabularies without the realism.

7.5 Taking Note

Taking note is a great way to solve the vocabulary problem of the learners. Majority students say that they have fostered the habit of taking and maintaining note books whenever they are in the class or out of the class if the words seem unknown to them, they instantly write in the notebooks or mobile phone so that these can't be deleted from their mind. One of the students opines, “When I read or hear any new word, I just keep the word in my note and later on with the help of dictionary I try to find out the meaning so that it remains permanent in my mind. From FGD it is also notified that learners cannot retain new vocabularies even if they hardly can use the words from their stock due to the fact that there is no utilization of the vocabularies they learnt earlier and so, they adopt note taking strategy. One of the teachers states,

“After getting information about a new word, learners may take notes of this word in the notebooks, vocabulary cards, or simply notes along the margins or between the lines and the strategy ensures a positive result in terms of enriching vocabulary as well as the application of proper diction to the appropriate circumstances.”

7.6 Listening Lectures

The study reveals that learners pick up vocabularies from their teachers' lectures and vocabulary learning becomes fruitful if students are aware of the teachers' lectures. In every lecture teachers have some common vocabularies and these exist the learners' mind in a comparatively permanent way and in their speaking and writing in the classroom, learners feel satisfied and courageous to use the vocabularies used by the teachers. Some students opine that they are mostly influenced by the teachers' lectures and they learn many vocabularies from the teachers' lectures every day because they are habituated to understanding the vocabularies, the teachers use in the classroom and thus they are being enriched with new vocabularies each time. One of the students opines,

“I am not interested to learn vocabulary from dictionary or any other sources because, vocabulary learning is tiring some but I get encouraged to learn vocabulary from teachers' lectures as the strategy is easy to follow so that I keep continuing in touch of listening the teachers”.

One of the teachers states,

“Most of the students of my class do not always understand lecture but with the growing confidence they can try to guess the meaning of the lecture and thus contributes to increasing vocabulary stock indirectly from lectures.”

7.7 Memorizing

It is found from the data that vocabulary is not explicitly taught in many second language classes. Learners are to memorize the vocabulary on their own without proper guidance because teachers are not interested to teach the vocabulary in the class. If teachers start teaching vocabulary in the context of Bangladesh, in most cases,

learners are demotivated to the class and for this, teachers technically avoid teaching vocabulary to the learners but they have indirect influences to teach their students providing homework including the sheet of a list of vocabularies to memorize at home. In the same case students are interested and dependent to memorize a certain number of words as per assigned by the teachers.

One of the students says,

"I always try to memorize vocabulary for my own sake and sometimes being pressurized by teachers though it is boring some to memorize a lot of words and at the same time it is difficult to remember the amount of vocabulary, I learnt but finding no other way, I just continue memorizing."

From FGD some learners opine that to face the challenges of English vocabulary learning, memorizing is a must, besides still, in our country in learning English, most of the learners depend on memorization strategy either in grammar learning or in composition writing. Still most of the learners follow the traditional approach in learning English and in this case vocabulary memorizing is a common practice. *"Large percentages of students were doubtful of many vocabulary learning strategies when they were in secondary school, and in university many remain hesitant about using different vocabulary learning methods other than memorization"*, stated by a teacher.

7.8 Listening Audio-Visual Materials

Listening audio helps the learners to be capable of learning vocabulary as the finding shows, most of the learners privilege that they have developed vocabulary learning through listening audio. Listening skill covers every section of language learning; especially huge improvement is possible in case of vocabulary learning because listening affects the listeners directly with the words systematically organized to form language. In this connection, one of the teachers says,

"Listening enriches vocabulary, pronunciation and grammar, after all contributes much to learning any language: Besides that, listening works at remembering new words, of course, speaking skill is constrained unless there is lack of good listening skill."

From FGD, students state that they listen to audio for increasing vocabulary and frequent listening not only gives them confidence but also provides them opportunities to handle with different words and phrases. One of the teachers asserts *"Listening audio is a good practice to grow more vocabularies of the learners and this has comparatively permanent impact in learning vocabulary"*.

7.9 Reading Billboard

From the data, it is found that majority of the learners get benefited in learning new vocabulary from bill board reading. Observing bill board or having a look over bill board can increase the vocabulary stock of a learner because in the subconscious mind, they look at the bill board and grab the words written on the board. One students asserts

"Bill board helps to learn vocabulary implicitly because on the bill board there is a combination of picture and words and seeing the picture, we can easily guess the meaning of the written words of the billboard."

It is also notified from FGD, a group of learners think that billboard contributes to remembering new vocabularies as billboard words are a kind of vocabularies which have ever lasting effect on the readers mind. However, incorrect spelling on the writing of billboard makes them confused.

8. Findings and Discussion

8.1 Listening Lectures, Contextual Reading and Bill board

Major Findings of the study show that teachers' lectures, contextual reading and bill board help to increase vocabulary of the learners. This study also reveals that contextual reading plays a very significant role in keeping vocabulary into students' mind as teachers' lectures, reading books and bill board bear the significance providing the contextual support to the learners in case of learning vocabulary. In this connection, research shows that words in context is highly effective to be placed in mind than they stand alone lists. Learning from conversation and from reading with context contribute a lot to developing vocabulary skills and the previous studies (Walters, 2004; Nation, 2001; Dubin 1993) support the present findings in the same manner at the same time, they all get emphasis on the development of vocabulary using context. But this study also finds bill board reading culture of the learners which is concerned to contextual reading. However, incorrect spelling on the writing of billboard makes students confused and sometimes incorrect spelling remains rooted in students' mind and they keep using in their practical life.

8.2 Watching movies, Listening Audio and Messaging on Social Platform

This study reveals that watching movie, listening audio, messaging on social platform play a great role in learning vocabulary as learners feel comfortable and subconsciously they can pick up the words for the real circumstances. Audio and video materials decrease students' fear of learning English and increase students' listening skill (Sultana & Ashrafuzzaman, 2016; Ehsan, Ashrafuzzaman & Das, 2013; Ashrafuzzaman, Babu & Begum, 2010). Watching movie not only gives the learners visual understanding of the words but also connects students to be with the listening of the frequency of the words so that movie watching and listening contribute to each other. Research shows that more proficient learners use a variety of vocabulary strategies, rather than depending exclusively on dictionaries (Gu & Johnson, 1996; Hulstijn, 1993; Zhang, 2001). Danan (2004) state that audiovisual materials are useful tools for learning vocabulary. The studies from Koskenin et al, (1985) as cited in Yuksel & Tanriverdi (2009), Akbulut (2007), Vanderplank (1988), state the importance of watching movie with subtitles and they all show in their studies that watching movie with sub-title makes the learners comparatively more focused in acquiring vocabulary. Social platform also contributes to learning vocabulary (Warschaur, 1995). On the other hand, code switching is frequently found due to the intentional use of the social platform.

8.3 Note-taking, Memorization, Using Dictionary

It is also found from that students foster note-taking and memorization to enrich their vocabulary. Dictionary memorization has become a common practice because most of the students depend on this strategy in learning vocabulary. Memorizing dictionary, and a list of selective words from the teachers or coaching center are also believed to be the proper way in learning vocabulary by the learners. In this regard, Nation (2006) and Harvey & Yuill (1997) show that there are many advantages actually learners can get from dictionary learning. However, Hulstijn (1993) states that advanced learners are sometimes reluctant to consult a dictionary if the meaning of the unknown word is easily guessed. In the same echo, Jan-Arjen Mondria (2003) states against traditional memorization that does not work due to lack of repetition and so forgetting is promoted. Now a days whenever students get any new word, instantly they search and learn vocabulary from mobile or computer applications dictionary.

9. Conclusion

Tertiary learners follow not only the traditional approach but also a number of techniques followed by the learners to be skilled in vocabulary. Besides, the strategies are meant to maintain a number of task related and self-selected activities of the learners so that they can be benefited with a variety of strategies to vocabulary learning, which will, no doubt, contribute significantly to students' vocabulary development. In addition to that, the materials which are to be used in order to enrich the vocabulary knowledge, get enormous positive impacts as the selected strategies with the vocabulary learning materials work together. Vocabulary learning is not confined to memorizing dictionary, rather a number of flexible approaches including contextual reading, using dictionary, using online platform, taking note, listening lecture, watching movie, audio and reading billboard are being practiced by the learners of the tertiary level in Bangladesh. Finally, vocabulary is the minimal part of a language but focuses on the whole system and function of a language and contributes to developing four skills of English language.

The Authors:

Md. Alaul Alam is working as a Lecturer in English Language, Prime University. Teaching, developing materials and conducting researches on language and linguistics are his prime areas of interest.

Md. Ashrafuzzaman is working as a Senior Lecturer in the Department of Education at Prime University. He is awarded MPhil degree in English language Education at Institute of Education and Research (IER), University of Dhaka (DU). He has also completed his B.Ed (Hons.) and M.Ed from IER, DU. He has been working for about eight years in the field of educational research with different organizations. He has conducted research on teachers' training program, underprivileged children education (sex worker, transgender and slum children), English language education, classroom practice, teaching methods and techniques, assessment and feedback practice and technology in education.

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LEVELS OF LANGUAGE ANXIETY TOWARD ENGLISH: A SAMPLE FROM DAVAO DEL NORTE

Annie Mae C. Berowa
Mindanao State University, Main Campus
annieberowa@yahoo.com.ph
annie_berowa@dlsu.edu.ph

Abstract. This study was conducted to provide insights on the levels of language anxiety experienced by learners of English as a second language (ESL) in Davao del Norte, Philippines. Additionally, it tried to determine the significant relationship between anxiety vis-à-vis gender and year level variables that could be influential factors in the success or failure in learning English. The data were obtained from 60 university students using a two-part questionnaire which contained Park's (2014) modified version of the 33-item Foreign Language Anxiety Scale (FLCAS). The results showed neutral level of language anxiety among the respondents in all areas. Furthermore, no significant relationship between English language anxiety vis-à-vis gender and year-level of the students was found. Since all the aspects that could provoke anxiety are kept to their adequate level, it could be a good indication of the learning and teaching environment of the students since neutral level of anxiety is believed to perform a positive role in keeping the motivation of the learners to maintain their efforts in language learning.

Introduction

Philippines is a linguistically, culturally, socially and religiously diverse country which is composed of 7,107 islands. In 2017, the Philippine Ethnologue reported that the country is the home of 187 individual languages. Of these Philippine languages, 183 are said to be living while the other 4 are already extinct (Lewis, Fennig & Simons, 2017). Additionally, 41 Philippine languages are already institutionalized, 72 are developing, 45 are vigorous, and 14 are sadly in trouble while 11 are already dying. From all these Philippine languages, the Department of Education (DepEd) identified 12 major languages to be used as a medium of instruction in the currently implemented Mother-Tongue Based Multilingual Education (MTBMLE) policy in the educational system of the country particularly in public schools. These languages include Tagalog, Kapampangan, Pangasinense, Iloko, Bikol, Cebuano, Hiligaynon, Waray, Tausug, Maguindanaon, Maranao, and Chabacano (DepEd, 2013).

However, it is the English language which is considered as the language of power and of progress in the country that has played a major role in the lives of the Filipinos in improving their socio-economic status and in achieving a much better life. In fact, it has become the lingua franca in the country even before the world treated English as such because of the country's great linguistic diversity (Wa-Mbaleka, 2014b). But even if it is highly valued because of its functional and practical use in the Philippines and in many countries around the world, learning the English language is still found to be very challenging since the process goes through complicated tasks that involves psychological as well as social factors (Berowa, 2016). In fact, a large number of investigations in the fields of English as a Second Language (ESL) and English as a Foreign Language (EFL) have emphasized the roles of different variables that could facilitate or impede language learning. It has been stressed that affective factors like language anxiety have an effectual role in language achievement and proficiency.

Anxiety performs an important role in the success of learning or the lack of it. Over the years, language educators have placed great interest in investigating language anxiety as it is believed to hamper learning (Elaldi, 2016). As claimed by Horwitz (2001), a significant portion of the total population of foreign language learners feels some level of anxiety. This may suggest that even Filipino ESL learners are not exempted from experiencing such anxiety.

Thus, this study was conducted to provide insights on the levels of English language anxiety among ESL learners in Davao del Norte, Philippines. Furthermore, it explored the gender and year-level variables that may predict English anxiety that could be significant in the success or failure in learning the target language. Moreover, the author hopes to provide an additional resource to the very limited literature about the topic which examined those students who come from Mindanao.

1.2 Review of Related Literature

The idea of language anxiety is illustrated as the emotive reaction and the fear that is stimulated when one learns or uses a target language (MacIntyre, 1998 as cited in Zheng, 2008). Anxiety is seen to be a very prevalent phenomenon in the acquisition and learning of a language which is found to be a negative variable (Elaldi, 2016). Since there is a high possibility that it may hinder the attainment of the fundamental aim in language learning, researchers have conducted several studies to discover the different causes of anxiety in order to properly address its occurrence.

It was in 1986 when Horwitz, Horwitz and Cope made an important notion to theorize and to measure anxiety in language learning. They maintained that factors like apprehension in communication, anxiety to a test and fear to be negatively evaluated play great roles in creating anxiety in the context of target language learning. From this investigation, a thirty-three item Foreign Language Anxiety Scale (FLCAS) was formulated that was also thought to be the most vital aspect of the study. In the analysis, the FLCAS instrument was able to show that a significant level of language anxiety affects the performance of the students in learning the second language. In spite of this result, the authors failed to identify the most influential factor of anxiety.

Since the creation of the anxiety model of Horwitz et al. in 1986, the framework has been constantly challenged by the researchers in the different contexts. Aside from seeking the vital factor that contributes to language anxiety in which the three-factor model failed to identify, several investigations were also carried out to test the validity of the FLCAS.

1.2.1 English language anxiety among university students

One of the investigations that aimed to test the validity of the proposed anxiety model of Horwitz et al. in language learning was made by Aida in 1994 that involved 96 students in the university who were learners of the Japanese language in the University of Texas, USA. It was an exploratory study that was meant to know the core structure of the FLCAS and to investigate whether the structure mirrors the three kinds of anxiety that were previously distinguished or otherwise. Furthermore, the research was aimed to assess the reliability of the FLCAS instrument and to show the relationship between the levels of anxiety of the students and their performance in Japanese. Based on the analysis of the data gathered, it was found that the adapted FLCAS was highly reliable with regard to evaluating the level of anxiety level among learners in the university who were learning the Japanese language. It was also discovered that anxiety associated to tests was established only in the aspect of learning in general but not in a more specific area just like in foreign language learning. The author further asserted that the test factor must be eliminated as this component was not supported based on the results of the study in contrast to the claim previously made. Such results lead the researcher to devise a model of anxiety which included the fear of being negatively evaluated, the fear of experiencing failure in the class, the degree of comfort in speaking with native speakers, and the attitude toward the class which is negative. The researcher also added that anxiety toward speech and the fear to be negatively evaluated are the components found to be part of the cause of anxiety.

Another research was made in 1999 by Cheng, Horwitz and Schallert who explored the relationship between anxiety toward classroom and writing in the target language and tried to know their connections to their achievement in writing and speaking. It was conducted in the four universities in Taiwan in which 433 English major students took part as participants. For the instrument, a modified FLCAS questionnaire was used to gather the data along with the adapted SLWAT. The instrument was translated to Chinese and the pilot test was conducted before the research was formally performed. The results indicated that anxiety in classroom and writing in the target language are two independent but related constructs. Furthermore, it was illustrated that classroom anxiety is an overall type of anxiety which is relevant to the speaking task in the target language while in writing, anxiety was seen to be specific in the language skills. Nevertheless, the study was able to demonstrate that self-confidence which is low appeared as a vital aspect of anxiety both in speaking and writing.

In the context of the Philippines, Mamhot, Martin and Masangya (2013) conducted a comparative study on the language anxiety of Filipino ESL and EFL learners from two (2) institutions based in the Philippines. The study aimed to determine the language anxiety as experienced by both groups of learners and to discover the causes and effects of these anxieties. The investigation included a total of 40 respondents where there were 20 ESL and 20 EFL students. The data were gathered through a two-part questionnaire in which one contains the 33-item FLCAS developed by Horwitz et al. (1986) while the other part comprises a 2-item questionnaire adapted from Williams and Andrade (2008). The results showed that Filipino ESL learners have neutral level of language anxiety while the fear of negative evaluation in the area of low self-perceived linguistic competency was displayed. As regards EFL learners, they reported no level of language anxiety. In the end, both groups expressed they are the one responsible for the language anxiety that they experienced.

1.2.2 Anxiety vis-à-vis gender and year-level

In 2001, Kitano investigated the anxiety toward foreign language among university students enrolled in Japanese language in the context of the United States. The study aimed to examine two (2) potential sources of anxiety of the students in Japanese oral tasks. These identified sources include the individual students' fear of negative evaluation and the self-perceived speaking ability. A survey was conducted that included 212 students in Japanese courses. It was found that the individual student's anxiety was higher as his or her fear of negative evaluation was stronger, and the strength of this tendency is dependent on the instructional level and experience of going to Japan. Additionally, an individual student's anxiety was higher as he or she perceived his or her ability as lower than that of peers and native speakers. Also, male participants reported higher level of anxiety as compared to females and that anxiety was stronger for advanced-level students than those students from intermediate and elementary levels.

Still on language anxiety, Matsuda and Gobel (2004) investigated anxiety in classroom and reading, and explored gender, classroom performance, and overseas extended experience variables. The study was accomplished in a Japanese university in Kyoto that was joined by 252 students from the English classes of the first semester. The year level of the students was represented through random sampling by year level. There were 89 first-year students, 85 second-year and 78 third-year participants respectively. The students had mixed-English proficiency levels that ranged from beginner to high intermediate. For the instruments, FLCAS and FLRAS were employed to determine the anxiety self-reports of the students that could either be influenced by different aspects of reading or by anxiety in the foreign language class in general. The MANOVA was employed to analyze the data. The results of the study demonstrated that self-confidence in the use of English was significantly influenced by the ability to travel abroad. This means that lower anxiety level was found among students who had gone abroad. It was also found that among first year students, self-confidence, gender, and proficiency performed vital roles in their actual performance in the classroom. However, unlike the other studies, gender was not found to be significant as to its effect on the overall reading/general anxieties, although among first year students, gender was discovered to be one of the vital elements in achieving language learning success. Moreover, it was shown that self-confidence when one speaks the English language was a predictor in the performance of the female participants for the content courses and in the four skills which are basic language learning.

Apart from the university students, the conception of second language learning anxiety was also examined among high school students. Na (2007) explored the level of anxiety experienced by high school students in China who were learners of English as a foreign language (EFL). The researcher surveyed the participants that involved 115 students from Shandong. The instruments employed included a questionnaire and an achievement test to gather the data necessary to attain the aims of the investigation. The questionnaire, the Chinese version of FLCAS, was used to collect the demographic information of the students and the English language anxiety they encountered. The participants were found to possess level of English learning anxiety which is high and it was the males who were found to have higher anxiety toward English classes. In the end, the researcher claimed that high level of anxiety somehow hindered the language learning of the students.

The English language anxiety among students was also explored by Elaldi (2016) in Turkey. Aside from exploring the anxiety of the English learners, the research also compared the anxiety experienced by the students when they were in the preparatory class and when they were already in fourth grade. Additionally, it also tried to determine if gender variable influence language anxiety. Through the use of FLCAS questionnaire, it was found that students have moderate level of anxiety both in preparatory and fourth grades. It was also illustrated that the anxiety of the students increased as they advance to higher level. Moreover, the results showed that males were found to have higher language anxiety as compared to the female participants.

From the trends in language learning anxiety research, there is an indication that different factors contribute to anxiety from one context to another. This means that one cannot exactly determine the factors that may predict language anxiety in various language communities. Thus, the theoretical model devised by Horwitz et al. in 1986 cannot be always found to be truthful as shown in the previous studies and it should not be taken as one size fits all anxiety predictors. Some language learners may likely suffer anxiety in the second language while some may suffer anxiety depending on the language skill that has to be performed. The literature discussed also showed that gender and the year level of the students play a part in the anxiety experienced in language learning.

However, it must be emphasized that previous research projects had participants who were mostly learning intensive English courses and appeared to be homogenous in terms of linguistic backgrounds. Less is known as to the factors that may predict the anxiety among second language learners of English in a multi-cultural context.

Thus, the researcher of this current study believes that it would be interesting to discover the levels of English anxiety of the participants in diverse environment, particularly in Davao del Norte in the Philippines, where students come from extremely different linguistic, social, cultural and religious backgrounds.

1.3 Research Questions

This study aimed to determine the levels of English language anxiety of the students from Tagum City, Davao del Norte in the Philippines. Specifically, it tried to answer the following questions.

1. What are the levels of anxiety of the respondents toward English based on gender and year-level?
2. Is there a significant relationship between the levels of English language anxiety and the gender of the respondents?
3. Is there a significant relationship between the levels of English language anxiety and the year-level of the respondents?

1.4 Theoretical Framework

This study is anchored on the Foreign Language Anxiety Theory as postulated by Horwitz, Horwitz and Cope in 1986. Horwitz et al. (1986) provides that language anxiety is composed of and a combination of the following components: communication apprehension, test anxiety and fear of negative evaluation. The first component pertains to the anxiety experienced by the students when they communicate with the use of the target language to others. Additionally, the second component refers to the concept of fear in taking the examination, while the third component concerns the worry of the students that they may be misunderstood. It has been frequently argued by Horwitz et al. (1986) that anxiety toward a language happens in a particular situation. Thus, a language learner may experience anxiety every time he/she speaks with fellow students, or when talking to teachers of native speakers of the language. It is also possible that students feel uneasiness during class recitations, reports, presentations or dialogues among others.

The theory of Horwitz et al. (1986) is used to analyze the anxiety level of the respondents for this present study.

Methodology

The study employed a quantitative research method to investigate the levels of English language anxiety of the ESL learners from Tagum City, Davao del Norte, Philippines. The quantitative method was an appropriate research approach since it involves the measurement of the data gathered to examine the levels of English language anxiety of the respondents and to discover the significant relationship between the respondents' anxiety vis-à-vis gender and year-level. The data were collected through a questionnaire that reflects the thirty-three item Foreign Language Anxiety Scale (FLCAS) which uses a five-point Likert scale adopted from Park in 2014.

This study was conducted in a university in Tagum City, Davao del Norte, Philippines. The setting was chosen since it is the largest university in the locality that is assumed to have students from different backgrounds linguistically, culturally, socially and religiously that could provide a good representation of the tri-people from Mindanao. The investigation included 60 undergraduate students, 30 males and 30 females, who were enrolled in the different degree courses in the university who were chosen through systematic sampling method. From the number of respondents, each level from second to fourth year were represented by 20 students.

To obtain the necessary data, the researcher made use of a two-part survey questionnaire. The first part was intended to collect personal information about the participants such as gender and year-level. The second part was on the purpose of gathering the data on language anxiety using the 33-item *Foreign Language Classroom Anxiety Scale* (FLCAS) adapted from Park (2014). The scale is a self-report measure of the learner's feelings of anxiety as a specific reaction to English language learning as a second language in the classroom (Wang, 2010). From the 33 statements which are found in the FLCAS, different statements pertain to different components that could provoke English language anxiety as shown in Table 1.

Table 1

Statements in the FLCAS based on different components

| Area | Number | Statement |
|------------------------------------|--------|--|
| Communication | | |
| Anxiety | | |
| | 1 | I never feel quite sure of myself when I am speaking in my English class. |
| | 9 | I start to panic when I have to speak without preparation in English class. |
| | 14 | I would not be nervous speaking English with native speakers. |
| | 18 | I feel confident when I speak in English class. |
| | 24 | I feel very self-conscious about speaking English in front of other students. |
| | 27 | I get nervous and confused when I am speaking in my English class. |
| | 29 | I get nervous when I don't understand every word the English teacher says. |
| | 32 | I would probably feel comfortable around native speakers of English. |
| Test Anxiety | | |
| | 2 | I don't worry about making mistakes in English class. |
| | 8 | I am usually at ease during tests in my English class. |
| | 10 | I worry about the consequences of failing my English class. |
| | 19 | I am afraid that my English teacher is ready to correct every mistake I make. |
| | 21 | The more I study for an English test, the more confused I get. |
| Fear of Negative Evaluation | | |
| | 3 | I tremble when I know that I'm going to be called on in English class. |
| | 7 | I keep thinking that the other students are better at English than I am. |
| | 13 | It embarrasses me to volunteer answers in my English class. |
| | 15 | I get upset when I don't understand what the teacher is correcting. |
| | 20 | I can feel my heart pounding when I am going to be called on in English class. |
| | 23 | I always feel that the other students speak English better than I do. |
| | 25 | English class moves so quickly, I worry about getting left behind. |
| | 31 | I am afraid that the other students will laugh at me when I speak English. |
| | 33 | I get nervous when the English teacher asks questions which I haven't prepared in advance. |

As regards the other 11 remaining items, they were put in a group which was named anxiety of English classes (Na, 2007) as the following statements found in Table 2.

Table 2

Statements in the FLCAS grouped as anxiety of English classes

| Number | Statement |
|--------|---|
| 4 | It frightens me when I don't understand what the teacher is saying in the foreign language. |
| 5 | It wouldn't bother me at all to take more foreign language classes. |
| 6 | During language class, I find myself thinking about things that have nothing to do with the course. |
| 11 | I don't understand why some people get so upset over foreign language classes. |
| 12 | In language class, I can get so nervous when I forget things I know. |
| 16 | Even if I am well prepared for language class, I feel anxious about it. |
| 17 | I often feel like not going to my language class. |
| 22 | I don't feel pressure to prepare very well for language class. |
| 26 | I feel more tense and nervous in my language class than in my other classes. |
| 28 | When I'm on my way to language class, I feel very sure and relaxed. |
| 30 | I feel overwhelmed by the number of rules you have to learn to speak a foreign language. |

The FLCAS uses a 5-point Likert scale with 33 items, ranging from strongly agree (5) to strongly disagree (1). Total anxiety scores for the scale range from 33 to 165 points. While the answer *strongly agree* (5) indicates high level of anxiety, *strongly disagree* (1) indicates low level of anxiety that students feel (Horwitz, 2008). As reported by Park (2014), the Cronbach's coefficient alpha of all 33 items in the FLCAS was .93 which is excellent. Thus, the instrument is a valid and a reliable scale that has been consistently used in various studies to measure anxiety.

The data gathered through the use of the questionnaire were then coded. For gender, male is coded as 1 while female is coded as 0. With regard to the year level of the respondents, 1-first year, 2- second year, 3-third year, and 4-fourth year. The statements were anxiety coded based on the scale of 1-5. The null and alternative hypotheses were formulated in this study.

A. English language anxiety and gender

Null Hypothesis:

H₀= There is **no significant relationship** between the English language anxiety of the respondents vis-à-vis gender.

Alternate Hypothesis:

H₁= There is **a significant relationship** between the English language anxiety of the respondents vis-à-vis gender.

B. English language anxiety and gender

Null Hypothesis:

H₀= There is **no significant relationship** between the English language anxiety of the respondents vis-à-vis year level.

Alternate Hypothesis:

H₁= There is **a significant relationship** between the English language anxiety of the respondents vis-à-vis gender.

For the statistical analysis of the data, *mean* was used to determine the levels of English language anxiety of the respondents. After the mean and the standard deviation were determined for each statement, the interpretation was based on the following scheme.

Table 3
Mean interpretation

| Mean | Interpretation |
|-----------|----------------|
| 4.20-5.0 | Very High |
| 3.40-4.19 | High |
| 2.60-3.39 | Neutral |
| 1.80-2.59 | Low |
| 1.0-1.79 | Very Low |

Additionally, *Pearson r correlation* was employed to determine the significant relationship between English language anxiety and gender and year level, the.

Results and Discussion

3.1 Level of Anxiety toward English language

The overall mean of all the level of English anxiety among the respondents is as shown in Table 4 is 3.0518 while the standard deviation is 0.17746 which implies that these university students experience neutral level of anxiety toward English language.

Table 4
Levels of English anxiety among respondents

| Item | Mean | Standard Deviation | Description |
|----------------|---------------|--------------------|----------------|
| 1 | 2.90 | 0.933 | Neutral |
| 2 | 3.10 | 1.085 | Neutral |
| 3 | 3.02 | 0.948 | Neutral |
| 4 | 2.85 | 1.039 | Neutral |
| 5 | 3.35 | 0.899 | Neutral |
| 6 | 2.92 | 1.094 | Neutral |
| 7 | 3.30 | 1.109 | Neutral |
| 8 | 3.10 | 0.817 | Neutral |
| 9 | 3.27 | 0.821 | Neutral |
| 10 | 3.22 | 1.059 | Neutral |
| 11 | 3.00 | 0.921 | Neutral |
| 12 | 3.02 | 0.930 | Neutral |
| 13 | 2.67 | 0.857 | Neutral |
| 14 | 2.98 | 0.892 | Neutral |
| 15 | 2.96 | 1.006 | Neutral |
| 16 | 3.33 | 1.036 | Neutral |
| 17 | 2.62 | 1.091 | Neutral |
| 18 | 2.95 | 0.999 | Neutral |
| 19 | 3.00 | 1.193 | Neutral |
| 20 | 3.17 | 0.924 | Neutral |
| 21 | 2.85 | 1.039 | Neutral |
| 22 | 2.97 | 0.843 | Neutral |
| 23 | 3.20 | 0.971 | Neutral |
| 24 | 3.10 | 0.896 | Neutral |
| 25 | 3.15 | 0.917 | Neutral |
| 26 | 2.92 | 1.030 | Neutral |
| 27 | 2.98 | 1.000 | Neutral |
| 28 | 2.98 | 0.725 | Neutral |
| 29 | 3.15 | 0.917 | Neutral |
| 30 | 3.35 | 0.860 | Neutral |
| 31 | 3.15 | 1.055 | Neutral |
| 32 | 3.03 | 0.823 | Neutral |
| 33 | 3.18 | 0.892 | Neutral |
| OVERALL | 3.0518 | 0.17746 | Neutral |

Note: Scale: 1.0-1.79= Very Low; 1.8-2.59= Low; 2.6-3.39=Neutral; 3.40-4.19=High; 4.20-5.0= Very High

As clearly shown in Table 4, respondents experience certain level of anxiety toward English. Although there are variations, the mean of each statement and the overall mean results generally suggest that respondents have neutral level of English language anxiety. The findings largely differ from the previous investigations which recorded either high or low language anxiety (Horwitz et al., 1986; Aida, 1994; Cheng et al, 1999). Instead, the result appears to be consistent with the findings made by Mamhot et al. (2013) that Filipino ESL students generally do not acknowledge nor deny that they feel certain level of anxiety toward the English language. Similar to their finding, the respondents of this investigation provide the impression that they have adequate level of anxiety, not high but not also low. This could be a very good indication since according to Na (2007), the real task of English teachers is to provide students with just enough level of anxiety in learning the English language. Such adequate amount of anxiety plays a significant role in keeping students' motivation and in maintaining their efforts in the target language learning. With this, teachers should not try to completely help students to get away from English anxiety.

The anxiety as reported by these students from Mindanao may be influenced by different factors. Horwitz et al. (1986) provide that foreign language anxiety is caused by communication apprehension, test anxiety and fear of negative evaluation. As they argued, communication apprehension happens when the learner is challenged not only in speaking but also in comprehending messages from the other. In the context of the present study, it could be possible that respondents do not find the use of English to be very or less difficult particularly in oral communication activities. It is very likely that they have enough self-confidence as they do not seem to show extreme anxiety or confidence when they need to communicate with people especially that English oral communication subject performs dyadic interaction, group discussions and even public speaking. This line of argument is supported by the statements referring to the aspect of communication anxiety in the FLCAS just like statement number 1 that goes *"I never feel quite sure of myself when I am speaking in my English class"* in which neutral level is reported.

Furthermore, it was theorized that anxiety is predicted to happen during language test when there is fear of negative evaluation. As asserted by Horwitz et al. (1986), test anxiety happens when students fear of getting a failing grade or that they could not achieve unrealistic expectations. Based on the scores, the students may have maintained neutral level of anxiety as they may not have erroneous expectations and beliefs about language standards during test or language tasks that are identified to bring the feeling of anxiety among second language learners. As evident in statement number two (2) that pertains to test anxiety, *"I don't worry about making mistakes in English class,"* it could be speculated that these learners do not feel extremely anxious or otherwise as they have been exposed to the language since childhood. They have been learning the English language and probably been into different communication interactions with teachers and classmates that in turn, allow them to feel neutral toward English language learning situations (Mamhot et al., 2013).

As regards fear of negative evaluation, Elaldi (2016) explained that it happens when high expectations and standards are set as learners communicate and speak in public. The fear of not meeting these expectations worries the students that would tend to hinder their learning process. In this investigation, it seems that students hold tolerable level of fear as seen on the mean results of the statements pertaining to negative evaluation such as in statement number three (3) that says, *"I tremble when I know that I'm going to be called on in English class."* It could be possible that students have friendly classroom and learning environment where teachers and peers are supportive, and where language evaluation are done in a constructive manner, and activities are encouraging that do not provoke high or low anxiety. As asserted by Na (2007), the more friendly and informal the language classroom environment becomes, the less likely it causes anxiety.

Still on English anxiety, previous studies illustrated that gender variable was found to predict the level of anxiety among ESL learners. However, the current study shows otherwise as both gender groups reported the same level of language anxiety toward English as presented in Table 5. The results show that the mean score of language anxiety among female students is 3.0737 while males reported 3.0292. Although females appear to have higher mean scores, results from both gender groups are similarly interpreted as neutral.

Table 5
English anxiety by gender

| Gender | Mean | Standard Deviation | Interpretation |
|--------|--------|--------------------|----------------|
| Female | 3.0737 | 0.43534 | Neutral |
| Male | 3.0292 | 0.27619 | Neutral |

As described in Table 5, the results point to the same direction as both male and female research participants are found to have adequate level of English language anxiety. This finding disputes numerous investigations in the past as cited in this study that overwhelmingly assert that males have higher level of anxiety toward English as compared to females (Kitano, 2001; Matsuda & Gobel, 2004; Na, 2007; Elaldi, 2016). Females have always been regarded as more adept in language learning than males as they have been found to achieve higher score in English exams than males (Cui, 2011). With such trend in English language performance, it is assumed that females are more confident in learning the language and they are more ready in approaching threatening situations in language learning. As a result, females are less anxious than the males.

However, such is not the case in this research as male and female respondents have shown the same level of anxiety. This may be due to the fact that they have somehow shared almost the same experience and knowledge about English especially that all of them come from the same school. In the study of Kitano (2001), it was found that Japanese male students had higher anxiety as they view their spoken Japanese competence to be less than the others that was not actually experienced by females. In this context, male and female respondents possibly share the same language competencies, perception and motivation in learning English language competencies that might have influenced the same level of anxiety regardless of gender.

Aside from gender, the aspect of year-level was also explored to determine the level of language anxiety toward English among the respondents. As illustrated on Table 6, the year-level of the students do not generate different results.

Table 6
English anxiety by year-level

| Year-Level | Mean | Standard Deviation | Interpretation |
|------------|--------|--------------------|----------------|
| 2 | 2.8139 | 0.24605 | Neutral |
| 3 | 3.0879 | 0.46655 | Neutral |
| 4 | 2.9394 | 0.22734 | Neutral |

The respondents of this study from different year-level yield similar results in relation to English language anxiety as shown in Table 6. All the students reported a neutral level of language anxiety regardless of their academic standing. These findings are inconsistent with the previous investigations that illustrate an increase of anxiety as the learner advances to higher level of study (Kitano, 2001; Aydemir, 2011; Liu, 2006; Elaldi, 2016). According to Kitano (2001), the level of anxiety toward foreign language learning tend to increase as the students progress to advanced-level because they may fear the possibility of being negatively evaluated more strongly by their teachers and peers as compared to the those in the lower levels. The same line of argument was presented by Elaldi (2016) who revealed that language anxiety in foreign language of the students progressed from preparatory to grade four. These researchers maintain that the increase of language anxiety among students as they progress to higher year-level is associated with the belief that their additional knowledge in English might increase the chances of noticing their own errors in speaking that will make them more anxious.

Another assumption that is offered for such increase of anxiety has something to do with the expectation that their teachers in the higher level may not be as considerate as those in the lower level. It is very likely for students to feel more anxious as teachers may become stricter and less generous with praise than teachers in the lower level, and that also increase their fear of being negatively evaluated in the advanced level. In contrast, Liu (2006) maintained that there is a decrease of the level of English language anxiety as one increases proficiency and learning experience that can happen as the learner proceed to higher year level.

However, the result of this research in relation to the year-level of the respondents cannot support these previous findings since this study offers a different perspective. As shown in the table above, there are no variations as to the anxiety experienced based on the year-level of the students. This means that the year-level of the students do not show an increase or a decrease of language anxiety instead, the level of anxiety is being maintained. Although they feel anxious, such similar results from different year-levels could be attributed to their almost similar knowledge, experience and exposure to the target language. The situations that encourage anxiety in language learning as mentioned in the previous studies might have been felt by these students, but it appears that they are able to maintain just an adequate level of anxiety which is evident in the mean scores.

3.2 Significant relation between English anxiety and gender

The Pearson *r* Correlation analysis was carried out to determine if there is a significant relationship between anxiety and gender. The result of the correlation analysis is illustrated in Table 7.

Table 7
Correlation of English anxiety vis-à-vis gender

| Variables | | <i>p</i> -value | Interpretation |
|-----------|--------|-----------------|-----------------|
| ANXIETY | Gender | 0.639 | Not Significant |

As presented in Table 7, the correlation analysis indicates that the *p*-value is 0.639 which is greater than the alpha (0.05). Therefore, the NULL hypothesis (H_0) should not be rejected. This implies that there is no significant relationship between English language anxiety and the gender of the respondents. This finding supports the investigation made by Matsuda and Gobel (2004) who advocated that gender was not significant in relation to the gender of the Japanese university respondents. This means that gender variable does not determine the level of English language anxiety of the respondents because, as previously mentioned, both gender groups have the same level of anxiety. It could be a possibility that anxiety is not determined by the gender of the learners as they may have the same level of experience, exposure and knowledge as regards English language that explains the result.

3.3 Significant relation between English anxiety and year-level

Aside from gender, Pearson *r* Correlation was also employed to determine the significant relationship between English anxiety and the year-level of the respondents. As shown in Table 8, consistent result is generated as compared to gender variable.

Table 8
Correlation of English anxiety vis-à-vis year-level

| Variables | | <i>p</i> -value | Interpretation |
|-----------|------------|-----------------|-----------------|
| ANXIETY | Year-level | 0.270 | Not Significant |

Table 8 shows that the correlation analysis between English anxiety and year-level has the *p*-value of 0.270 which is greater than the alpha (0.05). Therefore, the NULL hypothesis (H_0) should not be rejected. This implies that there is no significant relationship between English language anxiety and the year level of the respondents. This means that the year level of the students does not have anything to do with the level of their English language anxiety. In line with this idea, the present study provides that as an individual proceeds to an advanced level, it does not mean that their anxiety would also increase or decrease. The students may have perceived and approached English language learning similarly regardless of the year level.

Thus, the results of this current research generally dispute previous findings that second language learners of English experience high anxiety as influenced by gender and year-level variables.

Conclusion

This study illustrates that ESL learners from the south tend to maintain enough self-confidence and balanced emotions toward English language learning. It appears that their anxiety is just enough for them not become very anxious nor very relaxed that may actually prevent them from achieving the ultimate success in their language learning. It is very likely that they are able to handle communication tasks, tests and evaluations in relation to English fairly well that resulted to an adequate amount of anxiety. It gives the impression that their peers, teachers, administrators, curriculum and institution are welcoming and understanding. In line with this, it seems that the people and the institution involved in their language learning are doing a good job in just keeping the right amount of anxiety.

Although speculations are the only option that could be provided in this study, this investigation sustains the assertion that the respondents experience certain level of anxiety. Nevertheless, all aspects that could provoke

anxiety are kept to their adequate level that seems to provide a very good indication of their learning and teaching environment. As Na (2007) believes, neutral level or adequate level of anxiety performs a positive role in keeping the motivation of the learners to maintain their efforts in language learning.

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PERCEPTIONS, PRACTICES, AND GUIDING PRINCIPLES OF PRE-SERVICE TEACHERS IN THE QUEST FOR NEWS AND INFORMATION ACROSS INFORMAL MEDIA

Slimane Aboukacem

Sam Houston State University, Huntsville, Texas, USA
sxa066@shsu.edu

Lory E. Haas

Sam Houston State University, Huntsville, Texas, USA
Corresponding author: Slimane Aboukacem ()

Abstract: The means to access and produce news through social/informal media is ubiquitous. Factors such as the abundance of information coupled with heavy reliance of information and news browsers on the Internet raise dilemmas of trust and credibility. Additionally, the news ecology of today is characterized by rapid news dissemination and subsequent opinion sharing about news stories; hence, finding the true piece of information may be a tedious endeavor. Today more than ever before, the 21st century citizen needs news and information literacy skills to collect, analyze, and synthesize credible information in order to exercise good citizenry. This survey study targeted 124 preservice teachers from a mid-southwest university in Texas, USA, to explore the defining traits of their online news media literacy knowledge and experiences while questing for information. Results revealed a lack of knowledge about news media and information literacy. A disconnect between preservice teachers' beliefs and practices was discerned, especially amid what we refer to as the influencing powers of media and news consumption. Additionally, exploration of responses to survey items revealed three underlying themes of perceptions, practices, and guiding principles which inform the individual's personal media ecology.

Keywords: preservice teachers, news media literacy skills, social media, personal media ecology

Introduction

The rapidly changing media landscape has made access to means of production and communication immediate, virtually at one's fingertips. Social media users are estimated to reach 2.67 billion by 2018 (Statista, 2017). We are likely witnessing a point in human history where people hunger for information more than ever before and encounter information more than needed. Information overload! Postman (2008) commented, "We have transformed information into a form of garbage and ourselves into garbage collectors" (p. 76). In this age of informal/social media (Facebook, YouTube, Instagram, Snapchat, Twitter, etc.), our understanding and critical thinking skills are contingent upon how far we understand how various informal media platforms work. Schmidt et al., (2017) analyzed news attitudes of 376 million Facebook users over 6 years and found that users are selective and restrictive in consuming the news as a result of their preferences. Online news is attractive for its accessibility and aesthetics. According to Bohn and Short (2009) the average American spends roughly 11.8 hours a day questing for information with 11.2 hours spent on digital media. Today, to be informed and constantly connected is to be alive.

Informal/social media played a tremendous role in shaping online communities based on opinion and shared interest (Flangin & Metzger, 2008), along with factors such as the presence of friends and family which influence news consumption and sharing (Weeks & Holbert, 2013). Social media has also enabled the general public to limitlessly access a myriad of news sources with the capability to voice their opinions, raw thoughts (Flangin & Metzger, 2008), produce, and disseminate content. When it comes to news, college students were found to use social media, primarily Twitter, as their source of breaking news (Tandoc Jr & Johnson, 2016). The digital age has scattered news and content across multiple media (Chock, Wolf, Chen, Schweisberger, & Wang, 2013); hence, sifting through information in its multimodality, to find the true piece of information, requires a serious skill. The fluidity of information movement and aesthetics used by social media and news aggregators make news appealing to the users (Lee & Chyi, 2015), but they also raise the dilemmas of source reliability, trust, and believability (Cooke, 2017).

Literature Review

The Millennials' News Consumption Profile

The infamous Millennials were born during the burst of the computer and technology era. "Millennial [s] [have] been connected to digital media resources and the Internet for much, if not all, of their lives" (Schmidt, 2012, p. 55). Compared to other generations, the Millennials have different educational and social tactics when it comes

to seeking information and news. In a survey study conducted by the Pew Research Center, 81% of Americans access news online compared to only 12% twenty years ago. In addition, 84% of individuals aged 18-29 access news through some form of social media (Mitchell, Gottfried, Barthel, & Shearer, 2016). Another Pew report (Gottfried and Shearer, 2016) found that of social media users, 64% get news from one site, mostly Facebook, and 26% use two social media platforms. In the same report, 63% and 62% of Instagram and Facebook users respectively reported that they receive news accidentally while doing other social activities; however, Reddit, Twitter, and LinkedIn roughly share the same portion of users who purposefully seek news and those who acquire news by chance.

Key findings from another survey study (Mitchell, 2016) of the same center described the “modern news consumer” to equally trust the online news produced by major news organizations and that shared by family or friends. Although 62% of Americans acquire news from Facebook, the number of users who actually trust the news remains shallow and placed at 4% (Fletcher, Radcliffe, Levy, Nielsen, & Newman, 2014; Mitchell, 2016). This, however, is not typical to the U.S. population per se. Moeller, Powers, and Roberts (2012) posited that college students from all over the world, to a certain extent, use social media to find information with some sort of mobile devices. Furthermore, it is universally acknowledged that young people prefer to seek news online rather than print (Fletcher, Radcliffe, Levy, Nielsen, & Newman, 2014).

News and Participatory Media

The other facet of digital media and news literacy is news production—motivated by the availability and easy access to means of production. This phenomenon so called “crowdsourcing” (Frechette, 2016), or “prosumers” (Seizov, 2016), where individual spectators use their own devices to record and share their stories, has taken momentum in the connected world. To live is to photograph and be photographed (Kember & Zylinska, 2012). The recent Florida high school shooting has shown examples of civic journalism wherein “professionals fail, the crowd will deliver” (Seizov, 2016, p. 171) with photographs, recorded text messages, and videos. Schmidt (2012) remarked in his survey study that college students receive less training in mediated message production, and that digital natives may be “native only to a very limited subset of technologies” (p. 56). It follows, therefore, that both news producers and consumers (media users/prosumers) need to learn about the principles of mediated message construction and decoding (Seizov, 2016). An ideal functioning of democracy requires informed citizens about news production and economy. A recurrent theme of conversation is the clash between unreliable news, citizen journalism, media literacy, and democracy (Cooke, 2017; Figueira & Oliveira, 2017; Mihailidis & Viotty, 2017; Miller, 2010).

Producing media and investigating its credibility used to be the primary role of a journalist. Today, new media has empowered the individual citizen to take on the role of watchdogging and gatekeeping of his/her own news and information. The transformation of information in networked media ecologies has expanded the scope of news workers to include almost every user of social media. James Potter (2005) alarmed that “news is not a reflection of actual events; it is a construction of news workers who are subjected to many influences and constraints” (p. 101). Equally important, the impact of social media on any society, be it positive or destructive, rests not only upon the Web 2.0 technologies, but on the social media literacies of its users as well (Rheingold, 2008).

Trust and Credibility of News

We need news! Seeking information is entertaining, especially when using mobile technologies. However, the age of information surplus has brought dilemmas to the front: fake news or disinformation. Over a decade ago, Colbert (2005) introduced the term “truthiness” with an intention to warn the public of media users from gobbling information that appeals to one’s emotions and not to one’s reason. Today, in the post-truth era, news travels in a blink of an eye and mainly for click-profit. The problem is not just about the news being fake. It is a multifaceted issue of sharing without verification, the constant fear of missing news and information, echo chambers, confirmation bias, and lack of news literacy skills on the part of media users (Waldrop, 2017). How to combat fake news may be out of the scope of this research, but it is important to consider the initiatives put together by media organizations and different researchers using machine learning solutions (for more information, see Figueira & Oliveira, 2017).

Educational and teacher professional development could tremendously help the students and the community to be evaluative of the media they consume. Designing courses and material that sustains critical thinking and open-questioning of information can help bring about well-informed citizens with sharp skills to spot erroneous information (as an example of a news literacy curriculum, see Fleming, 2014). Without a solid news literacy education curriculum, social media platforms would eventually be able to see and assess the world for us. To civically participate in a modern society requires the ability to independently select and assess credible news

(Silverblatt, 2008). Not only that, but also being able to critically reflect on “the expertise or viewpoints of people contributing to the information [we] are accessing . . . the design of applications, databases, search algorithms, and web pages” (Stoddard, 2014, p. 1-2). This was substantiated in a study conducted by Damico and Panos (2016) which examined the news literacy skills of 66 preservice teachers and how they assessed different websites on climate change—a truly controversial topic. The findings showed a lack of critical evaluation skills and only a slight change of the students’ opinion by the end of the study.

Another Influence of Trust

Reading news online and across social media has no guarantee of truth. The authority of the text is hard to investigate, and critical consumption is one core of social media literacy (Rheingold, 2010). Research has shown that college students are less likely to independently assess the news source credibility (Ashley, Lyden, & Fasbinder, 2012; Damico & Panos, 2016; Dyer, 2017). In her study, Elia Powers (2016) found that U.S. college students from various disciplines tend to outsource the prophecy of finding and evaluating news to people in their digital network, and alarmingly, often to the detriment of their own critical thinking. Among her key takeaways, students tend to allocate quick credibility judgement to branded news companies. An opinion leader (Powers 2014; Rogers, 2003) or an authority of trust (Francke, Sundin, & Limberg, 2011) could be a family member, a friend, a colleague, or other individual with influence. Opinion leaders exercise a substantial influence when it comes to news credibility assessment. In another research, Anspach (2017) suggested that social media users better endorse news shared, liked or commented by their friends, even if it sometimes counters their political attitudes. This finding could be a positive factor in supplying balanced news; however, it would require the beliefs and attitudes to be equally distributed among one’s social media friends. In short, the provision of news and the verifiability could be greatly influenced by machine algorithms or by human opinion leaders. It is, however, important for individuals to reach a level where they take in hand the mission of investigating the facts independently from the social and technological conducting/influencing powers.

Theoretical Perspective

Social Impact Theory

The premise of the social impact theory is the likelihood that individuals will respond to social influence increases under any of three potential conditions: strength, immediacy, and number (Latané, 1981). More specifically, *strength* refers to how important the influencing group is to an individual, *immediacy* includes how close the group is to the individual at the time of influence (space and time), and *number* denotes how many are in the influencing group (Latané, 1981). Therefore, individuals are most influenced by friends and family who are close to them and with whom they have more immediate contact, versus large groups where an individual is less affected by thoughts and opinions of others. This theory was developed in a time when social media did not exist; however, applying the principles in the context of social media is considerably powerful and far-reaching. In terms of social media, strength is enhanced through connections with friends, family, and colleagues with whom an individual has a relationship and values their opinions. Social media, indeed, allows immediacy of connectedness at the touch of a finger, as well as the opportunity to reach numerous people in an influencing group (Penn, 2017).

Methodology

Purpose of Study

The purpose of this survey research was to draw a comprehensive picture of pre-service teachers’ online news media literacy skills. In this survey research, our goal was to explore how pre-service teachers perceive their news literacy skills as users of multiple Web 2.0 technologies, their guiding principles while browsing media content, and their practices across multiple media platforms to which access is ubiquitous.

Research Questions and Design

A descriptive survey research design was selected to explore news and media literacy beliefs and experiences of pre-service teachers. Specifically, the survey was developed to collect both quantitative and qualitative information to address the following research questions: (a) What are the perceptions of pre-service teachers regarding their news media literacy competencies?; (b) What are the news media literacy practices among pre-service teachers across social media?; and (c) What are the pre-service teachers’ guiding principles regarding browsing and disseminating news across social media?

Participants

The population central to this study were pre-service teachers attending a university in southeast Texas, who were enrolled in an introductory course for future educators. Participants included 124 students in the college of education seeking teacher certification in a variety of program areas and grade levels of K-12. All students in the courses were invited to participate and the professor of the course administered the survey to all groups during their class period. All students present during the class period chose to participate.

Of note, the population surveyed is reflective of the students enrolled in the educator preparation program within the university, which includes a significantly greater number of female students, and is also consistent with representation among different ethnic groups. Expanding this further, the National Center for Education Statistics (2012) reported teacher demographics in the United States as: female (76.3%), male (23.7%), White (82%), Black (7%), Hispanic (8%), Asian (2%) and more than one race (1%). Please refer to Table 1 for descriptive data of the participants.

Table 1

Descriptive Statistics of Preservice Teachers

| Participants N = 124 | Age | Ethnicity | Academic Major |
|-------------------------|----------------|------------------|-------------------------------|
| Male, n = 7 | 18-21, n = 66 | White, n = 75 | Teaching grades EC-6, n = 116 |
| Female, n = 116 | 22-25, n = 47 | Black, n = 13 | Teaching grades 4-8, n = 6 |
| | 26-29, n = 5 | Hispanic, n = 21 | Computer engineering, n = 2 |
| | 30-33, n = 1 | Asian, n = 9 | |
| | 24-over, n = 5 | Biracial, n = 6 | |

Instrumentation

The survey used in this study was researcher-developed and piloted with three classes of pre-service teachers enrolled in different teacher education courses. More specifically, a total of 64 participants completed the pilot survey. The survey included a Likert scale from 1 (strongly disagree) to 4 (strongly agree) with 5 as an option for not applicable. In addition, the survey included four open-ended questions. Based on the analysis of responses to the pilot study, the survey items were reorganized according to themes. In addition, some items were deleted or reworded to determine consistency among responses on specific topics. The second survey was piloted with a second group of 22 pre-service teachers; data were analyzed, and minor revisions to the survey were made before administering it to the 124 participants in the study.

Participant responses to survey items regarding news and media literacy experiences were analyzed to determine potential clusters based on the factor structure. Varimax orthogonal factor rotations were executed to determine correlations among variables, factor clustering, and factors to eliminate in order to maximize each scale. The (K1) or eigenvalue-greater-than-one rule (Kaiser, 1958) and the .05 percentage of variance were implemented to establish which variables would be included in each cluster. The minimum cutoff value of .3, as recommended by Lambert and Durand (1975) was used to determine pattern coefficients. The Varimax factor rotations yielded three factors for survey items. Factor 1 revealed an eigenvalue of 7.25 and 16.84% of the variance. Factor 2 yielded an eigenvalue of 4.68 and 10.93% of the variance. Lastly, Factor 3 generated an eigenvalue of 3.34 and 8.90% of the variance. The total percent of variance for all three factors combined was 36.67. Items loading below .3 were not included in the clusters for the three factors based on internal consistency procedures which revealed no significant interrelationship between variables.

Internal consistency analysis performed to calculate Cronbach’s alpha (cf. Nunnally & Bernstein, 1994) revealed a coefficient of .78 for *Perceptions* (i.e. Factor 1) which was the cluster name assigned to this group of

items, as each referred to how the participant perceived their quest for news and information across media. Internal consistency determined by Cronbach’s alpha of .76 was yielded for *Practices*, (i.e. Factor 2) as items clustered for the factor were interrelated regarding to practices in seeking news and information from various media. Whereas Cronbach’s alpha of .77 was revealed for *Guiding Principles* (i.e. Factor 3) as these clustered items referred to beliefs and principles by which the participant made decisions about acquisition of information, analyzing sources, and sharing of news.

Themes that emerged from responses to the quantitative items were cross-referenced with coded responses to open-ended items designed to gather extended responses regarding media literacy practices. Responses were examined to determine consistencies or contradictions. Tables 2 through 4 below present selected survey items which indicate significant findings relevant to each theme according to survey responses. Qualitative data which apply to the themes identified are intertwined with the survey scale responses in the discussion.

Results

The results section is organized around the themes yielded from the factorial analysis. Every theme will be supplemented by a table with the survey items. Moreover, for clarity and conciseness, we have summarized a few bullet points of the main findings and displayed them prior to the result tables.

Theme One: Perceptions

- 103 participants responded ‘agree or strongly agree’ on whether they believe to have the necessary skills to understand the news
- 72 participants indicated they did not learn about media message decoding and interpreting before college
- 73 stated that news does affect their beliefs
- 98 participants believe there is an opinion embedded in every piece of social media news
- 74 believe news content is customized by social media administration
- 56 participants disagree or strongly disagree to the fact that social media supplies them with news they like to read

Table 2

Perceptions of Preservice Teachers’ News and Media Literacy Experiences

| Survey Item | Participant Responses <i>N</i> = 124 | | | | |
|--|--------------------------------------|--------------|-----------|---------------------|---------------------|
| | Strongly Disagree (SD) | Disagree (D) | Agree (A) | Strongly Agree (SA) | Not Applicable (NA) |
| I believe I have necessary media literacy skills to understand news | 2 | 17 | 82 | 21 | 2 |
| I learned a lot about media message decoding and interpreting before college | 17 | 55 | 37 | 12 | 3 |
| I believe news stories do affect my beliefs | 9 | 37 | 55 | 18 | 5 |
| I believe there is an opinion embedded in every piece of social media news | 2 | 18 | 60 | 38 | 5 |
| I believe news content is customized by social media administration | 5 | 35 | 60 | 14 | 10 |
| I believe social media only gives me things I like to read | 10 | 46 | 51 | 8 | 9 |

Theme Two: Practices

- 74 participants did not attend classes that taught about media literacy before college and 82 feel they have learned about media literacy through their own recreational readings
- 57 admit that discussing news with their friends changed their topic of interest; 66 noted that reading others' comments affects their news trustworthiness; and consistently 66 participants use others' comments as a tool to assess news credibility
- There was no significant difference in responses between participants who share news on social media without verification versus those who share and verify authenticity

Table 3

News and Media Literacy Practices of Preservice Teachers

| Survey Item | Participant Responses <i>N</i> = 124 | | | | |
|--|--------------------------------------|--------------|-----------|---------------------|---------------------|
| | Strongly Disagree (SD) | Disagree (D) | Agree (A) | Strongly Agree (SA) | Not Applicable (NA) |
| I attended classes that taught me about media literacy before entering college | 27 | 47 | 37 | 9 | 4 |
| I learned about media literacy through my own recreational readings | 8 | 28 | 61 | 21 | 6 |
| Discussing news with my friends changes my topics of interest | 7 | 53 | 45 | 12 | 4 |
| Reading comments of others on social media affects my news trustworthiness | 12 | 38 | 57 | 9 | 8 |
| I verify news in social media by analyzing comment and opinions of others | 19 | 34 | 49 | 17 | 5 |
| I share news through social media after verifying the authenticity | 12 | 43 | 43 | 18 | 8 |

Theme Three: Guiding Principles

- Slightly more than half of participants indicated they access news only through social media
- 97 participants do not trust social media more than other media outlets
- 64 say truthfulness is not their priority in news reading and watching news
- 61 reported they read and do not share news
- 88 participants responded they trust the message more than what their friends have to say and 77 do not trust resources liked/shared/commented by their friends

Table 4

Guiding Principles of Preservice Teachers' News and Media Literacy Practices

| Survey Item | Participant Responses <i>N</i> = 124 | | | | |
|---|--------------------------------------|--------------|-----------|---------------------|---------------------|
| | Strongly Disagree (SD) | Disagree (D) | Agree (A) | Strongly Agree (SA) | Not Applicable (NA) |
| I only access news through social media | 15 | 44 | 40 | 25 | 0 |
| I trust information on social media more than other outlets (TV, Google, Newspaper, Internet sources) | 44 | 53 | 16 | 4 | 7 |
| Truthfulness is my priority in news reading/watching | 12 | 52 | 54 | 6 | 0 |
| I only read or watch news and do not share | 7 | 54 | 39 | 21 | 3 |
| I trust what my friends say about news more than the message itself | 21 | 67 | 25 | 8 | 3 |
| I trust resources liked/shared/commented by my friends | 14 | 63 | 39 | 2 | 6 |

Discussion

This survey research on news media literacy across informal/social media was conducted to explore how pre-service teachers perceive their news literacy skills as active participants in multiple social media spaces, their guiding principles while engaged with media content, and their practices across multiple media platforms. Through this discussion, we will answer the research questions intertwining our quantitative and qualitative findings.

Perceptions

A significant number of participants perceived themselves as having the skill of understanding and message decoding of the news; however, responses revealed their media literacy skills were self-taught through exploration of books and personal experiences in college. This is of importance as these are future educators who will be responsible for teaching students and addressing standards set forth of credible or appropriate media literacy practices. Hence, how efficient is their post-secondary news literacy education experiences? In fact, with regard to their knowledge about the institutional information control, there is a split opinion among the participants who believe that social media administration has no control over news circulation, and others who agree to the regulation and control of information. A female participant said, "I believe news has become skewed, and that not all facts are shared." Another participant responded, "I welcome all ideas and filter for myself." This suggests that students may not be aware of the social media algorithms, as a means to information regulation and control. Further, they may be aware there is a control of information, but the knowledge of 'how' and 'why' this occurs may be missing. This could be traced to the unquestioned news consumption habits of young adults as they prefer the algorithm (Rieh & Hilligoss, 2008), family, friends, and classroom peers to decide their news diet and assess the source credibility for them (Francke, Sundin, & Limberg, 2011; Kelly & Donohew, 1999; Powers, 2014, 2016).

Speaking of friends, one female participant said, "I usually go to my parents and ask their take on the current news or I see it on any or all my social media." Another participant talking about her news sharing with friends and others said, "I like to know what is going on in my world and then talk about it with others to know how they feel." Another participant mentioned two primary news sources and commented that they are the "best outlets I found to view. Family has been watching for years." Every user has his/her own personal media ecology and perceptions, but one common aspect about the digital age is the existence of many influencing

powers that may hinder the process of acquiring and evaluating the accuracy of information. These comments validate the three tenants of the Social Impact Theory: strength, immediacy, and number.

Practices and Guiding Principles (The influencing powers)

Trust connects people to news. In this survey, our goal was to determine pre-service teachers' practices in order to assess their thinking and approach while reading day-to-day news. These practices happen in an online and social context that is user directed. They happen in a space that is best described by this pre-service female teacher who said, "Social media is a source full of truth and lies, and it's tough to determine which is which. People tend to share anything and everything they read (that is in favor of their own opinion) even before they learn whether or not it's a verified or real news."

In fact, more than half of the population considered truthfulness not their priority in news reading and watching. If they do verify, it is superficial, as a female participant said, "I usually google and search different sites to see if they say the same thing." With more sense of investigation, another female pre-service teacher declared, "I google for other reliable sources and compare the information given. I also investigate the background of who is reporting it sometimes." Additionally, about half of the population read and do not share news, or if they do, they share without verifying news authenticity. The key takeaway finding is that the consumer's habit of sharing may determine the habit of receiving news. Put differently, if finding the true piece is not a priority, then trust in sharing news may as well not be a priority.

Results also showed a great many participants use others' comments as a tool to verify the news trustworthiness; not only that, but about the same population agreed that reading others' comments on social media does affect their trustworthiness. "Comments on social media affect the thoughts and opinions of others in the public," responded a female participant. Through the lens of Social Impact Theory (Latané, 1981), we consider friends' comments and moves across social media a major influencing factor as they reflect importance, closeness, and number.

Another participant added, when doubting a piece of news, "I would ask my friends or read through comments, or even read further into it if I really want to know." As researchers, we consider this one of the 21st century social media literacy skills as practiced by the public. About half of the participants stated that they access news only through Facebook. This is in line with Gottfried and Shearer's (2016) finding that 64% of Americans acquire news from only one site. As an expansion of the Social Impact Theory, immediacy could be the closeness of the social group to the individual or the closeness of the tool, platform, and ease of access to the network, which in this case is Facebook. This is, however, in contrast with another finding where the majority expressed their distrust of social media as compared to other media outlets.

Despite the fact that the participants use others' comments as a tool to assess news trustworthiness, interestingly enough, the majority responded they trust the message more than what their friends have to say or share. This particular finding contradicts previous research where friends influence news consumption (Powers, 2016). However, this may be due to the fact that social media have changed the meaning of a "friend" that is less and less based on interpersonal acquaintance. When applying the Social Impact Theory to news and social media, the concept of number influences the user's opinion, as the term friend represents a larger and less personal audience. Amidst the odds highlighted by the current study, especially when it comes to practices and guiding principles, we believe that pre-service teachers are in dire need to not simply learn to ask critical questions about the message and its logistics, but also to learn how information comes to them as is, the mechanics of information, as well as the economics and politics involved. The graphic representation in Figure 1 depicts personal media ecology of social media users, which could be motivated and influenced by multiple powers. Noteworthy, the factors in this model may not influence social media users at all times. Additionally, no factor is identified as having more influencing power on the user than other factors.

Figure 1. The influencing powers in personal social/informal media ecology.

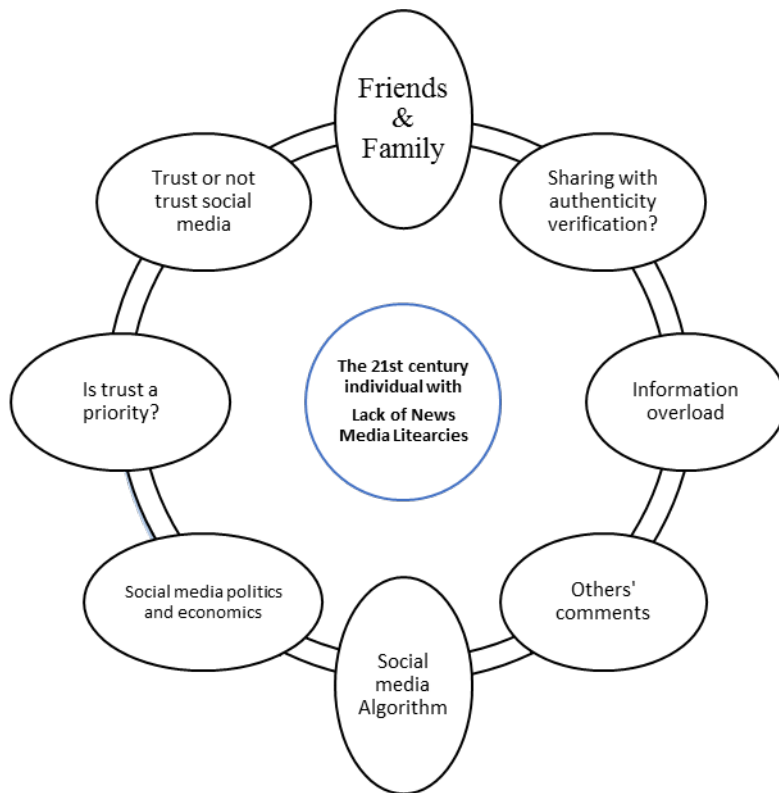


Figure 1. We created this model to depict factors (friends, algorithms, and decisions as to trust or not to trust social media) that orbit around the 21st century citizen who lacks news media literacy skills as serious challenges toward developing an active, critical thinking citizen.

Limitations

We had some difficulties accessing students around campus, because we wanted to administer the survey in a face to face context. The study only included pre-service teachers as we were interested in this population who will be teaching in the near future. Additionally, we focused on pre-service teachers in their second and third year of college. As noted earlier, we have used convenience sampling scheme, and the number of participants is small for generalizations to be made. Of note, the majority of participants were females, which reflects the field of teacher education.

Conclusion

With social media and inundation of instantaneous news as such an important part of our everyday lives, the question can be raised: Should the 21st century citizen be better equipped to critically engage and manage information overload? Educators should indeed consider developing and implementing curriculum to teach news literacy education, include open dialogue about who controls the information on social media, and discuss actions underlying information flow. Having a mobile phone and filtering millions of bits of information does not render the 21st century individual media literate. As noted in the findings of this study, participants' responses revealed pre-service teachers lack the necessary tools and strategies to critically evaluate news credibility. A significant number of participants indicated trust is not a top priority in their news quest. Moreover, participants also declared they use others' comments as a way to verify news and information across social media.

Learning to effectively maneuver the world of social media and evaluate content requires more than merely using digital devices. It requires a more in-depth knowledge of social media literacies and practices. Alarming, college students and future educators remarked that they received no formal educational training that enables them to learn how to rigorously authenticate information and news sources. It is important to state that many participants in this study shared that their media literacy skills and practices have been self-taught. This leads to a final question: With the multifaceted constructs of social media literacy, where should news and information literacy instruction fall within the realm of curriculum in the educational system?

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RESTRUCTURING OF PRIVATE INSTITUTIONS IN A COMPETITIVE MARKET

Youngsik Hwang
Indiana University
yh27@indiana.edu

Abstract: Over time private postsecondary institutions in the United States have developed their structures in order to survive in the competitive higher education market. These private institutions have foundations in different social values and have executed different roles to back up the marginal public space for prospective students. In overviewing the characteristics of how private institutions have survived in the competitive market, this paper provides insight into how they alter their structure to meet social needs in the higher education system. This paper also suggests that restructuring planning for private institutions is beneficial in the long run, which provides policy implications for institutional researchers.

Keywords: Private institution, Restructuring, Competitive market, Public value

INTRODUCTION

In terms of the makeup of the higher education system, the majority of postsecondary institutions are public, while private institutions support the U.S higher education system as alternatives. Public and private institutions share educational missions and objectives in order to advance education together. Over time the American higher education system has changed its internal structure to meet inconstant external demands. Postsecondary institutions adopted new paradigms, reformed their missions, and revised their curriculums for better performance. One of the main ways in which they have restructured is by shifting their legitimacy from higher education as a social institution to higher education as an industry (Gumport, 2000). Public institutions are under more economic pressure because of shrinking state appropriations, which drives them to revise their own educational heritage, functions, and historical characters. In this process, universities and colleges experience the complexity of diverse structural changes in terms of governance, administration, and academics (Duderstadt, 2001). While public institutions try to change their structure in order to meet the flexible external needs, the institutions face another other issue, isomorphic transitions of each other. The line between the public and private sectors breaks down, and the unique characteristics of each institution merge into one broadly accepted comprehensive figure. While private institutions try to maintain their own specialty based on innovative reform, success rates remain around 10 percent (Brewer & Tierney, 2010). However, many institutions have faced such difficulties when balancing between survival and their uniqueness in the market. It is still essential that they have good quality of teaching, research, and administrative services in order to maintain a good academic reputation (Christensen, Horn, Caldera, & Soares, 2011). Meanwhile, society has continued to be segregated by targeted population groups, and the demographic trends of potential students are more diverse compared to previous years (Duderstadt, 2009). This pace of restructuring postsecondary institutions is inevitable and requires strategic planning for improving their structure. From the top organizational governance to individual students in the institution, collaborations for sustainable improvement become more important to keep ascendancy of market principles and the efficacy of business practices (Braun & Merrien, 1999).

This paper analyzes how private institutions change their role and responsibility to survive in a flexible external environment and in the competitive market. Private institutions have different structures and decision-making mechanisms from the public institutions. The different internal structure allows them to act differently under the identical situation. This analysis first provides the theoretical background of the private institution system in the U.S., then overviews how private American institutions have responded to social needs to compete with their counterparts and defines their social responsibility in terms of multidimensional aspects. Next, it provides possibilities for structural innovation in private institutions and proposes the conceptual model for restructuring. Lastly, this paper suggests some policy implications for future research direction.

THEORETICAL FRAMEWORK

Organizational restructuring reflects internal changes and expresses social needs. Under the external challenge of financial components over time, public institutions have adopted more effective managerial strategies to distribute internal funding, such as performance-based distribution, strict curriculum, and implementation of a college completion agenda. Meanwhile, public institutions are connected to external stakeholders including private companies, and the lines between public and private sectors have been blurred. However, regardless of the institution type, one of the most common characteristics of postsecondary education is training future workers. In terms of labor market perspectives, institutions should respond to social needs when hiring future workers. Although institutions have become more homogenous, focusing on private networks and

financial-centered tasks, the original responsibility of postsecondary institutions has not changed. Institutions also should retain their specialties in order to differentiate themselves so that they can survive in the competitive higher education market. The combination of diversification and homogenization causes institutions to define their institutional image and make it sustainable (Fairweather, 2000). Barrett and Meaghan (2010) especially discuss the direction of capitalism for postsecondary education by using Adam Smith. For Adam Smith, the marketplace is not magic key to solve all social problems and a certain level of public interruptions are essential for better performance. Higher education should respond to both private individual quests for better returns as well as public values as a figure of corporations. The corporation resolves distorting market relations and copes with flexible diverse external needs. In this aspect, postsecondary education institutions play diverse roles to cooperate with external entities and reproduce polished managerial strategies to reflect social needs. For example, institutions may change their curriculum to meet industrial needs, which improves the possibility for graduates to be hired in the private sector. This connection between both entities makes room to reach an agreement for each benefit, such as academic reputation and supply of well-trained workers.

While statewide coordinating boards are responsible for managing institutional programs in the public sector higher education system, private institutions are controlled by different cohorts who have diverse interests such as private benefits and business (Brint, 2002). Both have different approaches to respond to external needs and their strategy often reflects flexible environmental components. However, the basic extent of service learning does not have any significant difference between the public and private sectors in terms of philosophy and mission, community participation, and institutional supports (Greene, 2004). With the common direction of change, institutions pay attention to external voices who support them financially and the sources of finance or resources tend to control the institutional governance at the top. Furst-Bowe and Bauer (2007) defined institutional innovation as “making meaningful change to improve an organization’s processes and services and creating new value for the organization’s stakeholders”. In this aspect, the institution should also follow the organization’s governance as well as create meaningful change. The considerable components to reform their internal structure include their own mission, culture, and academic climates and balance their academic reputations and the effectiveness based on mission diversity (Eckel, 2008). The institution restructures their curriculum, administration, and services in order to reflect social inclusion (Gertler, 2010). It drives more effective ways to manage their resources and help them buffer external invasion for their core values, such as institutional identity. Those changes intend to maintain the academic excellence as well as revitalize their images in the competitive higher education market (Saunders, 2015).

Postsecondary institutions reproduce collective social benefits and individual private outcomes together (Lewis, Hendel, & Dem, 2003). These benefits include many non-monetary returns and societal externalities (Bowen, 1977; Cohn & Geske, 1992; Wolfe & Zuvekas, 1997). The deriving effects are engaged in diverse social cohesion and community issues such as volunteer service, civic life, and political efficacy (Lewis et al, 2003). In this aspect, while public institutions have shifted their internal structure toward more private areas based on business aspects, the private sector can emphasize their public missions rather than differentiate them within neoliberal marketization. This may be another strategy to differentiate identity in the higher education system. In order to maintain academic competency in the market, private institutions try to balance between academic freedom and private governance intentions in different ways. Meanwhile, they also pursue the democratic purpose of postsecondary education (Youngberg, 2008) and have a shared governance system for decision-making for keeping their educational values as public goods (Tierney, 2012). While the classification between public and private education is a combination of political-social intervention mainly interpreted through the view of the state, the public’s recognition of targeted institutions depends on the kinds of outcomes such as private rates of return and public externalities (Carnoy, Froumin, Loyalka, & Tilak, 2014).

LITERATURE REVIEW

Prior studies have investigated an institution’s capacity for progress in restructuring their organization in a variety of different ways by considering how an institution makes a change based on specific institutional values. To be more specific, some scholars show how an institution is able to create diverse missions statements or goals for further development. Sohail, Daud, and Rajadurai (2006) find that a higher level educational institution tends to focus more on cost-saving strategies for restructuring, particularly on the cost of sales and operational expenses. This information shows that institutions tend to hire more part-time teaching staff and expand market-driven or customer-focused external relations from the outside. Kwiek (2000) acknowledges that the institution considers the bureaucratic educational corporation based on the national or state level collaborations for innovative remodeling of internal structures. This suggests new functions of the university is available based on new changes that combined themselves with large cultural, philosophical, and political projects of innovation. Hall and Thelen (2009) consider the institutional equilibrium to approach based on the optimal institutional change and project that the institutional change is understood as a mutual adjustment between relevant actors and

activate small alterations for each practice (Streeck & Thelen, 2005). When the changes are applied, it is expected for institutions to experience a dynamic of interest, power, and influence and it is expected for well-prepared institutional leaders to mitigate the negative repercussions of unexpected turmoil through the change of labor, asset, and other resources (Capron & Guillén, 2009).

An institutional restructuring may require several conditions to have lasting and beneficial results. Mares (2001) argues that an advanced training process is essential in restructuring a college institution. This includes the re-education of necessary labor forces that adhere to a new structure by meeting new institutional needs, as well as the formalization of specialty training. During the restructuring process, institutions also need to choose between maintain their own institutional values or abandoning them to meet a new and higher standard. Institutions need to avoid negative externalities and internalize all changes to help moderate potential workers that are pushed out due to institutional changes (Mitchell & Keilbach, 2001). Through a set of diverse product and pricing strategies, institutions must provide several recruiting incentives for potential students and parents (Binsardi & Ekwulugo, 2003) and must instill confidence in the consumer base of the institution's effectiveness as well as the its vision for future changes. Structural changes for an institution will oftentimes face external pressure for government agencies or industries to support collaborative activities to influence the changes an institution is making. In these transitional challenges, an institution must adhere to their goals and often make strategies to support their own agenda while also targeting goals on common policies and procedures with external agencies (Harris, 2010). Institutions should consider long-term perspectives through a problem-oriented nature and involve a diverse pool of stakeholders for a better and easier transition (Yarime & Tanaka, 2012) that focuses on institutional sustainability for better performance. An institution's goal for a restructuring program should include higher reputation (Hazelkorn, 2013), increased student retention rates (Longden, 2006) and other active responses to flexible student expectations of the institution.

Restructuring an institution requires interactions with others and being in support of a greater goal (Hudson, 1996). Relevant stakeholders such as students, faculty, and other campus members need to vocalize their needs and be involved in the restructuring process. Because a college institution's primary goal should ultimately be about education, teaching and learning methods should be one of the most important indicators to undergo scrutinous evaluation during the change with institution leaders establishing several conditions to support the betterment of the learning environment (Tinto, 2002). These changes must be universally shared at the institution for the potential image of the organizational systems on campus to facilitate a path to lead an academic profession (Guskin & Marcy, 2003). Lowry and Hanges (2008) makes suggestions in how an institution may better the organizational climate and diversity of the structural transition. Partnerships can be made with outside sources to create organizational and service improvement as a form of good practice to adopt new assessment initiatives for better forms of restructuring. Begley, Buchan, and Dirmagl (2015) examine how institutions cope with these external changes. They focus on the reproducibility of the organization and argue that the positive circulation for utilizing available resources to be invested into campus members is important for the robustness of the institution in a competitive market condition for higher education.

THE PROCESS OF RESTRUCTURING IN PRIVATE INSTITUTIONS

The role of private institutions.

Private institutions have experienced closures and mergers over time. Compared to public institutions, their financing tends to come from external resources such as private endowments, and funding often depends on environmental changes. Bate and Santerre (2000) indicate that their closures and mergers are more frequent when they experience shrinking enrollment and rising faculty and staff salary. Their research also shows that institutions with support from religiously affiliated foundations are less likely to close and merge compared to secular institutions. The emerging inflow of public institution reform toward marketization creates more competition in the private sector, and existing private institutions must find other survival strategies in the higher education system. Beyond the original role to provide public support to the masses, they should market themselves by creating a distinct identity. Private institutions generally have specific assets, such as dependency of investment capital, higher job placement records, freedom from traditional curricular, and state of the art technology compared to public institutions (Breneman, Pusser, & Turner, 2006). Those specialties allow them to maintain their competency, and this enforces the characteristics of private companies for pursuing benefits in the postsecondary education field. Furthermore, acceleration of student cohorts who come from diverse backgrounds creates another academic climate focused more on multi-cultural components on campus. In this aspect, private institutions play a role in reproducing brand-new skills in order to meet students' need for better knowledge transfer (Grubb, 2003). They tend to emphasize unique institutional missions toward targeted populations and try to optimize the use of their resources for maximizing expected outcomes. The greater market permeation through business-centered curricula is one of the distinguishing characteristics of recent approaches to the learning process in the institution (Mars, 2009). Additionally, growing concerns and interests in recent higher education

transformations and restructuring are closely related to institutional efficiency, and private institutions have a social responsibility to respond the external demands as a whole (Mok, 2011). In this aspect, while public and private institutions share common educational values, the line to differentiate the two areas has become diminished and their role more complicated.

The constraint of restructuring private institution and their innovation strategies.

Private institutions respond to external changes differently and have unique institutional priorities in comparison with their counterparts. While public institutions deal in the normative environment, social cohesion, and nonmarket components, private institutions consider potential economic gains and focus on their relationship with potential customers, students and parents (Casile & Davis-Blake, 2002). The shift of public institutions toward technical environments such as employment outcomes and return of investments allows private institutions to reconsider the existing concept of resource allocations. The new suppliers of the competitive market cause a decline in the potential outcomes of individual participants, and existing participants can create new markets or substitute weakened linkages of new suppliers. There are still potential customers to demand public values in the higher education market, and some participants can support the needs for disadvantaged groups who have less access to higher education. The continuous institutional interests for public education create potential social welfare as a whole although the institutional behavior based on public values do not directly benefit from the policy execution. If they can earn advantages, such as tax exemption and state appropriations that public institutions have, the new experiment of restructuring in private institutions will continue. Some institutional functions can be shared with each other and those that are independent often lead to better performance. Such collaboration costs money, and several universities such as University of Virginia and William and Mary are already executing it (Couturier, 2005). Other hardships private institutions are facing consist of unstable decision making processes and variable financing sources. While accredited top-level decision makers decide internal curriculum and services and enjoy academic freedoms, they should innovate the administrative structure and learning environment continuously for better efficiency. The balance between institutional authority and financial robustness is essential in the competitive higher education market. Private institutions consider positive circular rotation from students to alumni for more social supports. Say (2010) indicates that while economy of scale is present in the higher education system, the logic is not cost-effective for universities and colleges. On the other hand, the increase of undergraduate enrollment does not guarantee the same size of graduate enrollment and research performance in the long run. Private institutions can adapt their restructuring plans around this phenomenon, training a certain size of potential workers who emphasize public values. The renovated institutional strategies include various research programs and training under public philosophy, theology, and science (Scott, 2010). The system causes these schools to become more specialty-focused, which is and a market survival strategy. Furthermore, the academic exchanges, student exchanges, and research collaboration stimulate individual academic activities on campus and provide additional networking possibilities among university governances (Lee, 2012). Private institutions may incur significant public costs and their benefits in the political structure such as lobbying (Pusser, 2015) and create another criteria for better institutional performance.

Required components for better restructuring of private institution.

There are multiple components for better restructuring of institutions. Among those components, the four indicators in this study play a critical role to provide some concepts for better institutional reform. First of all, when the private institution considers institutional restructuring, one of the most important components is revitalizing their unique identity. The restructuring of institutions sometimes changes their mission or objectives according to the goal of the restructure. For example, adding a new program, changes in degree-granting, and other drastic curricular alterations create a new institutional identity (Levin, 2002). Cavanaugh (2013) also focuses on the adoption of competency-based programs to substitute existing assessments and evaluation at institutions, which may evolve into new functions and coordinated system of learning process or credentials. Although those curricular changes create new institutional identity to buffer external uncertainty, the internal structure of institutions still require to ensure its quality. For better restructuring of the institution, faculty members play a critical role in attracting potential students. Under the current financially strict condition of the higher education system, institutional leaders tend to focus more on individual research performance and ability to bring in external sources to the faculty members. However, the gaps between pure teaching and pure research are unclear, especially regarding which components are more beneficial in order to improve academic performance (Norbis, Arrey-Wastavino, & Leon, 2003). On which components the institutions focus more is related to resource allocations and the balance of the required to-do list, as a higher education institution should underline clear pedagogical values. In this aspect, as a mediator between institution and students, faculty members can handle the proper level of management by function. Furthermore, better restructuring is identified from their own data and experiences, as well as successful records of prior change (Herr, 2006). The accumulated institutional experiences guide institutions to eliminate redundant tasks and errors related to

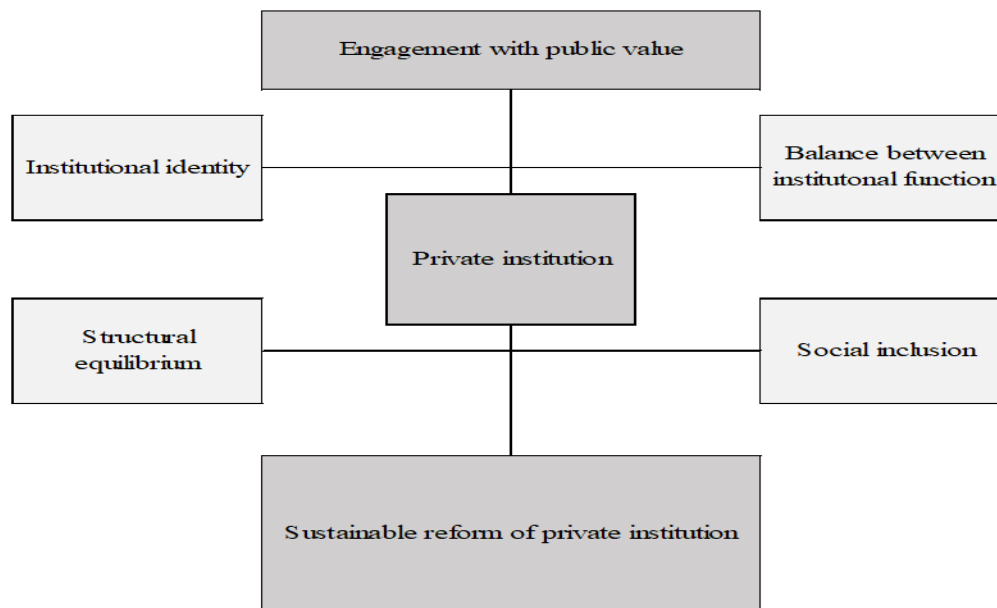
restructuring. Meanwhile, institutional changes drastically alter the internal structure such as governance, service, and administration. The structural balances between specific institutional functions are important because the equilibrium helps institutions resolve the organization's ambiguity of purpose and improve critical thinking of individuals for a better oriented structure (Kelling, Underhile, & Wall, 2007). Geiser and Atkinson (2010) examine the case of restructuring postsecondary education in California. Their findings show that the links between four-year institutions and two-year institutions are essential to improving educational attainment as well as college completion. To be more specific, they emphasize the successful link transfer from two-year institutions to four-year institutions for better restructuring. This connection provides more enrolled students, which supports the financial structure and creates comprehensive networks among postsecondary institutions. Though this may have an opposite policy direction from the current college completion agenda. The emphasizing of student recruitment can undermine academic outcomes in the long run because of the reverse relationship between increased enrollment and academic quality in prior studies (Stone, 1995; Lei, 2010). Another consideration is that the leadership at the time of transition is crucial to determining the direction of institutional restructuring. Private institution leaders take into account potential risks of their reform and have a social responsibility to manage the student body. They estimate upcoming external change and increase their own competency against their public counterparts. Transformational leadership can provide leverage for continued institutional existence and development (Hempowicz, 2010). In this aspect, the institution leaders should be careful about restructuring that is related to the change of institutional size and affects their ability to manage their institution. Lastly, better restructuring is not only an internal shift, but also needs social inclusion as a community entity. Pierce (2011) describes the role of social inclusion in a postsecondary institution based on structured interviews with professionals. The institution resolves conflicts between their educational philosophy of departmental requirements for courses and graduation and the outcome of social inclusion. In other words, the institution tries to narrow down the gaps between relatively slow internal reform and flexible social demands by using changes of institutional policies and practices. Students expect various kinds of social returns through college education. Private institutions actively respond to their demanding standard for educational experience and future prospects of employment (Pierce, 2011). The growing engagement of student perception to choose their future college enables the institution to maintain its recruitment competency in the market, and the social coherences with other members including parents, friends, and teachers lock prospective students in their institution (Shah, Sid Nair, & Bennett, 2013).

PROPOSED RESTRUCTURING OF PRIVATE INSTITUTIONS

Private institutions are trying to differentiate their internal structure and increase entrepreneurial fundraising in order to survive in the higher education market. These efforts often create institutional convergence in governance structures and cause positive spillover across the institution (Pusser & Turner, 2002). This interdependence is not only independent market mechanism and under the collaborative relationships between each institution. Growing concerns of public institutions in the market invade the private areas of the market, and the private sector needs to respond to this environmental change. This paper suggests the 'value exchange' between private and public sector. The growing invasion of the public sector weakens public values, and the private sector substitutes it as other players in the market. Also, it is a good strategy to escape from institutional isomorphic changes. With following administrative supports such as state funding, private institutions have an opportunity to project unique institution images, which help them to survive.

Figure 1 describes the steps of restructuring of private institutions based on the four concepts of required components above. The campus members include board and faculty. Academic administrators complete complicated organizational tasks together, creating new institutional images based on the unique pattern of reform. The four components are not generated independently and interact each other at certain points in the decision-making process. This interaction presents the direction of the restructuring organization as a figure of shared governance, collective bargaining, and role of structural choice (Pusser, 2005).

Figure 1. Restructuring of private institution in the competitive market



Pusser (2006)'s continued study with others shows the possibility of trustee networks at private institutions. The networks may stem from the need for institutional resources and other endowments. The net benefits of these linkages reveals the appropriation of institutional collaboration and provides insight into other outcomes for capturing institutional behaviors. The restructuring of institutions is not new in the higher education system. The old version of restructuring has mirrored the change of academic ideology, and the change affects how individual class backgrounds and personal experiences create collective institutional reform (Roseman, 2010). The new perspectives of private institutions also cause them to adopt fluctuations in the market, and so the proposed model should be changed over time.

DISCUSSION

The higher education system has experienced different environments and has reorganized its structure to meet external needs over time. While the first postsecondary institutions were required to train small elite groups in order to govern the small communities, their social role has changed to meet growing mass education with growth of the higher education system. Recent decrease in public funding from states requires institutions to make new changes to public institutions and their internal reform has been in a more business-centered direction. In sum, the change of higher education institutions has specific concepts, from private and public perspectives and shows private figures again in chronological order. Institutions should manage the diverse social, political, and economic challenges in the market. They also need to adopt human resource management such as students, faculty, and staff on campus for better institutional performance (Zusman, 2005). Private institutions in transition create a unique image in order to differentiate themselves and try to maintain their internal form without any big structural changes to avoid any organizational turmoil. Resource allocation in the institution requires internal equilibrium for equitable distribution among campus members and reorganization of institutional functions allows for the optimization of academic performance. Those components not only come from internal governance but also are recreated as the result of social interaction. Postsecondary institutions are always in a stage of change (Tierney, 2014), and the new restructuring of private institutions based on public value provide new survival strategies in the competitive higher education market.

This analysis focuses on the institutional role in better restructuring and does not provide diverse policy interruptions to meet the restructuring goal in detail. The value exchange between private perspectives and public notions does not mean the entire exchange of both, and policy may control the range of exchange by using specific measures such as performance requirements. Policy officers can consider the demographic and economic characteristics of the state and influence the restructuring direction for the optimal level of reform (Volkwein & Tandberg, 2008). An alternative is to consider changes of higher education institutions in terms of diversification. Postsecondary education does not exist independently, but is connected with lower levels of institutions. This diversification provides access to different students and guarantees to make more diverse academic climates (Varghese & Püttmann, 2011). States decide how much institutional reform based on public values are available for private institutions under the entire education system. Decision-making also requires the

comprehensive collaboration between relevant stakeholders in the higher education market and those possibilities may provide the direction of further research in the future.

The ideal structure of private institution is not only come from the sum of individual efforts and be derived from the collective voice which means the collaborative team-work. Each part of administrative affairs manipulate their roles to meet potential customer such as students, parents and find an effective way to save their limited resources. Meanwhile, the instructors organize their curriculum to attract students and provide new knowledge or abilities under specific learning environment. The institutional leaders should know that the private institutions have a social responsibility to reflect other voices that isn't be imbued into public sector and can contribute to improve entire production of well-training workers in the society. The collaboration between the campus members are essential to make the organizational survival for recruitment of potential students and identify their institutional purpose more clearly.

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Authors

Youngsik Hwang, Ph.D Candidate & Research Associate on Project on Academic Success (PAS),
Higher Education & Student Affairs (HESA), Indiana University
Tel: (812) 318-4072
[yh27@indiana.edu]

SOCIO-PSYCHOLOGICAL PREDICTORS OF JOB SATISFACTION AMONG ACADEMIC STAFF OF UNIVERSITIES IN GHANA

Eugene Yaw Milledzi

Department of Education and Psychology; College of Education Studies, University of Cape Coast, Ghana
emilledzi@ucc.edu.gh

William Boateng

Department of Sociology and Anthropology; College of Humanities and Legal Studies, University of Cape Coast, Ghana
wboateng@ucc.edu.gh

Mark Owusu Amponsah

Department of Education and Psychology; College of Education Studies, University of Cape Coast, Ghana
mamponsah@ucc.edu.gh

James Adu Opere

Department of Education and Psychology; College of Education Studies, University of Cape Coast, Ghana
jopare100@ucc.edu.gh

Abstract: The study assessed the interaction effects of organizational climate as a key moderating variable on socio-psychological factors that influence levels of job satisfaction among academic staff of universities in Ghana. The descriptive sample survey design was used and a stratified proportional random sampling procedure was employed to select a total sample of 376 academic staff based on rank and gender. The Linear Multiple Regression Analysis Procedure was used for the analysis of data and the result showed that organizational climate is a key moderating variable for job satisfaction among academic staff of universities in Ghana. It was recommended that stakeholders in higher education should make pragmatic efforts to create conducive organizational climate in their institutions.

Keywords: socio-psychological factors, organizational climate, job satisfaction

Introduction

1.1 Background

University academics hold central positions in the knowledge society through their traditional roles as educators and producers of knowledge. The rise of the knowledge society envisages changes to traditional academic roles and a motivated academic workforce satisfied with their jobs is most likely to produce the greatest benefits to society with regard to teaching, research and innovation (Etzkowitz, Ranga & Zhou, 2007). Therefore, it is important that stakeholders seeking to influence the role of universities in the knowledge society understand the characteristics of their job that make them satisfied in their everyday work life.

According to Amonoo-Neizer (1998), attracting and retaining competent academics has become the biggest problem in African universities. This is because talented and competent university academics are often drawn towards lucrative administrative career. Evidence suggests that staff pay for university academics is insufficient, there are poor housing facilities and the housing allowances paid are not enough to facilitate obtaining suitable accommodation in the open market. However, the volumes of work for academic staff have increased with large class size (Tettey, 2006). According to Ghafoor (2012), the current reality is found in most Sub-Saharan African universities where there is congestion in lecture theatres and laboratories and overall limited equipment with which to provide adequate teaching and learning environment. Therefore, university academics have to teach from a shrinking resource base. The question is: what is likely to be the effect of such rapidly declining conditions on the abilities of university academics to continue to deliver an effective education? In order for academics to achieve high standard of teaching, produce quality research and publications and to meet the goals of higher education, the requirements to improve their work and working environment must be met (Tettey, 2006).

It is on record that university academics want tasks that correspond to their personal interests and allow them considerable autonomy in task selection and decision making. Academics of universities also want salaries and allowances that commensurate with the job they do and these must also be equitably paid at levels that meet their expenses (Tettey, 2006). They also want promotions to be awarded fairly. With university academics being employees of higher educational institutions, the satisfaction they derive from their work and working

environment promotes quality teaching and research, hence the need to examine socio-psychological factors that affect their levels of job satisfaction.

1.2 Statement of the Problem

Academics of universities are critical actors in knowledge production and human resource development through teaching and research. Several studies by researchers such as Lyons, Duxburg & Higgins, 2006; Hunter, 2007; Long, 2005; Greenhaus, Tammy & Spector, 2006) examined factors that affect job satisfaction of employees. However, it has been observed that in spite of the plethora of studies on job satisfaction, the academic environment of universities in Ghana has not been fully explored; particularly socio-psychological factors that predict job satisfaction of university academic staff. Earlier studies on job satisfaction focused on industrial and organizational settings and did not touch on education. This study is however, in education and it sought to examine an important topic in job satisfaction because the academic environment of universities in Ghana has witnessed the annual ritual of agitations, threats and strikes over one job-related issue or the other. Earlier studies that examined job satisfaction only used independent variables. However, the current study examined job satisfaction as a dependent variable but added a moderating variable (organizational climate) to the independent variables.

1.2 Purpose of the Study

The purpose of this study was to examine socio-psychological factors that predict job satisfaction among academic staff of universities in Ghana. Specifically, the study sought to assess the interaction effects of organizational climate as a key moderating variable on socio-psychological factors.

1.2.1 Research Hypothesis

The study tested the following null hypothesis:

H₀: Socio-psychological factors do not directly predict job satisfaction of academic staff of Universities in Ghana.

2.0 Concepts and theoretical issues

2.1 Achievement

Achievement as a concept in the job satisfaction literature can be identified by successfully completing a task, finding a solution to problems, showing proof of work, and seeing the results of one's work. Achievement is the most frequently appearing factor that relates to what make people satisfied with their jobs (Hagedorn, 2000). According to August and Waltman (2004), achievement in academia has been measured by faculty productivity, or the number of publications including journal articles, books and presentations at conferences and seminars.

There are differences between male and female faculty productivity. August and Waltman (2004) argued that achievement measured by faculty productivity is not significantly related to job satisfaction among female faculty members. Female professors often have lower research productivity, more interest in teaching, and more involvement in institutional service than their male counterparts. Female faculty members spend their time publishing books and articles, participating in public service, and taking on greater administrative positions. Male faculty members, on the other hand, spend more time on research than teaching, which produces higher salaries.

2.2 The Work Itself

Herzberg (1959) defined the work itself as the actual doing of the job or the tasks of the job as a source of good feelings about it. It should be noted that academics live by the motto: teaching, research and community service. Therefore, faculty members have a wide variety of job responsibilities encompassing those of teacher, advisor, researcher, committee member, editor, consultant, colleague and counsellor. Lacy and Sheeham (1997) indicated that the nature of academic work often causes new faculty members to feel overwhelmed and stretched beyond their physical and mental capacity which can lead to dissatisfaction. Malik (2011) in a study on the effect of intrinsic factors on job satisfaction found that the work itself accounted for 63% of the variance in overall job satisfaction of university faculty members.

2.3 Promotion

Promotion as a concept in the job satisfaction literature refers to the degree an employee perceives his or her chances to grow within the organization. Baron and Greenberg (2003) argued that people should not only be rewarded with pay but they should be offered opportunities to grow within the organization in which they work. The implication is that every employee would want to work in jobs that provide him or her with opportunities to

be promoted to new and challenging position. It must be pointed out that promotion of academics is dependent on research and publications as well as teaching and community service or extension. Tetey (2006) indicated that promotion procedures in African universities are long, stressful and cumbersome while the requirements for promotion are unreasonable. Shah (2012) in a study found a positive effect of promotion on levels of job satisfaction among university teachers in Pakistan. Similarly, Teseema and Soeters (2006) in a study reported a strong positive association between promotion and job satisfaction of employees. Hagedorn (2000) indicated that advancement in academia is associated with promotion in rank and achievement of tenure. Similarly, Tack and Patitu (1992) in a study found promotion as the strongest explanatory variable in faculty job satisfaction.

2.4 Responsibility

Responsibility refers to what must be done to complete a task and the obligation created by the assignment. Studies have shown that responsibility and job satisfaction are positively related (Baron & Greenberg, 2003; Padilla-Velez, 1993). However, other studies found that responsibility and job satisfaction have no effect on each other (Bowen & Ostroff, 2004; Castillo & Cano, 2004). Responsibilities are normally determined by the employer to facilitate achievement of goals. According to Luthans (2002), responsibilities should be specific as to whether they are daily or weekly responsibilities that employees (academic staff) should perform to prevent a person from being overloaded. The employers must make sure that responsibilities are standardized for each job level and that each employee has a copy of his or her job description. The literature suggests that the effect of responsibility on job satisfaction has not been fully explored. However, there are some few studies which indicated an indirect effect either through organizational ethics or organizational justice (Valentine & Fleischman, 2008). Therefore, it can be argued that the existing empirical support to this link is anchored mainly on the analyses of specific measures that could be seen only as indirect proxies for assessing responsibility and job satisfaction.

2.5 Salary

Salary or pay is one of the basic determinants of job satisfaction among workers in both public and private sectors. According to Basset (1994), salary or pay has a strong effect on job satisfaction of any employee. Shoaib, Noor, Tirmizi and Bashir (2009) submitted that attractive remuneration is an important factor in determining job satisfaction because it fulfils financial and material desires of workers. Rosser (2004) in a study reported that less than half of faculty members are satisfied with their salary. This implies that salary or pay is an important personal issue that may affect the job satisfaction of faculty members. Bellas and Moore (2007) indicated that, although, much of the overall research on faculty members suggests that salary or pay is not the most important aspect of their work life and satisfaction, it is one of the primary reasons why some faculty members leave their institutions. Tetey (2006) in a study found that dissatisfaction with salary is one of the key factors undermining the job satisfaction and commitment of academics to their institutions and consequently their decision to leave. Similarly, Oshagbemi (2003) in a study of academics in the United Kingdom concluded that salary or pay benefits has significant effect on levels of job satisfaction.

2.6 Work Environment

Work environment that is comfortable, relatively low in physical and psychological stress facilitates the attainment of work goals and tends to produce high levels of job satisfaction among employees. Therefore, academic staff require office space, book and research support to be able to access latest information for their teaching and research outputs. According to Yousaf (2010), heavy workload caused by increase in student numbers has negative effect on the well-being of academics in higher educational institutions. Similarly, Metcalf, Rolf and Weale (2005) indicated that heavy workloads including teaching large classes may impact negatively on the job satisfaction of academics. It should be noted that university academics are expected to use appropriate technology in delivering their teaching as well as research. Rosser (2004) indicated that few institutions provide adequate support for faculty members to integrate technology into their work. Similarly, Obwogi (2011) in a study found that some academics in Kenyan public universities did not have access to technology. It must be noted that the extent to which academics feel supported in terms of being provided with adequate facilities including technology is important to the overall quality of their work.

2.7 Organizational Policy

Organizational policy is viewed as socio-psychological factor contributing to the effectiveness of the education system particularly in colleges and universities. Therefore, managers of educational institutions should boost the morale of academic staff by involving them in the decision making process. A significant effect of organizational policy on job satisfaction has been established over the years (Carrell, Jennings & Heavrin, 1997). Organizational policy of institutions, especially institutions of higher learning can be a great source of frustration for employees if the policies and procedures are not clear. Dugguh and Ayaga (2014) in a study concluded that a clear organizational policy permits an employee to use his/her discretion and initiatives in the

discharge of his/her duties. Davis and Wilson (2000) in a study examined principals' efforts to empower teachers and the impact those efforts had on teacher motivation and job satisfaction. The results of the study showed that there was a significant relationship between principals' behaviors and teacher motivation and job satisfaction. Similarly, Bogler (2001) investigated the influence of organizational policy on job satisfaction of workers. The results showed that job satisfaction levels increased as participants perceived their organizational policy in positive terms.

2.8 Co-worker Relationship

Devaney and Chen (2003) noted that a powerful determinant of job satisfaction is the relationship with colleagues at the work place. Similarly, Lacy and Sheehan (1997) stated that one of the major predictors of job satisfaction is the relationship with co-workers. Ducharme and Martin (2000) reported that effective co-worker support at the work place positively affects job satisfaction of employees. Saba (2011) in a study measured the job satisfaction levels of academic staff in Bahawalpur colleges. The findings showed that relationship with the co-workers contributed significantly to job satisfaction. It should be noted that relating well with colleagues promotes job satisfaction among workers in any organization. This is because part of the satisfaction in employment contract is the social contact it brings to employees. Therefore, reasonable time should be given for socialization at the work place especially in academic institutions such as universities for networking. Three decades of research converged on the finding that workplace friendships generally improve productivity and morale. Sias and Cahill (1998) reported that a primary factor of dissatisfaction was when a co-worker failed to live up to friendly expectations.

2.9 Work-family Conflict

Work-family conflict occurs when the demands or expectations associated with one domain of work are incompatible with the demands or expectations associated with the other domain. Studies have established two dimensions of work-family conflict. First, when activities related to work interfere with family responsibilities, then, there is work interference with family (WIF) and second, when activities related to the family interfere with work responsibilities, then, there is family interference with work (FIW). Empirical studies have concluded that there is a positive correlation between work-family conflict and the impacts on individuals, such as drinking alcohol, exhaustion, work depression, work anxiety and physical problems (Warner & Hausdorf, 2009; Ballout, 2008). Work-family conflict leads to work dissatisfaction, low performance, irregular attendance at work and high turnover rate (Willis, Conner & Smith, 2008). Hassan, Dollard and Winefield (2010) in a study reported that work-family conflict caused lower levels of job satisfaction. Similarly, Bedeian, Burke and Moffett (1988) in a study found that work-family conflict has a direct effect on job satisfaction. Their study established that job satisfaction was affected by the interaction between work role stress and parent role demands.

2.10 Organizational Climate

According to Weallens (2000), organizational climate is a consciously perceived environmental factor that can be subjected to control in order to boost job satisfaction. Low (1997) defined organizational climate as the attitudes, feelings and social processes of organizations. Organizational climate therefore falls under three major categories; namely autocratic climate, democratic climate and laissez-faire climate. Organizational climate, is therefore, a set of attitudes and feelings which can be perceived by employees within a particular institution, department or unit. Researchers such as (Likert, 1997; McGregor, 2000) indicated that the organizational climate with regard to social support system had significant influence on employees' perceptions of work context and this to a large extent affects their levels of job satisfaction. Ostroff, Kinicki and Tamkins (2007) in a study found a strong positive association between organizational climate and job satisfaction of employees. Similarly, Friedlander and Margulies (1999) in a study reported that organizational climate had the greatest effect on job satisfaction of employees. Pritchard and Karasick (1993) in a study found that organizational climate dimensions were strongly related to job satisfaction facets such as security, working conditions and opportunities for promotion. Schneider (2008) in a study concluded that organizational climate was positively related with job satisfaction of employees

3.0 Theoretical Framework

3.1 Hagedorn's Theory of Job Satisfaction

In order to aid in the attainment of the study's objective, Hagedorn's theory of job satisfaction which posits that there are two types of concepts namely triggers and moderators that work together to affect job satisfaction provides the theoretical orientation and support for the study. According to Hagedorn (2000), a trigger is a significant life event that may be either related or unrelated to the job. The framework contains six triggers namely: change in life state; change in family-related or personal circumstances, change in rank or tenure; transfer to a new institution; change in perceived justice and change in emotional state. Moderators on the other hand, refer to variables that influence the relationships between other variables or situations thereby producing

an interaction effect. There are three types of moderators. These are motivators and hygienes (achievement, the work itself, responsibility, promotion, salary, work environment, organizational policy, co-worker relationship); socio-demographics (gender, age, marital status, rank, work-family conflict) and environmental conditions (organizational climate). Of particular importance of Hagedorn's theory to this study is that the independent variables as well as the moderating variable have been derived from the theory. Therefore, in applying this theory to the study, the key findings of the study are explained and situated in the light of the framework of the theory.

3.2 Conceptual Framework

The conceptual framework of this study was designed based on the concepts as well as the variables derived from the empirical studies reviewed. The rationale was to clarify the relationship between the independent variables (achievement, the work itself, responsibility, promotion, salary, work environment, organizational policy, co-worker relationship, and work-family conflict); the moderating variable (organizational climate) and the dependent variable (academic staff job satisfaction). This is shown in Figure 1

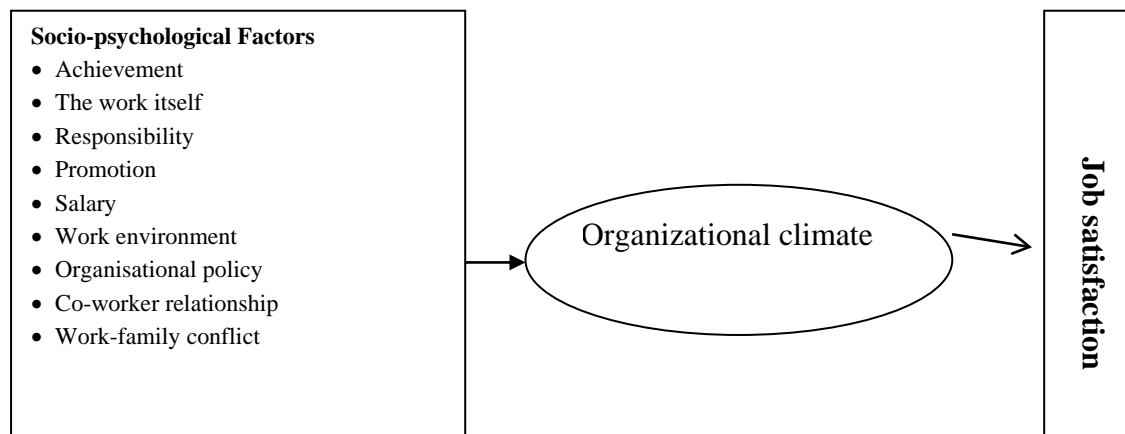


Figure 1: Effects of Socio-psychological Factors on Academic Staff Job Satisfaction Source: Adapted from Hagedorn's Theory of Job Satisfaction

According to Hagedorn (2000), to enhance job satisfaction of employees, there is the need to consider the organizational climate of the institution. The thrust of the argument is that the independent variables do not strongly predict levels of job satisfaction of university academics in Ghana and that they do so only when the organizational climate of the university is conducive. Based on this assertion, this paper argues that the conducive nature of the university's organizational climate is key in predicting job satisfaction because it would help in strengthening the power of the independent variables on the dependent variable.

4.0 METHODOLOGY

4.1 Research Design

The descriptive survey design was employed for the study. According to Creswell (2014), descriptive surveys gather data at a particular point in time when there is an intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared. Surveys are also capable of providing descriptive, inferential and explanatory information that can be used to ascertain correlations and relationships between items and the themes of the survey (Cohen, Manion & Morrison, 2007). This study sought to examine socio-psychological factors that predict job satisfaction among academic staff of universities in Ghana. Taking into consideration the nature of the research problem, the researchers selected conditions that already existed for analysis of their relationships. The descriptive survey design was chosen for this study because judging from the main thrust of the study where data was collect at just one point in time on samples from academic staff of universities in Ghana; it was deemed the most appropriate design.

4.2 Population

The population for this study was academic staff of University of Ghana, Kwame Nkrumah University of Science and Technology, Valley View University and Catholic University College. This consists of assistant lecturers, lecturers, senior lecturers, associate professors, and professors. As at 2014, the total population of academic staff in the four universities under study was 1737. The distribution of the population of academic staff by institution, rank and gender is shown in Table 1.

Table 1: Distribution of Population among the Universities

| Rank of university academic staff | Public | | | | Private | | | | Total | |
|--------------------------------------|--------|-----|-------|----|---------|----|-----|----|-------|-----|
| | UG | | KNUST | | CUC | | VVU | | | |
| | M | F | M | F | M | F | M | F | M | F |
| Professor | 55 | 5 | 13 | 0 | 1 | 0 | 1 | 0 | 70 | 5 |
| Ass. Professor | 79 | 33 | 44 | 4 | 0 | 0 | 1 | 0 | 124 | 37 |
| Senior Lecturer | 178 | 45 | 133 | 17 | 4 | 2 | 4 | 0 | 319 | 64 |
| Lecturer | 281 | 88 | 389 | 71 | 46 | 8 | 39 | 7 | 755 | 174 |
| Asst. Lecturer | 102 | 65 | 0 | 0 | 0 | 0 | 15 | 7 | 117 | 72 |
| Total | 695 | 236 | 579 | 92 | 51 | 10 | 60 | 14 | 1385 | 352 |

Source: UG, 2014; VVU, 2014; CUC, 2014; KNUST, 2014.

4.3 Sample and Sampling Procedure

The sample size of the study was 376. This represents 21.6% of the accessible population of 1,737. The sample size is in line with the recommendation of Kirk (1995) who posits that it is appropriate to select a sample size of 20 % or more for a population of 1,737. The probability sampling, specifically the proportional stratified random sampling and simple random sampling techniques were used to draw the sample for the study. The rationale for employing proportional stratified random sampling in this study was to ensure representativeness of the population in the sample in order to generalize research findings to the population. In this study, stratification was done based on rank and gender of academic staff.

4.4 Data Collection Instrument

A survey questionnaire on academic staff job satisfaction was developed by the researchers and used to gather data for the study. The survey questionnaire was divided into four sections namely A, B, C, and D. Section 'A' dealt with the socio-demographic characteristics of the respondents. It sought to gather data on gender, age, rank, marital status and category of university (public or private). Section 'B' sought to gather information from academic staff on how socio-psychological factors affect their levels of job satisfaction. Section 'C' dealt with statements on job satisfaction while section 'D' sought to elicit information on how organizational climate affects levels of job satisfaction. The content validity of the survey questionnaire was assessed by experts in measurement and evaluation. A pre-testing of the instrument was undertaken on 42 academic staff of the University of Cape Coast, Ghana. The reliability co-efficient of the survey questionnaire was established using the Cronbach's alpha and reliability co-efficient of 0.91 was obtained.

4.5 Measurement of Variables

4.5.1 Independent variables: The independent variables were socio-psychological factors (achievement, the work itself, responsibility, promotion, salary, work environment, organizational policy, co-worker relationship, work-family conflict). Each variable was made up of multiple closed-ended items that were used to collect data from respondents. These items were pooled together to measure each construct. The responses to the items were measured numerically using discrete values on a five-point scale such that one (1) indicating the least agreement to the issues while five (5) representing the strongest agreement to the issues.

4.5.2 Moderating variable: The moderating variable was organizational climate. Four close-ended items were used to elicit data on this variable. These items were also measured numerically using discrete values on a five-point scale such that one (1) represents the least agreement to the issues while five (5) represents the strongest agreement to the issues.

4.5.3 Dependent variable: The dependent variable for this study was job satisfaction which refers to a combination of social, psychological and environmental circumstances that contribute to the well-being of the individual at the work place. Job satisfaction, for the purpose of this study has been conceptualized as academic staff contentment with social, psychological and environmental factors within their institutions. Six close-ended items were used to elicit data on the various aspect of academic staff levels of job satisfaction. The responses to the items were measured numerically. An academic staff is perceived to be satisfied in his or her job if the mean score regarding the six items is equal or more than 3.0.

5.0 Data Collection Procedure

For the purpose of data collection, the consents of academic staff selected to participate in the study were sought and contacted. The purpose of the study was explained to them and the questionnaires were given out to the 376 selected academic staff to complete. At the end of the data collection, 361 completed questionnaires were retrieved representing 96.0 % response rate.

5.1 Data Analysis

The linear multiple regression analysis procedure was employed to test the hypothesis formulated in order to determine if the potential explanatory variables explain a substantial proportion of the variance in the overall job satisfaction of academic staff of universities in Ghana. According to Malhotra and Birsk (2003), to assess the contributions or effects of independent variables on a dependent variable taking into consideration the role moderating variables play in the equation, it is appropriate to use the linear multiple regression analysis. The hypothesis was tested at the 0.05 alpha level of significance. The data were analyzed using the Predictive Analytic Software (PASW) Version 19.0.

6.0 Results and Discussion

The researchers sought to examine the interaction effects of organizational climate as a key moderating variable on socio-psychological factors that predict job satisfaction. Using the linear multiple regression analysis to test the hypothesis, a diagnostic test was first conducted to check for multicollinearity among the variables. The multiple regression analysis involved testing of two models. In the first model, the dimensions of socio-psychological factors (achievement, the work itself, responsibility, promotion, salary, work environment, organizational policy, co-worker relationship, and work-family conflict) were entered as independent variables. In the second model, organizational climate was entered into the equation as a moderating variable. The results are presented in Table 2.

Table 2- Effects of Socio-Psychological Factors on Job Satisfaction of University Academics

| Variables | Model One | | Model Two | |
|------------------------|-------------------|-------|-------------------|-------|
| | Beta (Std. Error) | Sig. | Beta (Std. Error) | Sig. |
| Achievement | -0.031 (0.032) | 0.379 | 0.011 (0.034) | 0.417 |
| The work Itself | 0.039 (0.038) | 0.261 | 0.019 (0.039)* | 0.028 |
| Responsibility | 0.092 (0.033)* | 0.028 | 0.071 (0.034)* | 0.030 |
| Promotion | 0.362 (0.023)** | 0.000 | 0.232 (0.025)** | 0.000 |
| Salary | 0.065 (0.024)* | 0.048 | 0.065 (0.026) | 0.060 |
| Work environment | 0.257 (0.031)** | 0.000 | 0.223 (0.033)** | 0.000 |
| Organizational Policy | 0.162 (0.027)** | 0.000 | 0.163 (0.028)** | 0.000 |
| Co-worker relationship | 0.176 (0.028)** | 0.000 | 0.136 (0.029)** | 0.000 |
| Work-family conflict | -0.112 (0.030)** | 0.001 | 0.017 (0.031)** | 0.001 |
| Organizational climate | | | 0.001 (0.034)* | 0.043 |
| Constant | 1.194 | | 0.915 | |
| R | 0.809 | | 0.859 | |
| R Square | 0.655 | | 0.774 | |
| Adjusted R Square | 0.646 | | 0.759 | |

(Standard errors are in parentheses) **p<0.01; *p<0.05 (N = 361)

Dependent variable: Academic staff job satisfaction, Source: Field data, 2014.

As depicted in Table 2, the variables that predicted academic staff job satisfaction of universities in Ghana significantly were promotion ($\beta = 0.362, p < 0.01$), work environment ($\beta = 0.257, p < 0.01$), co-worker relationship ($\beta = 0.176, p < 0.01$), organizational policy ($\beta = 0.162, p < 0.05$), responsibility ($\beta = 0.092, p < 0.05$), salary ($\beta = 0.065, p < 0.05$), and work family conflict ($\beta = -0.112, p < 0.01$). As Table 2 shows, promotion was the strongest important factor that contributed significantly in predicting job satisfaction of university academics in Ghana accounting for 36.2% in the total variance in job satisfaction. This finding is consistent with the finding of Tack and Patitu (1992) who in a study found promotion as the strongest predictor of job satisfaction among employees. It is also in support of the finding revealed by Sohail and Dalin (2013) who in their empirical study that explored determinants of job satisfaction among university academics concluded that promotion is a strong predictor of job satisfaction. The result of the current study confirms the findings of other researchers such as (Shahzad et al., 2011; Taseema & Soeters, 2006) who in various studies in different contexts found promotion as the strongest predictor of job satisfaction among employees.

Herzberg (1959) has argued that the presence of promotion would increase employee's levels of job satisfaction and this explains why promotion emerged as the strongest independent variable in predicting job satisfaction of academic staff of universities in Ghana in the first model. According to Baloch (2009), there is a strong association between promotion and job satisfaction. This implies that academics are more motivated and committed to perform a job and also would be more satisfied if promotion opportunities are possible. Promotion expectations, therefore, significantly predict job satisfaction because generally workers who believe that promotion is possible report higher levels of job satisfaction. It must be pointed out that promotion as an intrinsic variable offers opportunities for university academics to grow within the institutions in which they work.

Several researchers (Sohail & Dalin, 2013; Eyupoglu & Saner, 2009; Saba, 2011) in the field of job satisfaction have argued that people should not only be rewarded with pay but they should be offered opportunities to grow within the organization. Therefore, the expectation of every employee is to work in jobs that provide them with opportunities to be promoted to new and challenging positions. This has been explicitly stated by Hagedorn (2000) that advancement in academia is directly associated with promotion to the highest rank. In academia, promotion is likely to change the status and positions of faculty members in their respective universities.

As shown in Table 2, work environment is the second explanatory variable that significantly predicted job satisfaction of university academics in Ghana accounting for 25.7 % in the total variance of job satisfaction. This finding confirms the finding reported by Adenike (2011) who in a study concluded that work environment is a significant predictor of job satisfaction of employees. This is also underscored by Baernholdt and Mark (2009) who noted that work environment that is relatively free from physical and psychological stress tends to promote high levels of job satisfaction among employees in an organization. Therefore, management of public and private universities can improve the work environment by providing academic staff with the necessary resources or tools as well as creating better support services within their psychosocial work environment. This would make them feel they are integral parts of the institutions in which they work. It is however, significant, to observe that the total contribution of the independent variables to the variance in the dependent variable is 0.655 with an adjusted R^2 of 0.646. This means that socio-psychological factors explained about 65.5% of the variance in the job satisfaction of university academic staff in Ghana.

In the second model, organizational climate was entered into the equation to serve as a moderating variable. The theory here is that the independent variables do not directly predict job satisfaction among academic staff of universities in Ghana and that they do so indirectly through the organizational climate of the universities. When organizational climate was entered into the equation as a moderating variable, the beta coefficients of all the independent variables shrank. It must be noted that achievement was still not statistically significant while salary lost its statistical significance in the second model. Achievement as a socio-psychological factor refers to successfully completing a task, finding solutions to problems as well as seeing the results of one's work. Looking at the results with specific reference to the non-statistical significance of achievement as a variable, it can be argued that academic staff of universities in Ghana are not satisfied with the standards and criteria that are used in measuring their achievement within their institutions. The results of the study therefore show that achievement alone is not enough to make university academics to be satisfied with their jobs. For example, publishing to become a professor is not a guarantee for one to be satisfied in academia. It must however, be accompanied with conducive organizational climate such as security at the work place, feeling a sense of belongingness as well as involvement in key decision making in the institution.

The results in Table 2 show that salary lost its statistical significance in the second model when organizational climate was introduced into the equation as a moderating variable. Bellas and Moore (2007) argued that much of the overall research on faculty members suggests that salary is not the most important aspect of their work life. In the light of the findings of this study, one might be tempted to declare unequivocally that within the context of universities in Ghana, salary is not the main issue that contributes to job satisfaction among academic staff but rather there is the need for a conducive organizational climate that is free from both physical and psychological stress to boost the morale of university academics. It should be noted that financial rewards, though, necessary would not likely be the main focus of academic staff if the organizational climate within the universities is conducive.

As Table 2 shows, when organizational policy and work-family conflict were entered into the second model, the beta coefficients of these variables were still statistical significant. However, their confident levels were moved from 99 percent to 95 percent. For example, the beta coefficient for the work itself which was not significant in the first model was now statistically significant in the second model. The results show that the explanatory powers of the independent variables are shared with the moderating variable. The total contribution of the

variables when organizational climate was introduced to generate the second model increased from 0.655 to 0.774, while the adjusted R^2 increased to 0.759. The results further show that when organizational climate entered the equation in the second model, the rate of increase of the R^2 was 15.4 percent. This finding reinforces Hagedorn's (2000) theory of job satisfaction which posits that organizational climate is a moderating variable that influences the relationships between other variables thereby producing an interaction effect. The foregoing gives credence to what was revealed by Schneider (2008) in a study that the organizational climate of an educational institution has the greatest impact on job satisfaction of workers with good management and leadership style, involvement of workers in decision making, feeling a sense of inclusion as well as adequate flow of information. This finding confirms what was revealed by McGregor (2000) that the organizational climate in the work place has significant influence on employees' perception of work context and this to a large extent affects their levels of job satisfaction.

The outcome of this study underscores the relevance of organizational climate reported by Pritchard and Karasick (1993) who in their empirical study concluded that organizational climate dimensions such as security, involvement of workers in decision making and adequate flow of information and orientation significantly predicted levels of job satisfaction among employees. This is also consistent with the findings in earlier studies conducted by (Adineke, 2011; Schneider, 2008; Ostroff et al., 2007) who reported that organizational climate is a strong predictor of job satisfaction. The study therefore, fails to reject the hypothesis that socio-psychological factors do not directly predict job satisfaction of academic staff of universities in Ghana.

7.0 Conclusion and Recommendations

On the basis of the findings, it is concluded that socio-psychological factors predict job satisfaction of academic staff of universities in Ghana once there is conducive organizational climate of the institutions. The implication of this finding for policy is that unless managements of universities in Ghana create conducive organizational climate, mere payment of salaries and allowances to academic staff, achievement in terms of publications and presentations at conferences as well as promotion would not automatically make academic staff to be satisfied with their jobs

The paper therefore, recommends that stakeholders in higher education seeking to influence the role of university academics in the knowledge society take pragmatic efforts to create conducive organizational climate by ensuring that the mandate and direction of the institutions are clear. Also, rules and regulations should be applied fairly to all academic staff. The participatory decision making style according to Bolger (2001), should be adopted. Management of universities in Ghana should ensure free flow of information at any given time as well as proper orientation for academics to be aware of the state of affairs of the institutions. This can be done through effective use of Information and Communication Technology (ICT) to disseminate vital information.

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SPACED TESTING AND MEMORY RETENTION FOR TEXTBOOK READINGS

Assistant Professor Dr. Kyle J. Susa, Ph.D. & Steven Dessenberger

Department of Psychology, Kegley Institute of Ethics Faculty Fellow, California State University, Bakersfield
ksusa@csub.edu

Abstract: Known as the *testing effect*, decades of educational research in psychology have demonstrated that testing memory enhances subsequent memory retention. This effect is bolstered when testing is repeated over time at spaced intervals. The current study examined whether test repetition and various intervals of spacing could be implemented into a college course to enhance students' memory retention for textbook readings. Students completed weekly online tests of chapter readings over the course of the semester, whereby critical test questions from early in the semester were repeated 3 times (or once in the control condition) using either equal-spaced or expanded-spaced repetition intervals. Results indicate that students' memory for information read is best retained for questions administered using expanded-spaced intervals.

INTRODUCTION

Known as test-enhanced learning, empirical research has indicated that testing has a remarkable and robust impact on long-term memory retention. In fact, hundreds of studies in over a century of research have continually demonstrated that testing, compared to restudying or not testing, enhances memory retention and transfer of learning (Adesope, Trevisan, & Sundararajan, 2017; Rowland, 2014). Nonetheless, testing often has a negative connotation in public policy, and the benefits of testing as an evidence-based pedagogical practice are relatively unknown by teachers and students alike (Karpicke, Butler, & Roediger, 2009). Consequently, although professors are constantly striving to improve their courses, little class time is often devoted to what we know about the amount of effort and repetition necessary to remember information in the long term. This is most likely exacerbated in a field as broad as psychology, where course curriculum often encompasses much breadth. Furthermore, there are few, if any, formal graduation standards that require undergraduate students to remember what they have learned in any given course.

Despite a lack of attention on formal memory retention requirements in higher education, it could be argued that effective teaching only occurs when students remember what they are taught. Known as *desirable difficulties*, a long-standing principle in cognitive psychology suggests that memory for information learned is best retained through the creation of "difficult" conditions under which memory is retrieved (Bjork 1994; Pyc & Rawson, 2009). That is, creating challenging opportunities for students to retrieve class material (through testing), after they have initially encoded it (rather than simply rereading or highlighting notes), is essential for long-term retention. This *testing effect* is enhanced through *repeated testing* and *spaced learning* - the idea that testing (or studying) should be repeated more than once and spaced over a period of time (Karpicke & Roediger, 2007).

Basic and applied research on repeated testing of memory has routinely demonstrated strong effects on long-term memory retention (see Roediger & Butler, 2011 for a review). In one classic study, Wheeler and Roediger (1992) had participants remember pictures and tested them either one or three times (or not all in the control condition). Results indicated that participants who took three initial tests recalled more correct responses than participants in the other conditions. This effect has also been found in prose passage reading (Roediger & Karpicke, 2006), associative word learning (McDermott, 2006), and other domains of memory (Karpicke & Roediger, 2007).

More recently, much of repeated-testing (and repeated-studying) research has focused on the optimal level of spacing between test repetitions. In large part, this research has examined two distinct spaced-learning intervals. The first is an *equal* or *fixed* interval, where the time between repeated test sessions is always the same. For example, if the time between the first and second repetitions of the test is one week, the time between the second and third repetitions will also be one week. The second type of interval is often referred to as *expanded* or *incremental*, where the time between repeated test sessions gradually increases. In this instance, the time between the first and second repetitions of a test may be one week, whereas the time between second and third repetitions is three weeks, and the time between the third and fourth repetitions is five weeks.

In line with a desirable difficulty theoretical framework, many researchers believe that expanded intervals are superior to equal intervals because increased time (i.e., difficulty) requires the learner to use more effortful processing in retrieving the information, which subsequently leads to greater retention (Landauer & Bjork, 1978).

Nonetheless, this belief has mixed empirical support within the spaced-learning literature. Some studies demonstrate an equal spacing superiority effect (Karpicke & Roediger, 2007), whereas others suggest there are no discernable differences between spaced-learning intervals (Karpicke & Bauernschmidt, 2011; Storm, Bjork, & Storm, 2010).

Although researched less often, some studies have examined the effects of testing within classroom environments. This research suggests that effects found in the laboratory generally hold within the classroom (McDaniel, Roediger, & McDermott, 2007; McDaniel, Wildman, & Anderson 2012). For example, Pennebaker, Gosling, and Ferrell (2013) administered daily online quizzes in introductory courses and compared students' scores to those with more traditional testing procedures. They found that daily online quizzing resulted in better overall student performance in the course as well as in other courses that semester and in subsequent semesters. Atabek, Balkan, and Cetinkaya (2014) also found in a pretest–posttest design that having intervening multiple choice and matching tests in a chemistry course allowed students to retain information better than a control group. No studies, to our knowledge, have examined the effects of spaced repetitions of testing within the context of a college course, and few studies have examined the effects of repeated testing within a course on memory-retention intervals lasting longer than one week (Cepeda, Pashler, Vul, Wixted, & Rohrer, 2006; McDaniel, Anderson, Derbish, & Morrisette, 2007).

The purpose of the present study was to examine the benefits of various intervals of spaced testing within a 16-week semester Psychology Research Methods course while measuring the retention of information learned three to five weeks after the final test repetition. Specifically, the study focused on the application of spaced-interval testing as a pedagogical strategy to enhance memory retention for information learned during weekly readings of the textbook. Multiple-choice reading questions from the first three weekly readings of the semester were repeated at one of three spaced intervals over nine weeks of the semester, before students took a final memory retention test during the final exam. Given the lack of research on spaced repetitions of testing in the context of an actual college course and the mixed findings in laboratory research (particularly with long retention intervals), our study was exploratory in nature. The study was purposefully designed to naturally flow within the structure of the course in order to presumably enhance students' retention of information read.

METHODOLOGY

Participants

The study was administered within normal pedagogical practices of the course. Participants included 49 undergraduate students at a state university in the United States of America. However, data were only analyzed from the 23 students who completed all of the weekly tests. Students consented to the release of their test data.

Materials

Weekly online tests were administered consisting of questions from the textbook, *Research Methods in Psychology* (Morling, 2015), via the learning management platform *Blackboard Learn*. The weekly tests consisted of 12–16 multiple-choice questions (1 correct answer, and 3 lures) from the relevant chapter readings for the week and critical questions. Test questions covered key terms and concepts of the course material. For example, “Some theories are better than others. Which of the following is NOT considered a feature of a good theory: a) the theory makes sense intuitively; b) the theory is supported by the data; c) the theory is parsimonious; d) the theory is falsifiable?”

The critical questions were questions that originated from the chapter readings during Weeks 2, 3, and 4 and were either repeated three times (at either equal or expanded intervals) or repeated once (in the control condition) over the course of the semester. In total, there were 36 critical questions, 12 that originated from each of the Weeks, 2, 3, and 4. Out of the 12 critical questions that originated from Weeks 2, 3, and 4, four questions were repeated using an equal-spaced schedule, four were repeated using an expanded-spaced schedule, and four were repeated once in the control condition. All of the critical questions were determined to be of approximate difficulty to each other, and it was randomly determined which questions were used in each of the spaced-testing intervals. The question order and the order of the answers (and lures) was randomized for every repetition of each question.

The final retention test was administered in paper and pencil format and was incorporated into the final exam of the course. The final exam consisted of 86 multiple-choice questions, 50 questions from lecture material and the 36 critical questions from the textbook readings.

Design

Within-subjects, the study examined the effect of three different spaced-testing intervals (equal, expanded, control) on memory retention of learned information from textbook readings. Each of the spaced-testing intervals had their last repetition during Weeks 11, 12, and 13 (depending on whether the question originated during Week 2, 3, or 4). Memory retention was assessed during the final repetition of the critical questions (during Weeks 11, 12, and 13 of the course), and 3-5 weeks later (depending on when the last repetition occurred) on the final exam for the course (Week 16). Memory retention was analyzed in three ways: 1) the percentage correct for each of the three spaced-testing intervals on the last repetition; 2) the percentage correct for each of the three spaced-testing intervals on the final exam; and 3) the change in percentage correct between the last repetition and final exam, for each of the three spaced-testing intervals.

Procedure

Students were instructed at the beginning of the semester that they would be taking required weekly tests on the chapter readings. They were told some of the questions on the tests would be from the weekly reading and other questions would be repeated questions from previous tests. Upon answering the test questions from the first three weeks of the semester (starting on Week 2) students were provided feedback, including whether they got the answer right and what the correct response was supposed to be when they selected the wrong answer. Students were told to use the feedback to improve their performance on these items if they were to see them again on future tests. Feedback was not included after the first three weeks to control for mere exposure effects. The tests were assigned one week prior to their due date. Once the students began the test they had to complete it but were allowed as much time as needed.

The questions originating from Weeks 2, 3, and 4 resulted in the critical questions that were repeated at one of the three spaced-testing intervals over the course of the semester. Namely, each of the tests given during the first three weeks consisted of 12 unique multiple-choice questions that were not directly covered during the course lecture. The questions randomly assigned to the equal-spaced condition reappeared every three weeks for a 3-3-3 repetition schedule; for example, they initially appeared in Week 2 and then appeared again in conjunction with the regular chapter test questions in Weeks 5, 8, and 11. The questions randomly assigned to the expanded-spaced condition reappeared one week later, followed by another presentation three weeks later and again five weeks after that for a 1-3-5 repetition schedule. The randomly assigned control condition questions only received one repetition retrieval. Figure 1 depicts the difference between the three spaced-testing intervals, over the course of the semester.

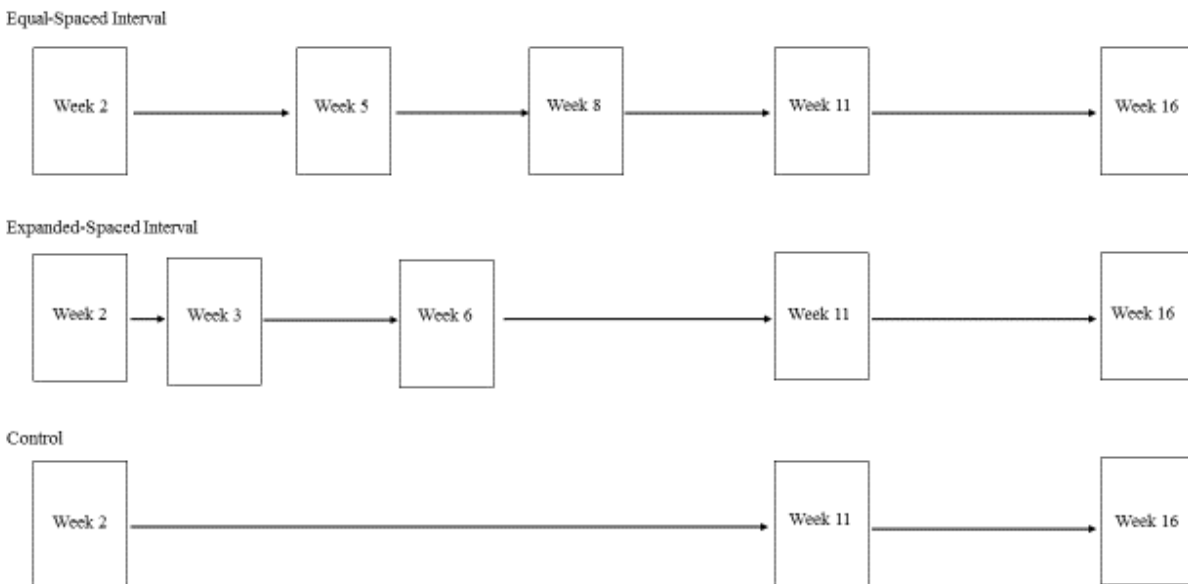


Figure 1. Repetition schedule of three spaced-testing intervals over the course of the semester.

Because the critical questions originated in either Week 2, 3, or 4, the repetition of questions was staggered throughout the weeks of the semester. The full staggered schedule of question repetitions is presented in Table 1. For example, equal-spaced questions that were initially retrieved during Week 3 were repeated at Weeks 6, 9, and 12. Equal-spaced questions that were initially retrieved during Week 4 were repeated at Weeks 7, 10, and 13. Further, expanded-spaced questions retrieved during Week 3 were repeated at Weeks 4, 7, and 12, while expanded-spaced questions retrieved during Week 4 were repeated at Weeks 5, 8, and 13. The spacing schedules were created so that both the equal and expanded conditions would have the third repetition of their questions occur in Weeks 11, 12, and 13 (depending on whether the questions originated from Week 2, 3, or 4). The control condition questions were also assessed during these weeks.

Table 1: *Staggered Schedule of Question Repetitions*

| Critical Questions | Week of the Semester | | | | | | | | | | | | | | | |
|---------------------------------|----------------------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|----------|----------|-----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Originating from Week 2 | | | | | | | | | | | | | | | | |
| Equal | | 4 | | | 4R1 | | | 4R2 | | | 4R3 | | | | | 4F |
| Expanded | | 4 | 4R1 | | | 4R2 | | | | | 4R3 | | | | | 4F |
| Control | | 4 | | | | | | | | | 4R1 | | | | | 4F |
| Originating from Week 3 | | | | | | | | | | | | | | | | |
| Equal | | | 4 | | | 4R1 | | | 4R2 | | | 4R3 | | | | 4F |
| Expanded | | | 4 | 4R1 | | | 4R2 | | | | | 4R3 | | | | 4F |
| Control | | | 4 | | | | | | | | | 4R1 | | | | 4F |
| Originating from Week 4 | | | | | | | | | | | | | | | | |
| Equal | | | | 4 | | | 4R1 | | | 4R2 | | | 4R3 | | | 4F |
| Expanded | | | | 4 | 4R1 | | | 4R2 | | | | | 4R3 | | | 4F |
| Control | | | | 4 | | | | | | | | | 4R1 | | | 4F |
| Total Critical Questions | 0 | 12 | 16 | 16 | 8 | 8 | 8 | 8 | 4 | 4 | 16 | 16 | 16 | 0 | 0 | 36 |

Note. R1 = first repetition; R2 = second repetition; R3 = third repetition, F = final retrieval

Prior to the final exam date, students were told that some of the questions would come from their chapter readings. The final exam consisted of 50 multiple-choice questions covering class lecture material and the 36 critical questions from the weekly reading tests. The critical questions were the last questions on the exam and were presented in random order. Students had ample time to complete the entire exam. Students were not allowed to use their textbook or notes on the final exam. After the exam, students were debriefed on the nature of the study and were offered the option of providing consent to release their test data for the purpose of the study.

RESULTS

Only students who completed all of the weekly tests were included in the analyses ($N = 23$) so that all of the data properly reflected those that were administered the manipulations of interest. Results of the analyses are displayed in Figure 2.

Results of the last repetition test indicated there was no difference between any of the three conditions on students' memory retention during Weeks 11, 12, and 13, $F(2, 44) = .373, p = .691, \eta^2_p = .017$. Although it is somewhat surprising that the control condition ($M = .92, SD = .12$) performed as well as the equal ($M = .90, SD = .16$) and the expanded ($M = .92, SD = .11$) conditions, the results should be interpreted in context, as each condition had a different retention interval. Nonetheless, this comparison was important to understand the base-rate in performance between conditions before the final memory-retention test. It also allowed us to standardize the retention interval between the spaced-interval conditions, on the final memory-retention test.

The final memory-retention test occurred during the final exam period of the course (Week 16). Therefore, each of the three conditions had one-third of the questions with a three-week retention interval, one-third with a four-week

retention interval, and one-third with a five-week retention interval. For the purposes of statistical reliability, we collapsed the scores across the retention interval for each condition so that final performance was measured across 12 questions in each condition.

Results indicated there was a significant difference between spaced-testing intervals on memory retention, $F(2, 44) = 4.934, p = .012, \eta^2_p = .183$. Simple effect comparisons indicated that questions administered with an expanded interval ($M = .89, SD = .13$) were more accurately remembered than questions administered under the equal interval ($M = .82, SD = .20$), $t(22) = 3.029, p = .006, d = .42$, or in the control condition ($M = .85, SD = .15$), $t(22) = 2.614, p = .016, d = .28$. There was no difference in accuracy between the equal interval and the control condition, $t(22) = .935, p = .360, d = .17$.

To further examine the impact of the spaced intervals, the change in performance accuracy between conditions from the last repetition test to the final memory retention test was also assessed. Here, results indicated that students' scores for the equal interval, $t(22) = 2.420, p = .024, d = .44$, and control condition, $t(22) = 3.034, p = .006, d = .52$, resulted in a statistically significant drop in performance. However, students were able to retain the information they read when expanded-spaced testing was administered, $t(22) = 1.262, p = .220, d = .25$.

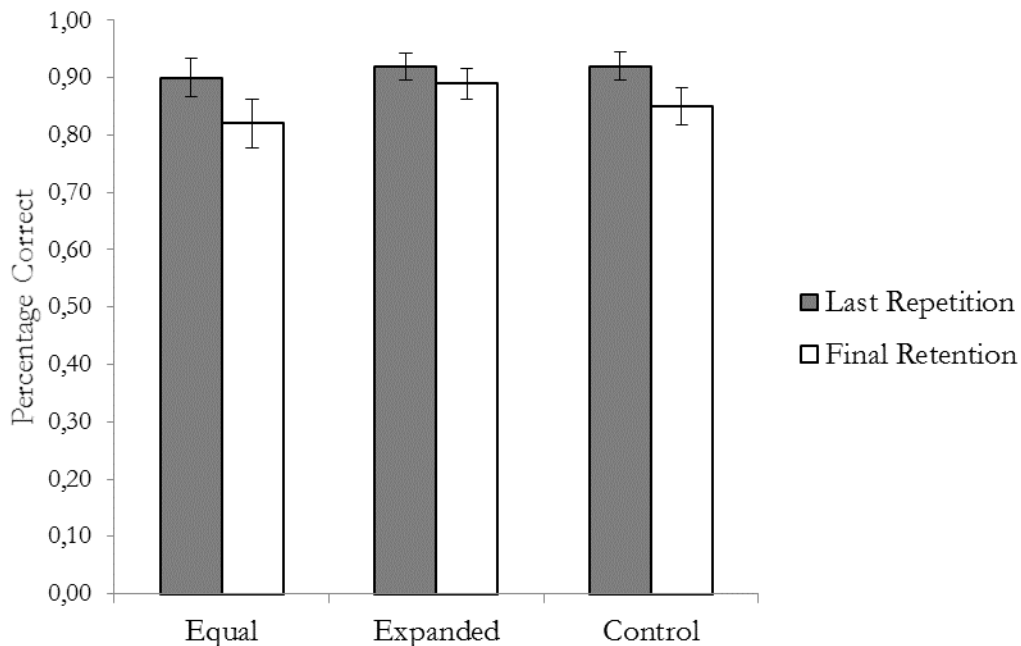


Figure 2. Memory retention as a function of time of retrieval and spaced-testing interval. Error bars represent standard errors.

These results suggest that within this paradigm, expanded-spaced testing is superior to both equal-spacing and control conditions in two important measures. First, when controlling for the retention interval, the overall accuracy rate is greater for expanded-spaced testing with a rather moderate effect size difference between both equal-spaced and control conditions. Second, a substantial drop in performance from the last repetition to the final exam was evident for both the equal-spaced and control questions, but not nearly as strong (nor statistically significant) in the expanded-spaced condition.

DISCUSSION

The present study used a novel semester-long experimental paradigm to investigate the effects of various repetition intervals of spaced testing on memory retention for textbook readings. This study contributes to both theoretical and pedagogical perspectives on how test-enhanced learning can be applied within a semester-long college course. Namely, findings from our study support a desirable-difficulties approach to testing, which suggests that effortful processing that arises from expanded-spaced retrieval is most beneficial for memory retention.

Two novel attributes of our study are the longitudinal nature with which the spaced intervals occurred and the length of the memory-retention interval. Although most testing-effect paradigms manipulate spacing and retention intervals over minutes or a few days, the spacing and retention intervals in the present study are conducive to a college semester and add to the debate on the optimal intervals of spacing when examining students' memory with a relatively long retention interval. It bears noting that although the results support other findings within the literature (e.g., Landauer & Bjork, 1978), they also contradict studies that show a superior effect for equal-spaced intervals (Karpicke & Roediger, 2007). Karpicke and Roediger (2007) argue that *retrieval lag* (the time between the initial encoding and first retrieval test) is an important factor to consider with spaced intervals. Compared to expanded intervals, equal-spaced intervals generally have greater retrieval lags, which can also lead to desirable difficulties. One could speculate that the relatively long (three-week) delay between the initial retrieval tests and the first repetition may have created a level of difficulty in the equal-spaced condition that was simply too great to be effective. It is important for future research to examine the interplay between retrieval lag, repetition intervals, and retention intervals in the context of a semester course. For example, what effect do different spaced-testing intervals have on memory retention when the delay between the initial test and the first repetition is held constant?

Of primary importance, the present study sought to advance evidenced-based pedagogical practices for enhancing student memory for textbook readings. The study was designed to fit the course, to require minimal extra effort on behalf of the instructor to implement, to not require any class time, and to make students' experience in the course consistent with regular expectations and requirements. Given this emphasis on practicality, the low-stakes nature of the reading tests was maintained, to give the students flexibility to take the online tests at their own pace, and to not force them to answer an abundance of questions during any given week. Two limitations of the study are important for future research. First, the test repetitions were not timed and students were not prohibited from taking the tests in an open-book format. One could speculate this may have impacted the strength of effortful retrieval in each of the conditions and may have enhanced the accuracy of the repetition test scores. Perhaps, a timed test would have led to lower scores overall, yet more pronounced differences in final memory retention between the conditions. In our study the open-book option did not systematically influence performance scores between conditions, especially on the final closed-book test. Further, Agarwal, Karpicke, Kang, Roediger, and McDermott (2008) demonstrated that the testing effect on final memory retention is prevalent when using either open or closed book initial retrieval tests.

A second limitation worthy of future research would be to include a true no repetition control group of questions. The condition was purposefully not included in our study to maintain consistency with typical course expectations. Further, the control that was included allowed for maintaining equal retention intervals between conditions on the final exam. Nonetheless, since the standard in most classes is to not repeat test questions after they have been tested once, it is an important empirical question to ask how either of the two spaced-testing intervals differs from a true no repetition control. Simply, the present study is a foundation for future research to explore the boundary conditions of this effect while considering the needs for practical implementation (e.g., number of test items, open- vs. closed-book tests, timed tests, depth of retrieval, presence of feedback, etc.) as well as how these factors might moderate the effects of space-testing intervals within this paradigm.

The present study provides encouraging data to suggest that an evidence-based approach to teaching can be easily implemented in a course curriculum to enhance students' memory retention for information they read. The approach is grounded in basic theory and methodologies of a desirable-difficulties perspective of memory retrieval, showing that expanded spaced-testing intervals of test items is best for retaining memory. It will be important for future researchers to advance our understanding of these effects, especially within the conditions of practical implementation. At present, this study provides a positive step forward - a step toward teaching for the sake of remembering.

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THE MISSION STATEMENTS OF A STATE EDUCATIVE SYSTEM: TECNOLÓGICO NACIONAL DE MÉXICO

José Satsumi López Morales

Economic- Administrative Department, Instituto Tecnológico de Veracruz, México
jsatsumi@gmail.com

Rosio del Alva Lara Segura

Economic- Administrative Department, Instituto Tecnológico de Veracruz, México

Flor Virginia Leon

Economic- Administrative Department, Instituto Tecnológico de Veracruz, México

Antonio Huerta Estevez

Industrial Engineering Department, Instituto Tecnológico de Veracruz, Mexico

Claudia Guadalupe Zarrabal Gutierrez

Economic- Administrative Department, Instituto Tecnológico de Veracruz, México

Abstract: This research focuses on the analysis of the main dimensions that integrate the mission of the Technological Institutes that integrate the Tecnológico Nacional de México (TNM). For this purpose, an 18-dimensional matrix of elements that integrate the mission was designed and a qualitative technique of content analysis was used for the analysis of the missions of the 256 Technological Institutes. An indicator that is an average, called "percentage of presence", was also elaborated. The results indicate that the highest "presence percentages" are held by the Decentralized Technological Institutes (DTIs). In addition, the dimensions that have high presence percentages are "services" and "technology".

Keywords: Tecnológico Nacional de México (Technological National of Mexico), Mission, Federal Institutes of Technology, Decentralized Technological Institutes, Strategy.

INTRODUCTION

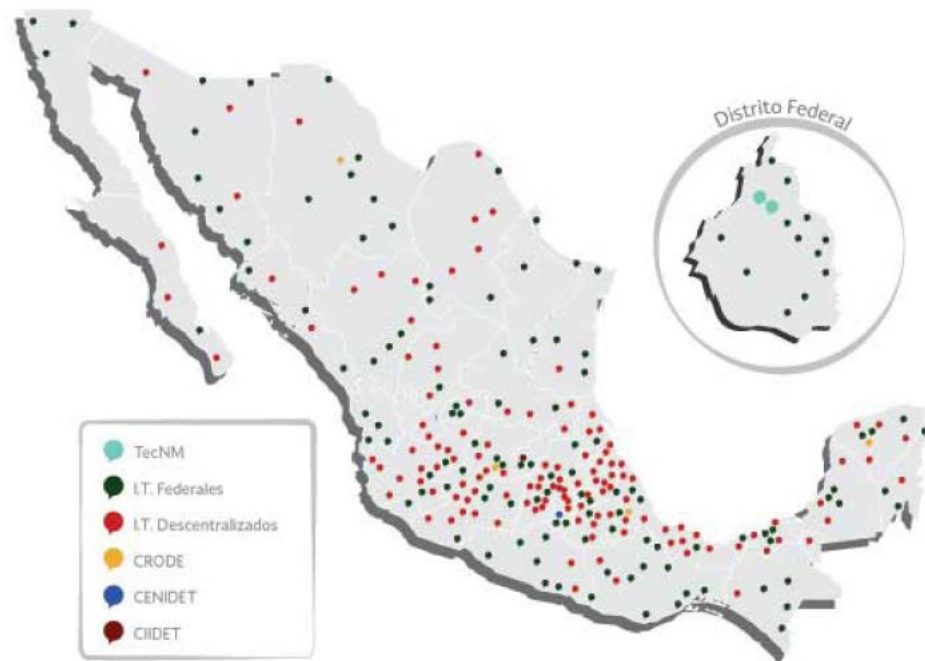
The objective of this paper is to analyze the main elements that integrate the mission of the 256 Technological Institutes (ITs) that are part of the TNM. In Mexico, there are several public and private universities. Within the public universities, is the Tecnológico Nacional de México (TNM) created by presidential decree on July 23, 2014 (Gamino-Carranza, Acosta-González & Pulido-Ojeda, 2016) and replacing the General Directorate of Higher Education Technology (DGEST). The TNM is an autonomous and decentralized entity of the Federal Government of Mexico (Decree 23 of July of 2014).

The TNM groups the 256 ITs of both Federal and Decentralized origin. Also, TNM has around 521,105 students and offers coverage in the 32 States of Mexico. (TNM, 2017). The educational offer is composed of 43 Degree programs, 154 Master's programs and 32 PHD programs. In addition, it has a workforce of 28,135 professors (12,729 full-time). Considering the above TNM is one of the main institutions of higher education in Mexico and Latin America.

An important fact in the history of ITs was the creation in 1990 of the Decentralized Technological Institute, DTIs hereinafter (TECNM, 2017). Which operate under a different scheme than the FTIs, in which the States of Mexico actively participate in their administration and financing where each one of them operates. Hence, it was possible to handle the demand of students in all the regions of the country more effectively.

In this vein, the backbone of the TNM is the 256 ITs divided into 126 Federal ITs and 130 decentralized for a total of 256 ITs. The Federal Technology Institutes (FTIs). The FTIs were the founders of the current TNM. The first ITs were founded in the states of Chihuahua and Durango in 1948, given the above, the FTIs are the oldest, with more staff and more student population, besides they are different from the DTIs since its administration concerns 100% to the Federal government.

Figure 1. Geographical location of ITs that integrate TNM.



Source: Programa Institucional de Innovación y Desarrollo 2013- 2018.

The Figure 1 shows that location of all of the ITs across Mexico. As we can see the ITs are established in the 32 States that are part of Mexico, most of them in the Central and South part of the country. In this regard the TNM is the most extense educative system in Mexico where students of remote regions have the opportunity to obtain technical and professional education.

In this regards, the analysis of TNM as an integrated system is important. The TNM as a system has been little studied, however some studies have been found (Gamino- Carranza, Acosta-González & Pulido-Ojeda, 2016; Villarruel-Fuentes, Pérez-Santiago, Alarcón-Silva, 2015) but none of these emphasizes their coordinated strategies as an integrated system. In addition, TNM as an organization presents important challenges such as: diversity, geographical distance, environment and educational needs of each region of the country.

This study analyzes the presence of some of the dimensions in the literature that impact on the formulation of strategies in a higher education institution. In order to achieve this goal, a content analysis will be carried out on the mission of FTIs and DTIs.

This research has several practical implications, first the deepening of the strategies allows to carry out more effective tactics to reach the objectives proposed in the TNM. Second, the analysis of the elements included in the missions is vital to understand where the resources of the TNM are headed. Finally, this work can help establish a better coordination and conjunction in the 256 ITs that integrate the TNM.

This paper is structured as follows, first a review of the literature is presented. Second, the methodology to obtain information for this paper is developed. Third, an analysis of the results is presented after analyzing the information obtained. Finally, the main conclusions derived from this research are presented.

LITERATURE REVIEW

Strategic planning is one of the main administrative tools. During the 1960s, it emerged as a concept (Ansoff, 1965), since then, companies began to apply formal strategies to achieve their objectives (López-Salazar, 2005). However the increase of volatility of the environment of business have made that the process of strategic planning more difficult (Grant, 2003).

Different authors have defined strategic planning. One of the main definitions of strategic planning indicates that it is a process whereby leading members of organizations anticipate the future and develop procedures and operations to achieve it. Other authors define it as the art of formulating, implementing and evaluating the decisions that involve

achieving objectives, through the involvement of different functional areas of the organization (David, 2009). This is a practice that establishes the connection between media, patterns (strategies) and goals, objectives and results. Therefore, information on internal and external factors that may affect them is required. This helps strategic planning improve the decision-making process.

Ansoff (1965) states that the strategy includes not only determining the organization's basic goals and objectives in the long term, but also emphasizes the courses of action and allocation of the organization's resources in order to accomplish the objectives. According to the previous concept mission, vision, strategy and action are the four key elements in the strategy, being the mission and vision key in the processes of strategic planning in organizations (Hax & Majluf, 1984).

All companies need to know the best way to achieve their objectives. Therefore, the mission is a set of immediate actions for the concrete development of tactics that follow the scope of strategic planning, for short-term purposes and goals (Rey & Bastons, 2017; Aguilar & de la Maza, 2002). This suggests that the temporality of the mission is in a short period of time, it affects the immediate and direct actions of organizations. Likewise, it is understandable that the mission is something that allows the organizations to reach their vision. Likewise if a mission is elaborated in a correct way, this can unify the decisions of an organization (Davis, Ruhe, Lee & Rajadhyaksha, 2006).

Some studies have been carried out studying the mission. One of the first studies in this respect was Pearce & David (1987), where they demonstrated that there is a relationship between mission and company performance. Bart, Bontis & Taggar (2001) studied 83 companies from the United States and Canada and also identified a positive relationship between mission and performance. There are studies that have focused on a specific sector (Anzai & Matsuzawa, 2014; Dwyer, 2003). In addition, other research has focused on finding specific aspects of the mission (Lopez-Morales, 2016, Robledo-Ardila, 2013, Williams, 2008).

Recently Penco, Profumo and Scarsi (2017) carried out a study analyzing the mission statement of 44 cruise lines. In their analysis include three different perspectives, the inclusion of stakeholder group, mention of the specific mission component and goals included in the mission statements. The results suggest that it is possible to identify four clusters of firms that present similar content in their mission statements, and that cruise companies tend to reserve a major attention to customers.

It is also important to note that the different works that have been done analyzing the mission with a content analysis. We identified studies in companies from Canada, Colombia, Latin America, Japan and the United States. From these analyzes only the works of Anzai and Matsuzawa (2014) and Davis, Ruhe, Lee & Rajadhyaksha (2006) were focused in the educative sectors.

METHODOLOGY

In order to achieve the objective of this research, a review of the mission of the 256 ITs that are part of the TNM was carried out. Once defined the set of ITs to be studied, a qualitative technique of content analysis was applied, consisting of the knowledge approach that allows interpreting reality through the categories that are extracted from the metatext (Moraima & Auxiliadora, 2008).

According to the above, the information will be collected through the missions published by the institutional websites of the 256 ITs that form the TNM. Several studies have used content analysis as a method of study applied in web-sites (Sharafi-Farzad, 2010; Capriotti & Moreno, 2007). The text analysis of each IT allowed identifying, in the first instance, the elements considered by each IT.

Content analysis for different dimensions associated with education identified in the literature (Nejati, Shafaei & Salamzadeh, 2011, Daraei Kang & Norton, 2006 Anzai & Matsuzawa, 2013) were considered. Subsequently, with the dimensions considered (see Table 1), an evaluation matrix was elaborated in order to analyze the information and thus, locate the presence or absence of the different dimensions proposed in the matrix in the different activities of the Technological Institutes.

In order to complete the matrix, the number 1 was assigned to the presence of the dimension and the number 0 to the absence of that dimension. Once the matrix was completed, the percentage (average) presence of each dimension and of each Technological Institutes included in the analysis was obtained.

Subsequently an analysis of the proposed dimensions was carried out. In total, 18 dimensions were considered: students, services, location, technology, consolidation, philosophy, transparency, employees, internationalization, linkage, extension, teaching, research and quality, as well as inclusive, peace, prosperity and global responsibility, which are considered within the National Development Plan (PND) (2017). Based on the above, we analyzed the websites of

FTIs. For this analysis, the percentage of presence (average) of the dimensions and of the 117 Technological Institutes studied was calculated.

In the literature, there are different points of view about the components of the organizations' mission, but there is an agreement that the mission includes more attitude elements than specific details of the organizations' actions, tactics and strategies (Dwyer, 2003). This is because a very specific mission limits the field of action of organizations and may even generate paralysis in situations not foreseen.

Table 1. Importance of the dimensions of the matrix.

| Dimension | Importance. |
|----------------------------|--|
| 1.- Students | They are the <i>raison d'être</i> of educational institutions |
| 2.- Services | Education is an intangible personal benefit; therefore, it is a service. |
| 3. Location | The Technological Institutes are present in the 32 States of the Mexican Republic. |
| 4. Technology | The Federal Technological Institutes train mainly professionals of diverse engineering. |
| 5. Consolidation | Consolidation is a relevant factor in organizations of any rubric. |
| 6. Philosophy | Elements that identify what the company is and what it wants to achieve. |
| 7.-Transparency | As it is the technological institutes that receive federal budget, it is important to manage these resources honestly. |
| 8.-Employees | The teaching and teaching support staff is a fundamental part of the provision of services. |
| 9. Internationalization | Educational organizations should not be isolated from the globalized world. |
| 10. Linkage | Basic function of the university. |
| 11. Extension | Basic function of the university. |
| 12.- Teaching | Basic function of the university. |
| 13. Research | Basic function of the university. |
| 14.- Quality | Guiding axis of the National Development Plan. |
| 15.- Inclusive | Guiding axis of the National Development Plan. |
| 16.- Peace | Guiding axis of the National Development Plan. |
| 17.-Prosperity | Guiding axis of the National Development Plan. |
| 18.- Global Responsibility | Guiding axis of the National Development Plan. |

Source: Own elaboration.

Table 1 presents the importance of the dimensions used in the matrix to perform the content analysis. The selection of dimensions was based on three aspects. First, within these dimensions are included some that have been used in other studies that have used content analysis (López-Morales & Ortega-Ridaura, 2016; Dwyer, 2003; Pearce & David, 1987), such as: students, services, location, technology, consolidation, philosophy, transparency, employees and internationalization.

Second are the main functions of the university, which are: research, linkage, extension and teaching (González-Cuevas, 1997). Finally, given the Federal nature of the Technological Institutes, the four main axes of the National Development Plan 2013-2018 (National Development Plan, 2017), which are quality, inclusive, peace, prosperity and global responsibility, are also part of the matrix.

Table 2. Keywords used in the dimensions.

| Dimension | Keywords |
|------------------|---|
| 1.- Students | Students, Young people, Community, Student. |
| 2.- Services | Activities, Functions, Forming Professionals. |
| 3. Trouble | Area, Region. |
| 4. Technology | Information technology, Science, Development, Science, Technological Development. |
| 5. Consolidation | Development, Ensure, Strengthen. |
| 6. Philosophy | Values, Principles. |
| 7.-Transparency | Legality, Openness. |
| 8.-Employees | Person, Workers, Community. |

| | |
|----------------------------|---|
| 9. Internationalization | Abroad, World, Projection on. |
| 10. Linkage | Link, Cooperation On, Secure. |
| 11. Extension | Promotion, Participation, Integral Development. |
| 12.- Teaching | Teaching, Education, Pedagogical practices. |
| 13. Research | Science, knowledge, methodology |
| 14.- Quality | Efficiency, Service. |
| 15.- Inclusive | Inclusion, Inclusive, Society |
| 16.- Peace | Peace, Harmony |
| 17.-Prosperity | Wellness, Prosperity |
| 18.- Global Responsibility | Social Responsibility, Sustainability, Socially Responsible, Community. |

Source: own elaboration.

Table 2 shows some of the main words related to each of the 18 dimensions used in the matrix for content analysis. It is important to note that the content analysis was not only based on these words, we also analyzed the global meaning of the mission even though the words did not appear. Additionally, Table 2 served to reduce subjectivity and have a frame of reference for analysis.

RESULTS ANALYSIS

Below are the percentage of presence of each dimension as well as of each IT included in the present study.

Table 3. Percentage of presence per dimension.

| Dimension | Presence of Presence FTIs | Presence of Percentage DTIs |
|---------------------------|---------------------------|-----------------------------|
| 1.-Students | 23.9% | 48.4% |
| 2.-Services | 58.9% | 64.6% |
| 3.-Localization | 30.7% | 49.2% |
| 4.-Technology | 58.1% | 61.5% |
| 5.-Consolidation | 1.7% | 22.3% |
| 6.-Philosophy | 14.5% | 43% |
| 7.-Transparency | 5.9% | 0.7% |
| 8.-Employees | 3.4% | 7.6% |
| 9.-Internationalization | 31.6% | 3% |
| 10.-Linkage | 22.2% | 27.6% |
| 11.-Extension | 24.7% | 24.6% |
| 12.-Teaching | 10.2% | 37.6% |
| 13.-Research | 21.3% | 30% |
| 14.-Quality | 46.1% | 57.6% |
| 15.-Inclusive | 31.6% | 39.2% |
| 16.-Peace | 0.85% | 19.2% |
| 17.-Prosperity | 0.85% | 35.3% |
| 18.-Global Responsibility | 51.28% | 42.3% |
| Presence of Percentage: | 24.3% | 34.1% |

Source: Own elaboration, based on matrix of dimensions.

Table 3 shows the percentage of presence of FTIs and DTIs, each dimension used in the matrix. In the first instance, the dimension that appears most is "services" in DTIs with 64.6%. It also identifies that DTIs have higher percentage of presence than FTIs, in several cases accounting for almost double the percentage. On the other hand, in the dimensions of "transparency" and "internationalization" the percentages are higher in the Federal IT. Below are some examples of the missions of ITs analyzed.

Table 4. Missions of ITs of Tecnológico Nacional de México.

| FTIs | DTIs |
|---|--|
| Orizaba | Los Cabos |
| Strengthen educational services through coverage, equity, promotion and inclusion, for the integral training of students by promoting innovation, science and technology; to consolidate the linkage with relevance in the different strategic sectors, | To train professionals of excellence with a mystique of work, productivity and creativity, capable of responding to the challenges of national modernization within its globalization process. |

| | |
|--|--|
| modernizing the institutional management with transparency and accountability in a sustainable environment. | |
| Durango | Cd. Acuña |
| To train professional citizens of the world, at the undergraduate and graduate levels, with a broad social and human sense, who promote culture, human values and scientific knowledge, prepared with academic excellence, with a mystique of work, productivity and creativity, committed to the challenges demanded by state, regional, national development and the challenges of globalization, to be a world-class institution. | To train competitive professionals with qualities of leadership and constant improvement, able to face and overcome the changing work environment, relying on advanced technologies and teaching methods. |
| Instituto | Chicontepec |
| To be an institution of technological higher education promoting social change through the relevant and equitable training of professionals with integral quality. | Promote and foster comprehensive training of excellence capable of promoting sustainable development at regional and national level, through the development of technologies and application of techniques, with a humanistic and critical thinking that contributes to raising the quality of life of society in general. |
| Veracruz | Cananea |
| Train professionals in technologies capable of mastering, generating and disseminating cutting-edge scientific and technological knowledge, from a humanist perspective, with a commitment to work, respect for the environment, capable of responding effectively to national needs and challenges with quality, productivity and a global vision". | To offer high quality technological higher education services that, through the integral training of competitive professionals and the generation of knowledge, will contribute to sustainable development at the regional level, under the principle of equity and transparency. |
| Morelia | Huetamo |
| Contribute to the integral development of society, through the training of professionals at the undergraduate and postgraduate levels that affect scientific, technological, economic and social development; at regional, national and international levels; Linked to the productive sector; in compliance with the governing laws. | To offer high quality technological higher education services that, through the integral training of competitive professionals and the generation of knowledge, will contribute to sustainable development at regional level, under the principle of equity and transparency. |

Source: own elaboration.

Table 4 presents examples of the missions of the ITs studied subdivided into Federal and decentralized. As can be observed in these examples, the missions of the IT do not show a relation to the mission of the TNM. One IT was selected for each region of the country using a random criterion. It is important to note that missions in many cases do not present update dates, which may be a factor in influencing the misalignment it presents with regard to the TNM mission. The elements considered in these missions may no longer be important for IT news.

Table 5. Percentage of presence in FTIs

| FTI | Percentage of Presecence. | Number of FTIs |
|---|---------------------------|----------------|
| Orizaba | 61.1 % | 1 |
| Durango, Hermosillo, Mérida | 55.5 % | 3 |
| El Salto, Minatitlan, Oaxaca | 50% | 3 |
| Cd. Victoria, Valle Etila, Matamoros, Tijuana, | 44.4% | 4 |
| Bahía de Banderas, Cd. Madero, Milpa Alta, Morelia, Norte de Nayarit, Nuevo León, Pabellón de Arteaga, Parral, Reynosa, Valle de Oaxaca. | 38.8% | 10 |
| Tláhuac, CENIDET, CRODE Celaya, Conkal, Cuautla, El llano de Aguascalientes, Iguala, Los Mochis, Nogales, Ocotlán, Pachuca, Querétaro, San Juan del Río, Tlanepantla. | 33.3% | 14 |

| | | |
|--|--------|----|
| Tecnológico Nacional de México (Dirección General), Campeche, Agua Prieta, Boca del Río, Chihuahua, Cd. Guzmán, Culiacán, Iztapalapa III, Linares, Mexicali, Piedras Negras, Saltillo, Sur de Nayarit, Tepic, Valle del Yaquí, Veracruz. | 27.7% | 16 |
| Aguascalientes, Altiplano de Oaxaca, Apizaco, Atitalaquia, Celaya, Chihuahua II, Chiná, Ensenada, Gustavo A. Madero II, Huatabampo, Iztapalapa, Jiquilpan, Zona Maya, Lázaro Cárdenas, León, Lerma, Nuevo Laredo, Pinotepa, Salina Cruz, San Luís Potosí, Tláhuac III, Tuxtepec, Úrsulo Galván, Zacatecas. | 22.2% | 24 |
| CIIDET, Acapulco, Cerro Azul, Chetumal, Cd. Cuauhtémoc, Cd. Valles, Colima, Comitán, Comitancillo, Frontera Comalapa, Guaymas, Gustavo A. Madero, Huejutla, Istmo, La Paz, San Marcos, Tláhuac II, Toluca, Torreón, Valle del Guadiana. | 16.6% | 20 |
| Cancún, Chilpancingo, Cuenca del Papaloapan, La Laguna, Roque, Tehuacán, Tlaxiaco, Tuxtla Gutiérrez, IT Zacatepec, Zitácuaro. | 11.1 % | 10 |

Table 6. Percentage of presence in decentralized technological institutes

| DTIs | Percentage of Presence | Number of DTIs |
|--|------------------------|----------------|
| Uruapan, Zacapoaxtla | 88.8 | 2 |
| Talá, Cuauhtitlán- Izcalli | 83.3 | 2 |
| Ixtapaluca | 72.2 | 1 |
| Villa-La Venta | 66.6 | 1 |
| Sur de Guanajuato, Tacambaró, Teposcolula, Tequila, Teziutlán, Tlaxco, Valladolid, Zacatecas Norte, Zapopan, Ecatepec, San Felipe del Progreso | 61.1 | 11 |
| San Luis Potosí, San Miguel el Grande, Santiago Papasquiaro, Sierra Norte de Puebla, Tepeaca, Tepexi de Rodriguez, Zacatecas Occidente, Zaplotanejo. | 55.5 | 8 |
| Lagos de Moreno, Lerdo, Misantla, Nochistlán, Tamazula de Gordiano, Zacatecas Sur, Huixquilucan, Oriente del Estado de México, Tianguistenco. | 50% | 9 |
| Alvarado, Macuspana, Venustiano Carranza, Xalapa, Chalco, Valle de Bravo. | 44.4% | 6 |
| Región Carbonifera, Centla, Región de la Sierra, Costa Chica, Libres, Perote, Sur del Estado de Yucatán, Tierra Blanca, Chimalhuacán, Jocotitlán. | 38.8 | 10 |
| Acayucán, Cajeme, Calkini, Cd. Serdán, Champotón, Comalcalco, Huatusco, Jerez, Jesús Carranza, Juan Rodríguez Clara, de la Huerta, de la Montaña, Región de los Llanos, de los Rios, de los Reyes, de Mascota, Múzquiz, Naranjos, Poza Rica, Progreso, Puerto Peñasco, Purepecha, Puruandiro, San Pedro de las Colonias, Santa María del Oro, Villa de Guerrero. | 33.3% | 26 |
| Zamora, Apatzingan, Arandas, Atlixco, Cd. Constitución, Chicontepec, Coalcomán, Cocula, El Grullo, El Dorado, Escárcega, Huachinango, Huetamo, Loreto, Nuevo Casas Grandes, Oriente del Estado de Hidalgo, Panúco, Pátzcuaro, Puerto Vallarta, | 27.7% | 19 |

| | | |
|--|-------|----|
| Cintalpa, Ebano, Felipe Carrillo Puerto, Guasave, Motúl, Río Verde, Salvatierra. | 22.2% | 7 |
| De los Cabos, Alamo Tepache, Cananea, Coatzacoalcos, Cosamalopan, Choapas, Monclova, Mulegé. | 16.6% | 8 |
| Cd. de Hidalgo, Cd. Acuña, Irapuato. | 11.1 | 3 |
| Guanajuato, Huichapan, San Andrés Tuxtla. | 5.5 | 3 |
| Acatlán de Osorio, Chapala, Fresnillo, Mante, Martínez de la Torre, Occidente del Estado de Hidalgo, San Martín Texmelucan, Sierra Negra de Ajalpan, Tamanzunchale, Tantoyuca, Tlatlaquitepec, Zongolica, Coacalco, Jilotepec. | 0 | 11 |

Source: own elaboration.

Tables 5 and 6 show the percentage of presence of FTIs and DTIs. The DTIs that have a higher percentage of presence are those of Uruapan and Zacapoaxtla with 88.8%, in the case of the Federal IT is the IT of Orizaba with 61.1%. In general terms, decentralized ITs have higher presence rates than the Federal ITs. These results may mean that decentralized ITs are developing their mission more consciously.

Table 7. Regional Percentage of Presence FTIs.

| Region | States of Mexico | Percentage of Presence |
|----------------|---|------------------------|
| CENTRAL REGION | CDMX, EDOMEX, Guerrero, Hidalgo, Morelos, Puebla y Tlaxcala | 22.44% |
| NORTHEASTERN | Coahuila, Durango, Nuevo León, San Luis Potosí y Tamaulipas | 28.96% |
| NORTHWEST | BCN, BCS, Chihuahua, Sinaloa y Sonora | 25.73% |
| WEST | Aguascalientes, Colima, Guanajuato, Jalisco, Michoacán, Nayarit, Querétaro y Zacatecas. | 24.76% |
| SOUTHEAST | Campeche, Chiapas, Oaxaca, Quintana Roo, Tabasco, Veracruz y Yucatán | 22.22% |

Table 8. Regional Percentage of Presence DTIs.

| Region | States of Mexico | Porcentaje de Presencia |
|----------------|---|-------------------------|
| CENTRAL REGION | CDMX, EDOMEX, Guerrero, Hidalgo, Morelos, Puebla y Tlaxcala. | 36.2% |
| NORTHEASTERN | Coahuila, Durango, Nuevo León, San Luis Potosí y Tamaulipas. | 27.3% |
| NORTHWEST | Baja California Sur, Baja California, Chihuahua, Sinaloa y Sonora | 24.6% |
| WEST | Aguascalientes, Colima, Guanajuato, Jalisco, Michoacán, Nayarit, Querétaro y Zacatecas. | 37.7% |
| SOUTHEAST | Campeche, Chiapas, Oaxaca, Quintana Roo, Tabasco, Veracruz y Yucatán. | 33.9% |

Table 7 and 8 show the percentages of presence by region of the country. The States of the central region have the highest presence percentages with 36.2%. Likewise, the Northwest states have the lowest percentage of presence with 24.6%.

Table 9. FTIs Percentage of presence by State.

| State | Percentage of Presence |
|--------------------|------------------------|
| 1.- Durango | 40.74 % |
| 2.- Nayarit | 33.33 % |
| 3.- Nuevo León | 33.33 % |
| 4.-Aguascalientes | 31.48 % |
| 5.-Baja California | 31.48 % |
| 6.-Tamaulipas | 31.48 % |
| 7.-Yucatán | 31.48 % |
| 8.-Jalisco | 30.55 % |
| 9.-Sinaloa | 30.55 % |
| 10.-Sonora | 30.55 % |

Source: own elaboration.

Table 10. Percentage of presence by State of the country DTIs.

| Estado | Porcentaje de Presencia |
|--------------|-------------------------|
| 1.-Tlaxcala | 61.1% |
| 2.-Oaxaca | 58.3% |
| 3.- EDOMEX | 45.7% |
| 4.-Jalisco | 41.4% |
| 5.-Tabasco | 41.2% |
| 6.-Durango | 40.7% |
| 7.-Michoacán | 36.3% |
| 8.-Guerrero | 35.1% |
| 9.-Puebla | 34.9% |
| 10.-Campeche | 31.4% |

Source: own elaboration.

Tables 9 and 10 show the percentage of presence by States. In this case also the DTIs present higher presence percentages. Also in both tables only the State of Jalisco is the one that is present in both tables, this is an indicator of the difference that exists between both IT. The DTIs show missions more complete and adjusted to the current reality.

Table 11. Percentages of total presence.

| Dimension | Percentage of IT presence Federal / IT Decentralized |
|------------------------------|--|
| 1.- Students | 35.54 |
| 2.- Services | 59.7% |
| 3. Trouble | 39% |
| 4. Technology | 57.8% |
| 5. Consolidation | 12.1% |
| 6. Philosophy | 28.5% |
| 7.-Transparency | 3.1% |
| 8.-Employees | 5.4% |
| 9. Internationalization | 16% |
| 10. Linkage | 24 0.2% |
| 11. Extension | 23.8% |
| 12.- Teaching | 23.8% |
| 13. Research | 25% |
| 14.- Quality | 50.3% |
| 15.- Inclusive | 34.3% |
| 16.- Peace | 10.1% |
| 17.-Prosperity | 18.3% |
| 18.- Global Responsibility | 44.9% |
| Average Presence Percentage: | 28.4% |

Table 11 presents the overall results where FTIs and DTIs are included. The results indicate that the dimension with a greater presence percentage in all ITs of the TNM is "Services" with 59.7% followed by "Technology" with 57.8%. The lowest value obtained were "Transparency" with 3.1% and "Employees" with 5.4%. The major results are related to the technological objective of education, which is a service and with the main essence of the TNM, which is to train technology specialists.

Table 12. Comparative presence percentage between Federal and Decentralized IT
Source: own elaboration.

| Dimensios | Percentage of presence DTI / FTI |
|---------------------------------|----------------------------------|
| 1.- Students | 35.54 |
| 2.- Services | 59.7% |
| 3. Location | 39% |
| 4. Technology | 57.8% |
| 5. Consolidation | 12.1 % |
| 6. Philosophy | 28.5% |
| 7.-Transparency | 3.1% |
| 8.-Employees | 5.4% |
| 9. Internationalization | 16 % |
| 10. Linkage | 24.2% |
| 11. Extension | 23.8% |
| 12.- Teaching | 23.8% |
| 13. Research | 25 % |
| 14.- Quality | 50.3% |
| 15.- Inclusive | 34.3 % |
| 16.- Peace | 10.1 % |
| 17.-Prosperity | 18.3% |
| 18.- Global Responsibility | 44.9 % |
| Percentage of Presence Average: | 28.4 % |

Table 12 shows a comparison between the 10 main percentages of FTIs and DTIs. The results show that within the first 4 presence percentages there is no Federal IT. The DTI of Uruapan and DTI of Zacapoaxtla are those that have the highest percentage of presence of all the TNM with 88.8%. In second place are the DTI of Talá and Cuautitlan Izcalli, with 83.3%.

The FTI with the highest presence percentage is the IT of Orizaba with 61.1%. Also among the highest presence percentages were 25 FTIs and 76 decentralized DTIs, which is an indicator that decentralized have missions that are more aligned with the matrix of the study of missions and have clearer and more present dimensions in their mission.

CONCLUSIONS AND FUTURE LINES OF RESEARCH

The objective of this paper is to analyze the mission of the 256 Federal and decentralized IT that form the TNM. The overall results obtained show mainly higher percentages of the presence of decentralized DTIs compared to FTIs. In addition, specifically in the dimensions, it was found that the dimensions that are most considered are "services" (59.7%), "technology" (57.8%) and "quality" (50.3%). These dimensions are mainly related to the main activities of the TNM which is education (service), focus on engineering (technology) and quality.

On the other hand, dimensions such as "peace" included in the PND of the Government of Mexico only reach 0.85% in the FTIs and 19.2% in DTIs. In this context, there is also the dimension of "transparency", closely related to federal institutions, with 5.9% in FTIs and 0.7% in DTIs. Likewise, the dimensions where FTIs obtained the highest presence percentages are: "internationalization", "extension" and "transparency".

As for the number of FTIs and DTIs present in the presence percentages, the number of DTIs with 76 versus 25 FTIs is much higher. In addition, in terms of the division by states there is little coincidence, only the ITs of the State of Jalisco are present among the first 10 States with higher presence percentages in FTIs and DTIs (Table 8 and 9). However, the trend remains, that is, DTIs have a higher percentage of presence (41.4%) than FTIs (30.5%).

As for the division by region, the FTIs of the Northeastern States have the highest percentage of presence with 28.96% and in the DTIs the Western States show the highest percentage with 37.7%. In second place are the States of the Center with a 36.2%. It is important to note that in this division by region DTIs also had higher presence rates in their missions.

According to the literature, the results of this work are contrary to studies where the mission is clear and related to the company's activities (Bart, Bontis & Taggar, 2001; Bart & Baetz, 1998; Pearce & David 1987). Also, the results are similar to other studies where the "services/customers" play an important role in the mission (Peyrefitte, 2012; King, Case & Premo, 2010; Peyrefitte & David, 2006).

The greatest percentage of presence in the dimensions of the mission studied in DTIs is probably not by chance. DTIs were most recently created and have different work dynamics than FTIs. This may have influenced the definition of much clearer strategies that relate mostly to the mission, the basis of any organization's strategy.

It is important to note that the percentage of presence of the federal government's PND guiding axes, inclusive, peace, prosperity and global responsibility, are higher in "global responsibility" with 51.28% of FTIs and 42.3% in DTIs. In addition, global DTIs are those with a higher percentage of presence, for example in "peace" and "prosperity", the figure is 0.85% in FTIs 19.2% and 35.3%, respectively. This may be due to a more up-to-date FTI mission as it is a group of smaller institutions than FTIs.

As future research lines derived from this work should be considered that some of the dimensions are not contemplated within the mission, however show signs in the institutional web pages of each institute, which gives rise to a broader analysis and not only focused on the missions but on other elements that show the activities of the company. It is also important to analyze the visions of the ITs in order to determine the congruence of the mission and the vision, important axes of the strategy of these elements. It is also important to know if the ITs perform in practice the activities proposed in their mission. Finally, it is important that the TNM can integrate the 256 ITs that train them to work in a coordinated and non-isolated way.

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