The Role Student Engagement in School Assessment: Framework Student Self-Regulation, Student Motivation and Student Achievement

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Article Info	Abstract
	Research on student motivation and engagement self-regulation has not been explored much during the assessment as a learning evaluation. Evaluation is an important element in learning to determine the learning outcomes that students have followed. The learning process requires evaluation as a form of learning achievement so that it can show success. Previous research has not explored many variables of self-regulation of student attachment motivation on learning achievement. This study aims to examine the effect of self-regulation motivation and student engagement on learning achievement. The research was conducted using quantitative methods involving 157 students as respondents using Amos analysis. The results showed that self-regulation had no direct effect on learning achievement. Self-regulation affects learning achievement through student engagement. The involvement of students in mediation entirely influences self-regulation on learning achievement. This study shows that student engagement partially mediates the effect of student motivation on learning achievement. Teachers and principals can use this research in determining policies in the learning process.

Introduction

Learning achievement is an essential aspect of education to measure student success. Learning achievement has not been explored in-depth, especially on the variables that affect the achievement (Harahap et al., 2019). Learning ability is one aspect that supports the realization of students' ability to acquire knowledge. When students understand well the material presented by the teacher will lead to good learning achievement. There has been no in-depth exploration of the influence of motivation to understand student knowledge on student achievement. Previous research has shown inconsistency in the effect of motivation on learning achievement (Saptono et al., 2020); hence, it requires confirmation of further research. This study seeks to explore the effect of student learning motivation on better learning achievement. One of the other factors that influence is self-regulation when students can regulate themselves about the right time to learn and a strong will to participate in the whole series of education, thus encouraging good learning abilities (Liaw& Huang, 2013). Self-regulation is needed to ensure that all students can know that learning needs to be done carefully and requires a process. If students comprehensively understand the materials needed to be studied to prepare for the exam optimally, it will encourage success in the learning process. Students' learning abilities are also determined by the existence of self-regulation that can provide rules within the students themselves so that they can exercise control over themselves. The learning process needs to be carried out to provide knowledge transfer from teachers to students (Duchatelet&Donche, 2019). However, it is necessary for students to self-regulate to provide sufficient time in the learning process. Previous research has not explored the influence of self-regulation on learning achievement so much that further confirmation is needed about the effect of these two variables. Student engagement is a variable that needs to be explored in depth because it reflects the ability and desire of students to understand the material being studied comprehensively. The more students have a bond and willingness to study material in-depth, the more they learn, which will result in a good grade (Margunayasa et al., 2019). Testing and assessment are evaluations in education management to ensure that learning achievement can show the right results. Learning evaluation is indicated by an assessment that suggests that a lesson can increase student understanding. Based on previous research gaps, this study aims to examine the effect of self-regulation of student motivation on learning achievement mediated by student engagement.

Literature Review

Learning achievement is an indicator that determines success in education. Various background variables also determine a measurement of learning achievement. These various variables make learning achievement a benchmark that determines the success of education learning achievement is a measurement of the extent to which the learning abilities conveyed by the teacher and accepted by students can increase knowledge and skills. Learning achievement is a process that is achieved not only at one time but requires a long process so that it has

several phases that are measured through assessment (Jowsey et al., 2020; Margunayasa et al., 2019). Learning achievement and assessment are two things that are difficult to separate because assessment will determine learning achievement. Assessment is a form of evaluation in education management to provide a clear picture of the learning achievement that has been implemented. Learning achievement is a result of the learning process carried out in schools. Teachers are facilitators who provide understanding to students through material enrichment and independent learning with structured tasks to provide experience both cognitively, affectively, and psychomotorically (Huitt, 2011).

Hypothesis Development
Self-Regulation to Student Engagement

Self-regulation is an essential aspect of the learning process. Students can analyze the priority steps needed to ensure the learning process can be carried out optimally. Students who have good self-regulation are able to manage time and energy to ensure that the material can be studied thoroughly. Self-regulation affects student engagement because if students have a good regulation and time management(Nortvig et al., 2018), they are able to create an engagement in the learning process. A learning is considered interesting and becomes a priority in students because of their strong self-regulation ability. Self-regulation is a key in determining the success of learning so that the ability to self-regulate is an important aspect in the learning process.
H1: Self-Regulation influence Student Engagement
Self-Regulation to Student Achievement

Self-regulation is a determinant of learning success, so this study suspects that learning success is also determined by managing time and energy during the learning process. Self-regulation gives students the authority to determine the priority of time and energy to carry out learning according to their interests and desires. The learning process that uses self-regulation according to good governance will encourage successful learning so that students can master science and the materials that have been taught. Previous research has shown that self-regulating can encourage learning achievement so that students become more knowledgeable(Shamsuddin & Kaur, 2020; Tokan & Imakulata, 2019). The ability of students to have self-regulation also becomes a lot of balance when motivation in learning decreases so this study suspects that a self-regulation can make a person ready to face the assessment. The ability of students to understand a material also determines success in an assessment so that a good and optimal score at the time of the assessment will encourage the achievement of optimal learning. Learning achievement is not necessarily obtained when students study modestly, however, the ability to self-regulate is also an important factor in determining learning success(Jowsey et al., 2020).
H2: Self-Regulation influence Student Achievement
Motivation to Student Engagement

Motivation is an impulse that arises from within and from external students, motivation becomes a determinant in learning a material. If students feel the material being studied has high usefulness, then the motivation that appears will be stronger(Collie et al., 2012; Oh et al., 2020). Conversely, if students feel that the material being studied is not very useful, it can encourage lower motivation. Learning ability is also determined by the motivation behind students to become someone who understands the material well. If the material can be understood well, the motivation that arises is to deepen the mastery of the material presented by the teacher. Motivation is also determined by internal encouragement from within students in achieving an assessment. If students feel they want high scores, the stronger they are to learn a material to create student engagement in improving learning(Hariri et al., 2020).
H3: Student Motivation influence Student Engagement
Motivation to Student Achievement

Students who face an assessment will feel that learning needs to be improved in depth. When a student is facing an exam, there is an urge to study continuously to improve the learning process. Knowledge is obtained by learning that is done consistently and has a strong motivation in understanding the material taught by the teacher(Hariri et al., 2020). The ability of students' motivation comes from internal, so they can provide a strong impetus to master the material being taught. When students are able to have a motivation, it encourages learning achievement. A student who is able to have a strong desire to face an assessment smoothly and successfully will give his best efforts through optimal learning. Students' learning ability is determined by the existence of motivation that comes from within or from outside so that motivation has a positive effect on student learning achievement(Saeed et al., 2015).
H4: Motivation influence Student Achievement
Student Engagement to Student Achievement

The involvement of students in understanding a material also encourages excellent learning achievement. The classroom environment and student environment determine the ability of students in learning. Student engagement becomes a strong driver in mediating the effect of self-regulation and motivation on learning achievement. Self-regulation is a form of time and energy management in studying a material if a

student feels that the material being studied has good benefits, it encourages student engagement in the learning process and in independent learning. Learning achievement is also determined by the involvement of students who are driven by self-regulation(Martin & Ertzberger, 2013; Shamsuddin & Kaur, 2020). Time management is a form of self-regulation in understanding the material being taught. Students' ability to have self-regulation determines success in learning achievement. Motivation is one form of encouragement that can improve students' ability to understand the material, so that the ability that is driven by motivation will further strengthen learning achievement. Assessment is an evaluation that determines learning success, so that an adequate and objective assessment can encourage an indicator that can be used as a reference in determining learning success. Self-regulation and motivation are the driving factors in determining learning achievement, so that in the assessment process the evaluation and benchmark of success can be implemented.

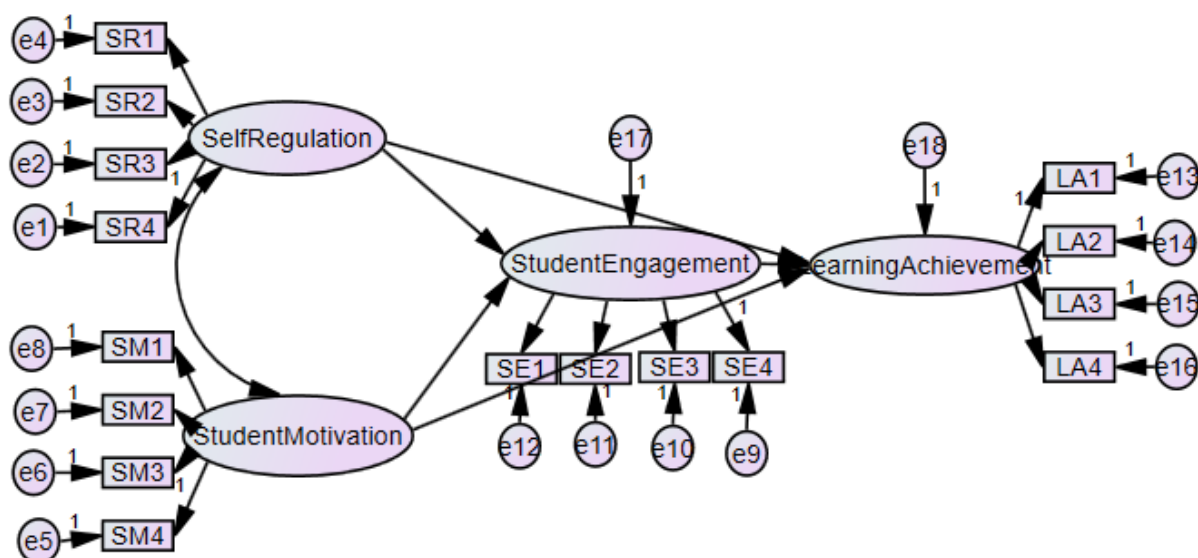H5: Student Engagement influence Student Achievement

Figure 1. Research Framework

Method

This research has a quantitative type by testing several variables, namely self-regulation, student motivation, student engagement, and learning achievement. This study has a sample of 157 with the criteria of students who have participated in the assessment at high schools in Semarang, Central Java, Indonesia. The research process is carried out by involving students who have met the criteria. The distribution of research questionnaires is carried out using Google forms so as to be able to reach a massive sample that supports equity. Students who were randomly sampled were asked to fill out a questionnaire(Hair et al., 2014). The data that the students have filled in is then tabulated and tested using Amos software.

Result

Validity

Based on validity test, all indicator is valid and meet the criteria in Table 1.

Table 1. Validity Test Result

Variable	Indicator	Pearson Correlation	Mean	Std. Deviation
Self-Regulation	SR1	0.826	4.2357	0.69004
	SR2	0.794	4.2357	0.69004
	SR3	0.808	4.2357	0.65182
	SR4	0.776	4.3503	0.57586
Student Motivation	SM1	0.854	4.1656	0.65874
	SM2	0.864	4.1720	0.69040
	SM3	0.763	4.3057	0.57359
	SM4	0.771	4.4268	0.62228
Student Engagement	SE1	0.796	4.3503	0.65893

	SE2	0.807	4.4841	0.58403
	SE3	0.832	4.3758	0.60356
	SE4	0.82	4.2930	0.59119
Learning Achievement	LA1	0.817	4.1465	0.63866
	LA2	0.83	4.1720	0.61162
	LA3	0.773	4.4522	0.61442
	LA4	0.753	4.2930	0.55771

Reliability Test

Based on reliability test, all variables have meet the criteria in Table 2.

Table 2. Reliability Test Result

Variable	Cronbach Alpha
Self-Regulation	0.813
Student Motivation	0.83
Student Engagement	0.828
Learning Achievement	0.804

Hypothesis Test

Based on Table 3, there are result of hypothesis test

Table 3. Hypothesis Test

	Estimate	S.E.	C.R.	P
Self-Regulation - >StudentEngagement	0.406	0.193	2,101	0.036
StudentMotivation - >StudentEngagement	0.517	0.197	2,625	0.009
StudentEngagement -> LearningAchievement	0.751	0.146	5,145	***
Self-Regulation - >LearningAchievement	-0.28	0.178	-1,572	0.116
StudentMotivation -> LearningAchievement	0.548	0.187	2,934	0.003

Discussion

This study aims to examine the effect of self-regulation on learning achievement. The test results show that there is no direct influence between self-regulation on learning achievement. Self-regulation is an important aspect of the learning process because time management is needed to develop management in the learning process to bring up the ability to manage time. It is necessary to ensure that learning abilities can be carried out properly through time management and effort in obtaining materials. The steps needed are to ensure that students have sufficient time to carry out the learning process. This research technique shows that self-regulation does not directly affect learning achievement, so this research has different results when compared to other studies. Previous research shows the effect of self-regulation on learning achievement(Othman et al., 2014). Motivation is an impulse that arises from within students; besides that motivation is able to strengthen the intention to carry out the learning process. If students feel that their learning abilities are encouraged by their motivation, they can strengthen their learning intentions and have student engagement in obtaining learning materials. The learning process is carried out in various stages and is carried out with tests and assessments that can show the quality of learning the ability of students to take part in learning is also seen by the existence of assessment indicators that can describe the condition of students as aoptimal(Jowsey et al., 2020). This study shows that there is an influence of motivation on learning achievement. Student engagement can be a mediating variable in the influence of motivation on learning achievement. This study indicates the importance of engagement in the learning process. Teachers can provide an apperception in the learning process to increase student motivation in participating in learning. If students can participate in learning to the fullest, this can encourage good learning achievement. The process of participating in learning requires encouragement that can improve the quality of learning to the maximum. The process of participating in learning will indicate learning achievement through an assessment that appears at the end of the lesson as a form of evaluation. The steps needed to improve students' ability to obtain an assessment are to encourage stronger motivation and self-

regulation. This study shows that student engagement can predict the effect of self-regulation on learning achievement. This study shows that learning achievement is fully mediated by student engagement on the effect of motivation on the achievement of students' engagement learning in partial mediation. Student engagement is a key that can support maximum learning achievement(Henderson et al., 2015; Tokan & Imakulata, 2019). Forming student engagement requires the teacher's carefulness and thoroughness to ensure that the motivation provided can support student self-regulation during the learning process. The steps needed are to build stronger apperception and motivation by providing positive benefits during learning. Students who are encouraged to take part in education feel interested in deepening their knowledge to increase motivation and self-regulation. The implication is that when motivation and self-regulation increase, it affects student engagement during the learning process. In addition, student engagement can encourage and create optimal learning outcomes.

Conclusion

This study aims to examine the effect of self-regulation on learning achievement mediated by student engagement. This study also examines the effect of student engagement-mediated motivation on learning achievement. The results of this study indicate that almost all hypotheses are supported in the study. Still,a hypothesis is not supported, namely the direct influence of self-regulation on learning achievement. This study indicates that learning achievement can be carried out optimally by utilizing student engagement. Hence, teachers need to build engagement in the learning process to improve self-regulation and motivation during learning. The process to build student engagement has the necessary steps, one of which is to build apperception. This research strengthens previous research so that it can support insight into the educational process in schools.

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