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## The development of academic dishonesty scale for online learning

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ABSTRACT: Education, which previously was conducted face-to-face, is forced to be done online in times of the Covid-19 pandemic. However, online learning has weaknesses, for example, the lack of monitoring by the teachers and the increase of academic dishonesty attempts by the students. The current existing measuring instrument for academic dishonesty is not yet covering the field of online learning. Therefore, this research is aimed to develop an academic dishonesty scale for online learning. The scale developed consists of four dimensions: intentional cheating, fabrication, plagiarism, and the facilitation of academic dishonesty or helping someone to do such things. It has 22 items and was in the Likert model. This research was conducted by involving 62 students from two different universities. The content validity was discussed by a series of meetings involving expertise both in psychometric and educational psychology. Based on the statistical analysis, the scale of online academic dishonesty has Cronbach's reliability of 0.861 and has a good discriminatory power. These all provide evidences that this scale has good validity and reliability and thus, could be used to investigate academic dishonesty specifically during online learning.

### 1 INTRODUCTION

Behaviors of academic dishonesty have a negative impact on the individuals who perform it, other people, and educational institutions. Students who perform academic dishonesty can obstruct their character development, the more often they do academic dishonesty, the more difficult for them to develop moral personality and ethics (Whitley & Keith-Spiegel 2002). Moreover, if more students are doing academic dishonesty, the quality of an institution can decrease (Heriyati & Ekasari 2020). It also affects people's trust in an educational institution (Rujoiu & Rujoiu 2014). If a habit of academic dishonesty is not handled quickly, it can spread to the next educational stage or even at the workplace. Those who are used to doing academic dishonesty tend to be dishonest to people who rely on their profession (Rujoiu & Rujoiu 2014).

When defined, academic dishonesty is an act of violating the submission of an assignment in general which is done by students to acquire grades, and which the assignment is intended to show the student's knowledge and understanding about the context or process of that assignment (Lambert *et al.* 2003).

Various factors can cause students to do academic dishonesty, whether from individual or institutional factors. On the individual level, academic dishonesty could happen because students have low self-efficacy, which makes them not want to put effort into academic activity (Finn & Frone 2004; Murdock *et al.* 2001), a presence of opportunity to do an act of academic dishonesty (Heriyati & Ekasari 2020; Lewellyn & Rodriguez 2015), poor time management (Lambert *et al.* 2003; Park 2010), students rationalizing assumptions or making excuses, such

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Various factors can cause students to do academic dishonesty, whether from individual or institutional factors. On the individual level, academic dishonesty could happen because students have low self-efficacy, which makes them not want to put effort into academic activity (Finn & Frone 2004; Murdock *et al.* 2001), a presence of opportunity to do an act of academic dishonesty (Heriyati & Ekasari 2020; Lewellyn & Rodriguez 2015), poor time management (Lambert *et al.* 2003; Park 2010), students rationalizing assumptions or making excuses, such

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as assuming that cheating has no effect to their friends, or thinking that cheating does not do any harm to their friends (Ashworth *et al.* 1997), and students feeling pressured to get a better score (Ameen, Guffey & McMillan 1996; Heriyati & Ekasari 2020; Lewellyn & Rodriguez 2015). Meanwhile, on institutional level, academic dishonesty could happen because the institution gives too many assignments (Ameen *et al.* 1996), teachers badly monitor their students (Heriyati & Ekasari 2020), the lack of teacher's discipline toward students who perform academic dishonesty (Guo 2011; Smith *et al.* 2002), and thinking of teachers that academic dishonesty is normal behavior (Whitley & Keith-Spiegel 2002).

In addition, there are also strong factors that present in academic dishonesty, which are technological factors. The rate of academic dishonesty increases because of the presence of technology that helps students to cheat with ease (Born 2003; Park 2010). The use of internet-based technology can benefit the institution and the teachers, however, the abuse of internet-based technology by the students could make them able to perform plagiarism effortlessly in academic activity (Scanlon 2004). Since the Covid-19 outbreak, the use of technology for education has been increasing, where education which was previously conducted face-to-face are becoming online, on the other hand, online learning actually causes an increase in academic dishonesty among students such as cheating in online examination with various form of cheating they can do with the internet (Jankea *et al.* 2021). The increase in academic dishonesty during online learning can be caused by the decrease in teachers' monitoring ability and the increase in students' opportunity to perform the act, where a lack of monitoring can increase academic dishonesty (Heriyati & Ekasari 2020)so with the opportunities that are caused by the nature of online learning (Heriyati & Ekasari 2020; Lewellyn & Rodriguez 2015).

There are various forms of academic dishonesty. The first one is cheating such as seeing each others' answers during an examination (Akbulut *et al.* 2008; Faradiena 2019; Iyer & Eastman 2008; Jurdi *et al.* 2011; Pavela 1978). Another one is plagiarism such as copying essays from the internet (Akbulut *et al.* 2008; Faradiena 2019; Iyer & Eastman 2008; Jurdi *et al.* 2011; Pavela 1978). The third one is outside help such as asking for help from another person to finish an assignment (Faradiena 2019; Iyer & Eastman 2008). The fourth one is falsification such as data manipulation (Akbulut *et al.* 2008; Faradiena 2019). The fifth one is fraudulence, which is an act of giving fake excuses to a teacher to obtain certain advantages (Akbulut *et al.* 2008; Jurdi et al 2011).

In order to measure academic dishonesty, a form of scale is needed, however, the development of an academic dishonesty scale that focuses on online learning has not received much progress. Therefore, this research aims to develop a scale for academic dishonesty in online learning using the typology of academic dishonesty by Pavela (1978).

### 1.1 *Academic dishonesty*

Lambert, Ellen, and Taylor (2003) define academic dishonesty as an act of violating the assignment submission in general which is done by students to acquire grades, and the assignment is intended to show the student's knowledge and understanding of the context or process of that assignment. According to Pavela (1978), there are four types of academic dishonesty, the first one is intentional cheating, such as using sources, information, or assistance that is prohibited in an academic activity. The second one is a fabrication, such as faking citations in an academic activity. The third one is plagiarism or copying an idea without citing the source. And the fourth one is the facilitation of academic dishonesty or helping someone to do such a thing.

### 1.2 *Dimensions of academic dishonesty*

There are several dimensions of academic dishonesty. The first dimension is cheating, for example, seeing each other's answers in an examination (Akbulut *et al.* 2008; Faradiena 2019; Iyer & Eastman 2008; Jurdi *et al.* 2011; Pavela 1978). Another dimension is plagiarism, for

example, copying essays from the internet (Akbulut *et al.* 2008; Faradiena 2019; Iyer & Eastman 2008; Jurdi *et al.* 2011; Pavela 1978). The third dimension is outside help, for example, asking for help from another person to finish an assignment (Faradiena 2019; Iyer & Eastman 2008). The fourth dimension is falsification, for example, data manipulation (Akbulut *et al.* 2008; Faradiena 2019). The fifth dimension is fraudulence, which is an act of giving fake excuses to teachers in order to obtain certain advantages (Akbulut *et al.* 2008; Jurdi *et al.* 2011).

## 2 METHOD

### 2.1 *The stage of scale development*

The research began with a literature study of academic dishonesty-related papers, then the researcher formulated a guide of an interview that is intended to find out the behaviors of academic dishonesty in online learning. The interview was conducted by involving under-graduate and postgraduate students who are doing online learning that is caused by the Covid-19 outbreak.

The results of the literature review and the interview were extracted into five dimensions: cheating, plagiarism, outside help, falsification, and fraudulence. The cheating dimension consists of six items, the plagiarism dimension consists of three items, the outside help dimension consists of four items, the falsification dimension consists of three items, and the fraudulence dimension consists of six items. In total, there are 22 items. The response of the scale has six options: "never", "rarely", "sometimes", "often", and "always".

### 2.2 *Research subjects*

The subjects of the current research were undergraduate students from two different universities. The sampling technique used in this research is accidental sampling. Accidental sampling is a technique of choosing a sample by chance (Sugiyono 2017). From the sampling result, there are 68 students and 16 of them are male and 48 are female.

## 3 RESULTS

### 3.1 *Descriptive analysis*

The researcher has done a descriptive analysis of the sample of this research. The results of the analysis are in Table 1.

Table 1. Demography.

| Demography | Mean | F | % |
|---|---|---|---|
| Sex | | | |
| Male | | 16 | 25 |
| Female | | 48 | 75 |
| **Age** | 20.2 | | |
| 18 | | 3 | 4.7 |
| 19 | | 13 | 20.3 |
| 20 | | 26 | 40.6 |
| 21 | | 18 | 28.1 |
| 22 | | 2 | 3.1 |
| 23 | | 1 | 1.6 |
| 30 | | 1 | 1.6 |

Based on the descriptive analysis, the total sample is 64 people. Of 68 people, 16 of them, or approximately 25 percent, are males. Meanwhile, the rest 48 people, or approximately 75% are females. The average age of the sample in this research is 20.2 years, with 18 years as the youngest age that consists of 3 people. The oldest age is 30 years which consists of only 1 person. The largest sample with a total of 26 people or approximately 40.6% is 20 years old.

### 3.2 *Reliability and discriminatory power analysis*

In order to determine the consistency of this academic dishonesty scale, the researcher conducted a reliability test. The result is given in Table 2.

Table 2.

| | Cronbach's $\alpha$ Efficiency |
| --- | --- |
| Academic dishonesty | 0.891 |

Based on the reliability test, the coefficient of Cronbach's $\alpha$ is 0.891. In other words, this academic dishonesty scale for the online learning field has high reliability.

To examine discriminatory power, the researcher conducted a discriminatory power assessment by looking at the item-rest correlation. And the result of the discriminatory power assessment given in the following table.

Table 3.

| Item | Item-rest correlation |
| --- | --- |
| C1 | 0.749 |
| C2 | 0.660 |
| C3 | 0.620 |
| C4 | 0.573 |
| C5 | 0.567 |
| C6 | 0.470 |
| P1 | 0.500 |
| P2 | 0.554 |
| P3 | 0.454 |
| OH1 | 0.178 |
| OH2 | 0.536 |
| OH3 | 0.708 |
| OH4 | 0.675 |
| FA1 | 0.225 |
| FA2 | 0.440 |
| FA3 | 0.547 |
| FR1 | 0.481 |
| FR2 | 0.014 |
| FR3 | 0.430 |
| FR4 | 0.476 |
| FR5 | 0.451 |
| FR6 | 0.219 |

Based on the discriminatory assessment, the following results were found. The discriminatory assessment was used to examine the discriminatory power of each item, whether

they are good or bad. According to Azwar (2015), items that have coefficiency > 0.3 are the items that have good discriminatory power. Almost all items have a discriminatory power score of more than 0.3. Of the 22 items, 18 items have good discriminatory power, meanwhile, there are four items that have bad discriminatory power. Items that have bad discriminatory power are OH1, FA1, FR2, and FR6.

## 4 DISCUSSION

The academic dishonesty scale that exists since before the pandemic era is the one that specialized in offline education, it can be acknowledged by the manual cheating behavior that occurred in an offline environment (Iyer & Eastman 2008; Pavela 1978). The academic dishonesty scale that is specialized for offline education is considered not suitable for online classes or lectures. In this research, the researcher developed an academic dishonesty scale that specialized for online learning with bachelor students as the research object. The development was done by interviewing some students from various universities to identify dishonesty behaviors in online learning. Then, the researcher analyzed the data and started the development of an academic dishonesty scale for online learning. After that, the researcher conducted the reliability scale and discriminatory power analysis on every item in the academic dishonesty scale.

The online dishonesty scale consists of 22 items that are divided into five dimensions. Those five dimensions are cheating, plagiarism, outside help, falsification, and fraudulence. The cheating dimension consists of six items, the plagiarism dimension consists of three items, the outside help dimension consists of four items, the falsification dimension consists of three items and the fraudulence dimension consists of six items.

Based on the reliability test, the researcher acquired Cronbach's $\alpha$ of 0.891 or greater than 0.60. Therefore, it may be inferred that this academic dishonesty scale has a good reliability. Reliability means how far a scale can be consistent or trusted if being used again to test other populations outside the research (Hardani *et al.* 2020; Sugiyono 2017). Therefore, it can be said that this academic dishonesty scale for online learning is consistent and can be trusted.

From the discriminatory assessment involving 22 items, 18 items have good discriminatory power. On the other hand, four items have bad discriminatory power, which are OH1, FA1, FR2, and FR6. The discriminatory power shows the correlation between item function and scale function in revealing individual differences (Azwar 2015). In other words, all items, except OH1, FA1, FR2, and FR6, are the items that can show the correlation between the item function and scale function.

The following is the explanation of items that have low discriminatory power. Item OH1 is about how often students ask lecturers for personal advantages. Item FA1 is about how often they are faking citations. Item FR2 is about how often students use cheating-related services from other people. FR6 is about the use of cheating tricks when performing online presentations. Those four items have low discriminatory power which could be caused by the rare occurrence of those behaviors in Indonesia. This is also supported by research which shows that cultural differences can affect the behaviors of academic dishonesty (Hendy *et al.* 2021), and these items were arranged using literature from different cultures and from the results of interviews with several subjects. In other words, those four items may not suitable to be applied in Indonesia to the behavior of online academic dishonesty.

## 5 CONCLUSION

In this research, the researcher developed an academic dishonesty scale that is specialized for online learning. This was based on the fact that there was yet no academic dishonesty scale that specialized for online learning because the previous researches still use academic

dishonesty scales that specialized for offline education. From the reliability analysis and the discriminatory power assessment, results that are reliable for the online academic dishonesty scale were acquired. Moreover, most of the items in the online academic dishonesty scale also have good discriminatory power. However, some items have low discriminatory power. The weakness of this study is that the validity of the items of the scale has not been tested yet, therefore the next research is suggested to do an in-depth validity test to this online academic dishonesty scale.

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