ORIGINAL ARTICLE

Development and Content Validity of an Instrument for Assessing the Fundamental Aspects of Academic Integrity

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ABSTRACT

Background: Academic integrity is a form of adherence to the principles that exist in academics. Several people have tried to develop instruments but none of the instruments explained the six fundamentals. The purpose of this study was to develop an instrument related to academic integrity by discussing six fundamental academic values as well as conducting content validity and readability tests.

Method: The type of research used is research and development with additional information with FGD and Expert review and readibility test. Where the samples collected passed 30 medical students in 7th semester. The sampling technique uses purposive sampling method.

Result: Through the results of the FGD, categories divided into 6, 18 sub categories. Furthermore, these results are 39 items. Aiken's V results showed by analysis on three experts, 4 items were found to be invalid. The readability test found that all items could be understood well. The last result got 34 items which 1 items are not eligible fo the instrument.

Conclusion: From 34 items are the result with 1 items removed because not eligible and 4 is not valid by Aiken's V. The readibility showed all instrument explained enough

INTRODUCTION

Academic integrity is one of the significant parts of the academic. Academic integrity is known as a form of obedience to all the regulations that exist in academics.[1] The International Center for Academic Integrity (ICAI), an international center that promotes all values of academic integrity and also promotes them to point out the ethics from institutions and societies all over the world. ICAI divides academic integrity into six fundamental values: honesty, trust, fairness, respect, responsibility, and courage.[2]

Based on data from The International Center for Academic Integrity (ICAI) by Dr. Donald McCabe at 24 high schools in the United States with more than 70,000 students studied. Obtained respectively in final year high school students and students who have graduated: 17% and 39% admit to cheating during exams, 40% and 62% admit to cheating when writing assignments, 43% and 68% are

total students who admit and commit cheating in exams and doing assignments.[3]

In a university, academic integrity has two objectives, developing the skills and competencies needed in finding a job and developing ethics such as ethics in decision making for various contexts. The professional world does not only require mastery of theory, competence and techniques from the job. A person who has a profession needs the value of integrity in himself and professional behavior in terms of ethics as a reflection of the person's university origin. Violations in the world of work include corruption.[4] The two actions are related because they involve deviant cooperation, such as concealing one another's actions from the leader.[5]

In the world of education, not all of them can comply with the policies and implementation of the values of academic integrity. Violations can also occur under the name of academic integrity. Violations of academic integrity in question such as dishonesty, misconduct, and others which are continuously reported from various academic levels.[6] *Academic Misconduct or Academic Dishonesty is divided into 5 types, namely Fabrication, Falsification, Cheating, Sabotage, and Professional misconduct.*[7]

At the end of 2019, there was an outbreak of a new type of virus called Coronavirus disease 2019 (COVID-19). One of the factors causing changes in the community environment is the transmission of the COVID-19 virus which can occur through direct or indirect contact. Transmission is through droplets such as coughing or sneezing and transmission of this virus can also pass through the air or droplet nuclei.[8]

This form of transmission of the virus forces people to limit interactions with one another in order to break the chain of transmission of the virus. Changes that have occurred due to the COVID-19 pandemic have also occurred in the world of academic learning, including academic integrity.[8] Academic integrity is a major issue in March 2020 because teachers and students must be able to survive the big and fast changes that

occur in the learning system that is usually done face-to-face now online.[9] The difference in the academic learning system can also give rise to new ways of violating academic integrity.[6]

Several people have tried to develop instruments for academic integrity. Research conducted by Marcus Henning (2020) created a Cross-Cultural Academic Integrity Questionnaire and has made various versions of this instrument. However, the developed instrument only explains fraudulent acts committed during academic learning.[10] Subsequent research conducted by Martina Mavrinac (2010) developed a questionnaire focusing on behavior and acts of violation of academic integrity.[11] Ramdani Z (2018) has compiled an academic integrity instrument with an evaluation of the application of the five principles of academic integrity in the form of honesty, trust, fairness, respect and accountability, but has not included an assessment of the courage domain.[12]

Therefore we wanted to develop an instrument related to the assessment of academic integrity by discussing the six fundamental values of academic integrity namely honesty, trust, fairness, respect, responsibility, and courage as well as carrying out content validity and readability tests.

METHODS

The design in this is research and development. This method is used to produce a new product and test its effectiveness. This research is supported by additional information for the development of instrument items obtained through a qualitative approach with the grounded theory approach which is a general methodology of analysis related to systematic data collection that is applied and uses a series of methods to produce an inductive theory about substantive areas. This qualitative approach will be carried out with FGD (Focus Group Discussion).

The research was conducted on the The Faculty of Medicine and Health Sciences in Universitas Jambi. The participats took through purposive sampling method.

Research began in July 2021 with my research informants were the last-year medical students studying in The Faculty of Medicine and Health Sciences in Universitas Jambi voluntarily participated in the study and who can express opinions and have active discussions.

The research instrument used in this study is to use an academic integrity scale developed by rs based on the goals to be achieved, in the form of honesty, trust, fairness, respect, sense of responsibility, and courage during academic learning.

The method used in collecting data in this study is to take secondary data and primary data. Primary data is data that we directly obtained from the source or the subject directly, which in this study was obtained from an online Focus Group Discussion (FGD). Secondary data is data obtained indirectly such as obtained through other people, documents and others where in this study data was obtained from available books or journals regarding academic integrity.

The FGD consisted of Jambi University medical students to collect qualitative data for making questionnaires and was divided into 14 students in semester 7 of the 2021/2022 academic year,

The Focus Group Discussion was divided into Last-year students of the 2021/2022 academic year, totaling 14 people with eight students with 8 students having a GPA > 2.99 for 6 semesters, and 6 students with a GPA ≤ 2. 99 for the last 6 semesters. The data obtained from the data collection process will then be processed using thematic analysis techniques, with the following steps: Data introduction, Code giving, Looking for themes. Recheck themes, Define themes, and Report results. Furthermore, the data will be arranged according to the blueprint prepared.

Expert Review will begin after the items have been prepared. This step will consist of 3 experts which Aiken's V analysis by giving a number between 1 to 5 for each item to determine whether the item is relevant or not.

After the instrument has been repaired and assessed according to Aiken's V, a readability test will be carried out. The content validity test will be supported by a readability test to check whether the respondent can understand the language composition of the instrument or not.

RESULT AND DISCUSSION

This research is research and development (Research and Development). The research was carried out at the Medical Study Program, Campus of the Faculty of Medicine and Health Sciences, University of Jambi from August to October 2021. This research aims to formulate academic integrity instruments and carry out content validity activities. This research is supported by 4 additional information for the development of the instrument items obtained through a qualitative approach, namely the Focus Group Discussion.

Based on the Table 1, the informants involved in this research were 14 Jambi University medical students to collect qualitative data for making questionnaires and were divided into 7th semester students of 2021/2022 academic year with a total of 14 people with 8 students having high GPA scores for 6 semesters, and students with low GPA for the last 6 semesters.

Categorization from FGD's coding

After going through the coding process, each coding result will be entered into the academic integrity domain based on its respective indicators. This stage is called categorization. Through the results of the FGD, the categorization was divided into 6 academic integrity values namely Honesty, Trust, Fairness, Respect, Responsibility and Courage.

These categories and sub-categories are obtained through the stages of Focus Group Discussion, Coding, Categorization and determining the appropriate categories and sub-categories of the analysis.

Tabel 1. Informant;s Identities for FGD methods

No	Name	Age	GPA
1	ARS	20	2,57
2	KAG	20	2,95
3	AGF	20	3,26
4	MA	20	2,8
5	AA	20	2,22
6	SCZ	20	2,46
7	AS	20	3,49
8	MW	20	2,74
9	MKD	20	3,2
10	DA	20	3,13
11	RAA	20	2,9
12	MFN	20	3,24
13	CTA	20	2,71
14	IF	20	3,31

Development of Assessment Instruments for Academic Integrity

From the findings shown in the Table 2., the next researcher developed an assessment instrument for academic integrity. The instrument used is by developing categories obtained from the results of the qualitative stage analysis, namely from Focus Group Discussions. Furthermore, these results are translated into statement items with a total of 39 items. the statements are the categories of assessment Never (TP), Rarely (J), Sometimes (KD), Often (SR) and Always (SL) and the questionnaire items are divided into 2 types, namely Favorable (F) and Unfavorable (UF).

Table 2. Categories and Sub-Categories from Focus Group Discussion

Kategori	Sub-Kategori
Honesty	Conformity of words and behavior Conformity of actions with applicable regulations Honest behavior without supervision
Trust	A strong belief in one's truthfulness Relationships between individuals based on respect Belief in the actions of others
Fairness	Not taking sides or individuals only Establishing justice between the agreement of two parties Sharing something equally to all people involved Getting something that suits their needs
Respect	Accepting the opinions and criticisms of others even though they do not agree Appreciating the quality and quantity of a person Believing in one's abilities Application of Seniority based on respect
Responsibility	Carrying out the obligations that should be carried out Understanding and following the policies implemented
Courage	Acting according to one's values and beliefs acting according to existing choices regardless of the negative consequences

Content Validity Result (Aiken's V)

Content validity index (CVI) in developing this measuring tool is used to see the relevance of each item developed. CVI in this study involved three experts where the results of content validity using Aiken's V formula. The interpretation of Aiken's V formula results is the coefficient value ranging from 0-1 for each item. The instrument is said to be valid if the value of V is between 0-1. Based on the results of the content validity test of Aiken's V, the instrument for Academic Integrity Values has good validation. However, four items of the instrument are declared invalid because they are below the value of 0.5. Items that are declared invalid will be excluded from the instrument. The total remaining items are 35 declared valid with a score interval of 0.5-0.83. The instrument was declared valid.

This reability test involves 30 medical students in the 7th semester of T.A 2021/2022 who will be selected by purposive sampling, where 15 of them are involved in FGD. Based on the readability results of 30 students, We found that the average results were that 35 measuring instrument items could be understood by students.

Acedemic Integrity Instruments

After all the items in the instrument for applying academic integrity were tested for content validity by expert review, readability test and suggestions related to several items from the seminar results, the final result of the instrument for applying assessments to academic integrity was 35 items consisting of 7 honesty, 5 trust, 8 fairness , 7 respect, 4 responsibility and 4 courage.

Tabel 3. Final Result of Academic Integrity Instrument

Domain	Statements
Honesty	I lied to the teacher so that I couldn't attend lectures online.
	I do the tasks with my ability.
	I express my opinion in the discussion (tutorial) by directly reading the reference source without studying it first.
	I cheated during an online exam.
	I entrust attendance to friends during online learning.
	I ignore my friend if he leaves me absent from class.
Trust	I underestimate my friends who have low grades
	I see my friend's assignment only as input on how to do the task.
	My lecturers still respect and trust me even though I make mistakes.
	The lecturer supervised me during the online exam session, which was quite strict.
	I got asked to prove honesty during an online exam for committing a suspicious act.
Fairness	I encourage passive friends in the discussion (tutorial) to argue actively
	My classmate and I decided unilaterally without discussing if there were problems in lectures.
	The division of my group's tasks is carried out without deliberation or by mutual agreement
	I got different grades from my friends tested by other lecturers even though our test answers were relatively the same.
	The questions I get during the exam are under the learning I get
	I got a lecture that matched the learning block at that time.
	we chose the selection of the chairman in my discussion group (tutorial) based on their gender
	The direction given by the teaching lecturer when I was in a practicum or discussion (tutorial) to me was not optimal.
Respect	I feel unappreciated when I give my opinion or ask questions during lectures
	During online lectures, I turn off my camera during classes.

	Not only teaching lecturers, but I also respect academic staff and staff around campus.
	I still respect my juniors even though there are levels between us.
	I ignore the lecture session if my friend does the material presented.
	I keep trying my best if I get a low test score.
	I need to show respect with the more senior students to set clear boundaries with the older ones.
Responsibility	I always study and do my work to the best of my ability.
	If I'm the leader in tutorial discussions, I always make sure my members don't make mistakes during the discussion.
	I will cheat in doing the assignment if the submission deadline is near.
	In the discussion, I will play the role of an active member of the opinion.
Courage	I'm breaking campus rules if I feel like no one is watching me.
	I reported my friend who was not actively involved in the discussion (tutorial)
	I dare to express my opinion to defend the thesis title that I submit to the lecturer.

Application of Academic Integrity Values

Prior to the implementation of the preparation of the assessment instrument on the value of academic integrity, the researcher collected data on the preparation of item mostly from the FGD (Focus Group Discussion) stage. The FGD stage resulted in an understanding of the application of academic integrity values by students of the Jambi University Medical Study Program. Based on the results of the analysis of the findings of the theme at the qualitative stage, there are 6 indicators on the assessment of academic integrity values, in the honesty domain there are 3 (three) sub-indicators, in trust 3 (three) sub-indicators, in fairness 4 (four) sub-indicators , on respect 4 (four) sub-indicators, on responsibility 3 (three) sub-indicators and on courage 2 (two) sub-indicators. Then in this section the findings of each of these themes are discussed.

From the results of research through Focus Group Discussion, the form of applying honesty obtained from FGDs can be broadly divided into 3 types. This category consists of Conformity of words and behavior, Conformity of actions with applicable regulations and Unsupervised honest behavior. Forms of application of trust which can be broadly divided into 3 types. This form is divided into a strong belief in one's rightness, relationships between individuals based on respect, and belief in the actions of others. Forms of application of justice which can be broadly divided into 4 types. The form of justice

consists of, Not taking sides on one side or the individual, Establishing justice between the two parties' agreements, Sharing something equally to all people involved and Getting something according to their needs. Forms of applying respect which can be broadly divided into 4 types, namely Accepting opinions and criticism of others even if they do not agree, Appreciating the quality and quantity of a person, Believing in one's own abilities, and Application of Seniority based on respect. Forms of implementation of responsibilities that can be broadly divided into 2 types, namely carrying out obligations that should be carried out and understanding and following the policies implemented. The form of applying courage can be broadly divided into 2 types, namely acting according to a certain value and belief and acting according to the existing choice regardless of the negative consequences that exist.

Uji Validitas Aiken's V

Based on the content validity test using the Aiken's V method conducted by us, the instrument developed was validated by 3 experts or professional validators in their fields, namely 3 (four) validators consisting of 1 (one) lecturer in the Medical Education Study Program and 2 (two) lecturer in the Psychology Study Program determined purposively.

The advice obtained from the validator is the selection and arrangement of the right vocabulary in the statement instrument. The

use of vocabulary in the questionnaire item statements was changed by using more understandable and less convoluted vocabulary and using more standard words. The vocabulary is made simpler so that students understand the statements conveyed.

The results of the Aiken's V content validity test which was carried out on the Assessment Instrument for Academic Integrity Values had good validity, although there were 4 items of the instrument which were declared invalid because they were below a value of 0.5. For items that are declared invalid, they will be deleted from the instrument so that the total remaining item items are 35 items. 35 items were declared valid with a score interval of 0.5-0.83. The instrument was declared valid because the validity score was above 0.50.

After the validity Test has been completed through expert review, the researcher conducts a readability test in which a readability test is carried out to check whether the respondent understands the composition of the language or sentence items on the instrument or not. In this study, the readability test was carried out by examining the legibility per item of the academic integrity instrument. The readability test is carried out by providing a readability test form in which each item will be assessed as understanding or not understanding these items. Based on the readability results of 30 students, the average result was that 35 measuring instrument items could be understood by students. The advice obtained

from respondents is that some items still need a little proper vocabulary preparation even though they are already understood.

The suggestions for improvement given by the validator and the respondents were used by we to perfect the assessment instrument on academic integrity so that it is better and ready to be tested. Suggestions for improvement from the validator in the study were followed up by revising. So that the final product is obtained in the form of an Assessment Instrument for Academic Integrity Values to see how the application of academic integrity values has met the eligibility criteria from the aspects of content validity and readability per item.

CONCLUSION

Based on the results of the research on the validity of the content of research instruments on academic integrity, it was concluded that in a Focus Group Discussion with students in the 7th semester of T.A 2021/2022 a total of 14 people produced 6 domains, 18 Sub Domains and 39 items of assessment instrument statements on the value of academic integrity.

Content validity using Aiken's V got 35 items declared valid and 4 items declared invalid and will be removed from the assessment instrument. Based on the results of legibility by examining 35 items that were declared valid by the validator, all items were declared to be readable and well understood by 30 students..

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