32. Investigating Level of Academic Integrity on High School Students in the Industrial Revolution Era 4.0

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Investigating Level of Academic Integrity on High School Students in the Industrial Revolution Era 4.0

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Abstract— **Academic integrity is an important part of the education process, which is a commitment and moral code in the academic world based on the fundamental values of honesty, trustworthiness, fairness, respect, responsibility. The rapid development of information and communication technology gives students the opportunity to be able to access information without limits. Students who have low academic integrity take advantage of the ease of technology to commit academic cheating in various ways. The purpose of this study was to determine the level of academic integrity of high school students in Central Java-based on differences in gender, grade levels, majors, school bases in the era of the Industrial Revolution 4.0. This survey research was conducted on 204 high school students. The research instrument used was the academic integrity scale ($\alpha = 0.77$). The results showed that there were differences in the level of academic integrity of students based on gender t (204) = - 4.13 p <0.05, grade f level (2.203) = 4.20 p <0.05, majors t (204) = 2.82 p <0.05 base school t (204) = 0.97 p <0.05. The results can be used as a basis for further research in schools focusing on improving students' academic integrity.**

Keywords: Industrial Revolution Era 4.0, academic integrity, education process

I. INTRODUCTION

Academic integrity is part of educational ethics that emphasizes someone to act in accordance with applicable norms; further academic integrity can also affect student learning processes. Instilling the values of academic integrity is very important because it is very closely related to learning motivation and student learning processes [1]. Academic integrity includes several things, including all information sources correctly, reporting findings accurately, completing assignments independently without cheating, and being honest during the examination process [2]. Seeing from the explanation shows that integrity is a very important thing possessed by a student in order to realize a better education process.

Students who have true academic integrity will avoid academic cheating behavior, but it is quite unfortunate, at this time there are still many academic cheats that occur in schools, the form of academic cheating that is often encountered in the school environment that is copying answers and giving answers during exams, paying others in carrying out assignments, imitating during exams, either directly or using the help of electronic devices and plagiarism from printed and electronic sources [3-4]. The results revealed that academic cheating is common among students both at the high school and college-level [5]. This shows that the rapid development of technology can be used to do things that are not good, thus further reducing the level of academic integrity of students.

Forms of academic cheating that often occur in Indonesia are usually found during national examinations. The second day of the implementation of the National Examination (UN) at the junior high level in Sulawesi was marked by a number of fraudulent actions such as cheating and looking at notes under the table [6]. As technology develops, cell phones can be used as a means of cheating, namely by storing cheat data in the cell phone memory or exchanging answers via short message service during exams [7]. One of them in Grobogan, Central Java, there were a number of students caught while cheating and exchanging exam answers, the UN answers were taken by participants in the form of answer sheets from cell phones and in other provinces, similar things happened in Bone, South Sulawesi. There was a student looking relaxed, issuing a cellphone from his helmet, then transferred the answer to the examination sheet [8]. This shows the low academic integrity students have, especially when conducting examinations.

Academic cheating is common in Indonesia, where data shows that 28 provinces have an academic fraud rate above 20% and there are only five regions where the level of UN organizing fraud is below 20%, including DIY, Bangka Belitung, North Kalimantan, Bengkulu, and Riau Islands [9]. These events must be quickly resolved, and there are other important factors where the current dependence of modern society on technology is very high, and students who will enter the university in recent years are digital generations with extensive use of cellular internet for social access [10]. So that in the current digital era, it is very important for students to

have academic integrity, especially for those who will continue in higher education so that they avoid forms of academic cheating in the digital age. One form of academic cheating that often occurs in this digital era that is often done by students and academics is plagiarism [11]. The amount of plagiarism that students do is influenced by the ease of students in accessing the internet to get information and learning materials, so students who lack academic integrity prefer shortcuts by taking other people's work or doing plagiarism.

A. Academic Integrity

Academic integrity is a very important thing for a student and academician to have. Academic integrity as a form of one's commitment in the academic world based on the values of honesty, trustworthiness, fairness, respect, responsibility [12-14]. Academic integrity is a form of positive behavior in the world of education that is important for students to avoid academic cheating behavior such as cheating [15]. Technological developments also affect all forms of academic cheating activities. In the current digital era, one form of academic cheating is plagiarism, sharing answer keys via cell phones [3-4, 11, 7]. Digital technology, especially online communication channels, should be used wisely as a means of communicating and maintaining academic integrity among students, teachers, researchers, and the general public [16]. So that the development of technology can be one of the means for the formation of student character, especially technology-based character integrity or e-education character integrity.

Then it can be concluded that academic integrity is an important positive behavior owned by students and academia which consists of honesty, caring, trusting, mutual respect and responsibility, such behavior is important to have so students can avoid academic cheating. Especially in the current digital era, students must have academic integrity to avoid all forms of academic cheating in the digital age. Therefore educators are expected to take advantage of technological advances, one of which is using technology to improve student quality and also the academic integrity of students [17] so that the development of technology can provide a positive influence on the academic development of students.

Academic integrity is also one of the important competencies that must be possessed by students in the era of the industrial revolution 4.0; integrity competencies include honesty, ethics, and morals [18]. In addition, this research is important to do because there are not many similar studies in Indonesia that focus on the disclosure of the level of academic integrity of students in schools, especially in the era of the industrial revolution 4.0 with the rapid development of information and communication technology. It is hoped that this research will be the initial foundation for developing certain interventions, especially in the field of guidance and counseling, to improve students 'academic integrity and reduce students' academic cheating in the future.

II. METHOD

This research is a survey research with cross-sectional survey design and involved 204 high school students from four schools in Central Java in Indonesia starting from students in class X, XI, XII, majoring in Natural Sciences and Social Sciences on the basis of religious and general schools. The research data collection instrument uses an academic integrity scale that refers to Zulmi Ramdani containing 17 items of statements from the construct of honesty ("Sometimes I say something that I don't do so that other people are happy with me"), trust ("I like to convey subject matter to friends"), fairness ("All students have the same opportunity to get involved in school activities"), respect ("I like to discuss school assignments with friends"), responsible ("If I get the trust to be an administrator of an organization at school, I will carry out with full responsibility "). Instrument assessment in the form of a Likert scale, where there are statements that are favorable, and some are unfavorable with five choices of answers ranging from strongly disagree to agree strongly. Instrument reliability shows an alpha coefficient of 0.77. The data analysis technique used is using the t-test to determine differences in the level of academic integrity of students from the categories of gender, class level, majors, and school base.

III. RESULTS AND DISCUSSION

The results of this study can generally be seen in Table 1, where the academic integrity of students can be seen from differences in gender, grade level, majors, and school base. In general, the level of academic integrity possessed by students is at a low level (M = 120.06, SD = 12.24). The low level of academic integrity of students is influenced by several things, including the student's personality and the school environment. So it is thus important for schools to cultivate academic integrity in various forms of activities in schools.

The results of this study, based on table 1, can be seen that gender has a significant difference in academic integrity. Female students have a level of academic integrity (M = 1.49, SD = 0.70) higher than male students (M = 1.04, SD = 0.73, t (204) = -4.13 p> 0.05). The results of this study are in line with the results of previous studies, which showed that female students had higher academic integrity than male students [19-22]. The results of other studies also show that male students tend to commit more academic cheating than female students, or in other words, women have a higher level of academic integrity than men [23-27]. The tendency of men to do more academic cheating or have lower academic integrity is influenced because men have higher expectations than women in academic matters, namely that men always want to be the best and stand out [28]. Emotions also influence the different levels of academic integrity between men and women. In addition, women tend to prioritize emotions in making decisions, such as deciding whether something is good or bad [23]. An example is the decision to commit academic fraud so that the results of this study reinforce previous research that shows that there are differences in the level of academic integrity in male and female students.

TABLE I. TEST DIFFERENT LEVELS OF STUDENT ACADEMIC INTEGRITY

Group	N	M	SD	Difference Test Results
Gender				
Male	61	1.04	0.73	$t(204) = -4.13; p<0.05$
Female	145	1.49	0.70	
Class				
X	135	1.34	0.8	$f(2, 203) = 4.20; p>0.05$
XI	42	1.58	0.63	
XII	29	1.07	0.43	
Majors				
Science	181	1.41	0.74	$t(204) = 2.82; p>0.05$
Social studies	25	0.97	0.62	
School Base				
Religion	16	1.53	0.70	$t(204) = 0.97; p>0.05$
General	190	1.34	0.74	
Total	**204**	**120.06**	**12.24**	

Besides, the grade level based on table 1 also shows the differences in the level of academic integrity possessed by students. Class XI students have a level of academic integrity (M = 1.58, SD = 0.63) higher than grade X students (M = 1.34, SD = 0.8), and grade XII students have the lowest academic integrity (M = 1.07, SD = 0.43, f (2,203) = 4.20 p> 0.05). The results of this study are in line with the results of research related to the relationship of anxiety with academic integrity possessed by high school students. Class XII students tend to have higher academic anxiety because they will face a national exam as a condition of graduation and entry further study in college. So class XII students consider academic cheating is a normal thing, and it is not a problem to do it in order to get high grades and pass the national exam [29]. In addition, class-level factors and situational factors also influence students' decisions to commit academic cheating [30] [31]. One of them is the national exam scores, which are an important requirement to be accepted at favorite universities, it also makes students of class XII have lower academic integrity than students at the previous grade level.

Furthermore, the results of the study also revealed that student majors did not have significant differences in the level of academic integrity, even though students with a natural science major had academic integrity (M = 1.41, SD = 0.74) higher than students with a social studies major (M = 0.97, SD = 0.62, t (204) = 2.82 p> 0.05. It shows that the department of study does not affect the level of academic integrity students have, this is in line with the results of the study which shows that there are three factors that influence students' tendency to commit academic cheating and show the low academic integrity of students, namely demographic factors include student age, student gender, student grade level, and student test scores, individual factors include academic self-efficacy, fear of failure, desire to excel and stand out, self-esteem, and morality, while the third factor namely situational factors which include teacher supervision and the environment school [30]. So it is thus important to cultivate the academic integrity of students in all majors.

Other results in this study also indicate that the school base, namely the base school base of public schools (M = 1.34, SD

= 0.74) has a slightly higher level of academic integrity than religion-based schools (M = 1.53, SD = 0.70, t (204) = 0.97 p> 0.05. The results of this study are different from the results of research, which shows that public schools commit more academic cheating when examinations compared to religious-based schools. Students or low levels of student academic integrity Schools that implement a religious-based education system should tend to have higher academic integrity than students who attend public schools. This is influenced by fear of violating religious rules and getting sins when committing academic fraud students who attend school religious-based a [33]. But in this study, it turned out to show different results so that faith-based schools do not determine that students have higher academic integrity than public-based schools.

The results of this study are important in the current era of the industrial revolution 4.0, where integrity competency is one of the competencies students must have in preparation for facing the challenges of the world of work and technological development. Integrity competence is one of the 12 competencies that must be had in the industrial revolution era 4.0, namely communication skills, courtesy, flexibility, interpersonal skills, positive attitude, professionalism, responsibility, teamwork, work ethics [18]. In addition, the results of the above study indicate that there are no significant differences between the four categories, namely gender, grade level, majors, and school buses, with the level of academic integrity possessed by high school students. This can occur due to situational factors, one of which is the ease of students to access the internet and commit academic fraud, such as plagiarism and copying assignments from the internet. This opinion is in line with the results of research that shows that globalization and technological development presents challenges related to integrity, including academic integrity [34]. The ease of information and communication technology also makes it easy for school students to commit academic cheating when students do not have good moral values [35]. In line with this research related to the level of academic integrity of high school students can be used as a basis and reference in developing programs to improve the academic integrity of students in the era of the industrial revolution 4.0.

IV. CONCLUSION

The results of this study reveal that the level of academic integrity possessed by students is influenced by gender, grade level, majors, and school base. But not all of these categories have significant differences. Only gender and grade level have significant differences. Male students tend to have lower academic integrity than female students. While the grade level shows that students of class XII tend to have lower academic integrity than students at the previous level, namely class X and XI. In addition, the differences in the majors of Natural Sciences and Social Sciences do not have significant differences related to the level of academic integrity possessed by students, although students majoring in science tend to have a slightly higher academic integrity than IPS majoring students. The school base, namely the religion-based school and the general school based on the results of the study also did not have a significant difference, although the religion-based school had a slightly higher level of academic integrity than the general based school.

This research is only limited to high school students and only covers four schools; besides, some groups in this study have an unbalanced number. Further research is expected to take a larger sample and cover many areas and include students at the elementary and junior high school levels. In addition, this study only measures the level of student academic integrity without seeing its relationship with other variables such as psychological variables. It is hoped that further research can look at students 'level of academic integrity and their relationship with students' psychological variables such as anxiety, morals, and other variables.

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FINAL GRADE

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GENERAL COMMENTS

Instructor

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