Enhancing Intrinsic Motivation in Higher Education Case Study: University Student in Labuhanbatu

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Abstract.
Intrinsic motivation is known as the most influential motivation compared to other types of motivation, because intrinsic motivation comes from within a person without any external intervention, so that activities carried out with intrinsic motivation will be carried out continuously with feelings of pleasure and deep focus. when doing it. If it is associated with the context of the world of education, it is very important for students to have intrinsic motivation when learning. Based on previous research, it was found that students who are intrinsically motivated have good academic achievements compared to students who do not have intrinsic motivation. Seeing the importance of the role of intrinsic motivation, this study wanted to examine variables that have a connection with the world of education on the emergence of intrinsic motivation. This study uses quantitative methods and uses an online questionnaire in collecting data. The sample in this study were students who were in Labuhanbatu district, North Sumatra. The selected sample criteria were students who underwent online learning methods during the COVID-19 pandemic. Researchers set the sample criteria because the transition from offline to online learning systems certainly disrupts student engagement with offline learning systems, so it is necessary to restore student engagement in post-covid-19 offline learning.

Keywords: *Intrinsic Motivation; Behavioral Engagement; Emotional Engagement; Self Efficacy*

I. INTRODUCTION

More than one billion students—more than 98% of the world's student population—have been affected by school closures due to the COVID-19 pandemic (UNESCO, 2020). Therefore, learning activities in schools have changed drastically, with a significant increase in the use of technology for online teaching and learning.This transition then urged the existence of an online learning and teaching system, thus providing new challenges for various parties ranging from students, teachers to schools. However, not all students can adapt quickly to the conditions of this new learning environment. At school age, motivation is a very important aspect for students.Without direct teacher assistance, students do not have the ability to establish learning goals and develop conceptual understanding through active engagement with existing digital resources [1]. Moreover, most teachers, who have never had online teaching experience or received relevant training, are unlikely to provide effective online learning [2]; [3]; [4].

They may not properly support student learning needs due to a lack of familiarity with their students' home learning environment.Research by Pietarinen et al [5], shows how emotional involvement in teacher-student relationships and peer groups, including with school-related well-being, contributes to students' cognitive engagement in academic activities and learning outcomes. Cognitive engagement, on the other hand, tests students' experience of competence and capacity to successfully cope with various academic tasks and participate in teacher-given academic activities [6]; [7]. The adopted perspective emphasizes active and effective learning and students focus on their school work and are involved in learning, not just in school activities [5].Furthermore, the unique combination of public health crisis, social isolation, and economic recession has led to anxiety and stress, which exacerbates existing mental health problems of students [8]. In this context, new problems and challenges stem from an important question: How can we bring out the intrinsic motivation that comes from within students? Intrinsic motivation refers to the degree to which an individual is forced to act because of the interest and satisfaction inherent in the action itself [9]; [10].

As a result, intrinsically motivated individuals have an “innate tendency” to seek out new things and challenges, to expand and exercise one's capacities, to explore, and to learn” [11].Ryan and Deci (2004) [10] describe competence as “feeling effective in ongoing interactions” with the social environment. Individuals' needs for competence are met because they undertake challenges that exercise their limits, and when they feel confident and effective in their operating environment [10]. Marsh's (2001) [12] research supports this idea and adds that when students don't find enough challenges in their academic work, they lose interest and find less value in their learning. These findings support the idea that intellectually stimulating classes, which challenge students to work hard [13], can naturally meet one's competency needs. This most likely occurs through increasing students' self-efficacy for learning.In addition, cognitively engaged students demonstrated an increased understanding of the value and importance of academic work through their perceptions, beliefs, thought processing, and strategies they used during academic tasks.

Thus, students who are cognitively engaged are more likely to demonstrate higher order thinking given their ability to be aware of the content, meaning, and application of academic assignments [14]; [15].The behavioral involvement dimension is defined as observable academic performance and participatory actions and activities [16]; [17]. Positive behavioral involvement is measured through academic performance that can be observed including: positive student behavior; presence; efforts to stay on task; contribution; participation in class discussions; involvement in academic and extracurricular activities; time spent working; and persistence and resilience when faced with challenging tasks [18].Therefore, we argue that behavioral, emotional, and cognitive engagement, as well as self-efficacy will affect the emergence of students'

intrinsic motivation in the classroom by its ability to support the basic psychological needs of students.

II. METHODS

Curent study uses Smart PLS, a statistical tool to test data through partial least squares equation modeling (PLS-SEM). Similarly, this approach has gained much prominence in studies of human resource management, marketing and related fields [19]. SEM is a second-generation multifaceted data investigation method that examines theoretically developed linear and additive casual relationships. This allows the researcher to examine the relationship between research variables.

SEM consists of internal and external model analysis, which examines the relationship between the independent and dependent variables and the relationship between the observed latent variables. PLS focusesed on analysis of variance, which can be done using Smart PLS. Therefore, this approach was chosen for this study.Survey method using a Likert scale with a range of 1- 5, namely strongly disagree (STS), disagree (TS), Neutral (N), agree (S), strongly agree (ST). The three questionnaires have also been tested for reliability. Validity test using construct validity and discriminant validity. Reliability test in this study using Cronbach's alpha and composite reliability. the selection of respondents in this study used a non-probability sampling technique with a convenience sampling method.

III. RESEARCH HYPOTHESIS

H1: Behavioral Engagement has a positive and significant effect on Intrinsic Motivation.
H2: Cognitive Engagement has a positive and significant effect on Intrinsic Motivation.
H3: Emotional Engagement has a positive and significant effect on Intrinsic Motivation.
H4: Self-Efficacy has a positive and significant effect on Intrinsic Motivation.

IV. RESULT AND DISCUSSION

3.1. Outer Model Testing

The analytical method used in this research was to analyze the data using the PLS SEM method by SMART PLS 3 software. In testing the outer model there are several things that are tested, namely the validity and reliability of research measuring instruments.

3.1.1 Validity Test

The validity test can ensure that the set of items used are qualified and representative and see how well the dimensions and elements of the concept have been described in the questionnaire [20]. The validity tests used in this study are content validity, and construct validity, namely convergent validity and discriminant validity.

Table 1. Convergent Validity Test Results

	Behavioral Engagement	Cognitive Engagement	Emotional Engagement	Intrinsic Motivation	Self-Efficacy
BE1	**0.873**	0.101	0.707	0.164	0.695
BE2	**0.840**	0.030	0.715	0.086	0.677
BE3	**0.886**	0.127	0.733	0.177	0.685
BE4	**0.869**	0.084	0.724	0.131	0.705
BE5	**0.848**	0.097	0.791	0.155	0.683
CE1	0.127	**0.830**	0.164	0.582	0.121
CE2	0.091	**0.846**	0.164	0.578	0.179
CE3	0.061	**0.844**	0.120	0.650	0.128
EE1	0.761	0.170	**0.866**	0.213	0.645
EE2	0.776	0.158	**0.875**	0.208	0.653
EE3	0.595	0.115	**0.745**	0.128	0.713
EE4	0.646	0.127	**0.813**	0.158	0.719
IM1	0.172	0.639	0.218	**0.880**	0.146
IM2	0.163	0.626	0.208	**0.871**	0.174
IM3	0.121	0.640	0.155	**0.895**	0.111
SE1	0.676	0.097	0.706	0.162	**0.814**
SE2	0.662	0.161	0.630	0.118	**0.847**
SE3	0.674	0.154	0.686	0.148	**0.858**
SE4	0.644	0.174	0.671	0.138	**0.835**
SE5	0.604	0.104	0.610	0.067	**0.732**

Source: Data Processed by Researchers, 2022

Based on Table 1 above, it can be seen that all the items have met the existing prerequisites, meaning that these items are able to explain the research variables well. If the loading value has a correlation with other constructs, the correlated items can be deleted, because these items cannot explain the research variables properly. Research items can be said to be valid when the loading value ranges from 0.4 to 0.7 [19].

Table 2. Fornell-Larcker Criterion. Discriminant Validity Test

Variables	Behavioral Engagement	Cognitive Engagement	Emotional Engagement	Intrinsic Motivation	Self-Efficacy
Behavioral Engagement	0.863				
Cognitive Engagement	0.109	0.840			
Emotional Engagement	0.580	0.176	0.827		
Intrinsic Motivation	0.173	0.720	0.220	0.882	
Self-Efficacy	0.797	0.169	0.810	0.164	0.819

Source: Data Processed by Researchers, 2022

Discriminant validity is the extent to which a construct is completely different from another construct by empirical standards. One way to find out whether a construct is discriminantly valid is to use the Fornell-Larcker Criterion. The Fornell-Larcker

criterion is an approach that compares the square root of the AVE value with the correlation of the latent variables [19]. Based on table 2 above, it can be seen that each variable can be declared valid discriminantly.

3.1.2. Reliability Test

Reliability test is used to measure the reliability or level of consistency of a questionnaire if it is used as a measuring instrument at different times.

Table 3. Reliability Parameter Values

	Cronbach's Alpha	Composite Reliability	(AVE)
Behavioral Engagement	0.916	0.936	0.745
Cognitive Engagement	0.792	0.878	0.706
Emotional Engagement	0.848	0.896	0.683
Intrinsic Motivation	0.857	0.913	0.778
Self-Efficacy_	0.879	0.910	0.670

Source: Data Processed by Researchers, 2022

Table 3 shows the value of Cronbach's Alpha and Composite Reliability. Based on the table, the value of Cronbach's Alpha and Composite Reliability shows a value greater than 0.70. So it can be said that all the constructs in this study are reliable and have consistency when used as a measurement from time to time.

3.2. Inner Model Testing

The SEM analysis of the theoretical model in Figure 1 is presented first and is followed by the final model. The theoretical model that has been analyzed and Table 4 shows the results of the direct effect SEM analysis, the test of the inner model aims to test the path relationship and the research hypothesis. In this study, testing was conducted to test the three hypotheses in this study by looking at the path coefficient value (β) and the significance of p-value. If the path coefficient value is positive, it indicates that the exogenous construct is positively related to the endogenous construct, whereas if the path coefficient value is negative, the exogenous construct is negatively related to the endogenous construct and the significance value of p value which shows a value of less than 0.05 (significant at 5% level) indicates that the hypothesis is supported [19].

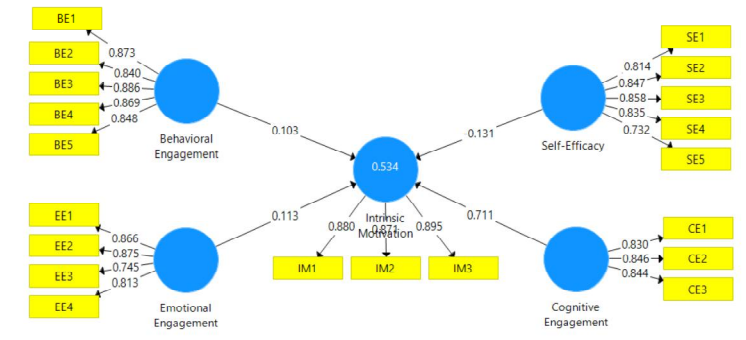

Fig 1. Hypothesis Test Results with Structural Model

Based on the model above, it is known that all the items used in this study have reached the lower limit of the loading value, so it can be said that the items can be used as a measuring tool and can be tested further.

Table 4. Path Coefficient and P-value

Variables	Path Coefficients	P Values
Behavioral Engagement -> Intrinsic Motivation	0.104	0.002
Cognitive Engagement -> Intrinsic Motivation	0.711	0.000
Emotional Engagement -> Intrinsic Motivation	0.112	0.001
Self-Efficacy_ -> Intrinsic Motivation	-0.131	0.021

Source: Data Processed by Researchers, 2022

The path coefficient table above shows all the relationships between the variables studied in this study. it can be seen that all path relationships have p-values less than 0.05 so it can be said that all relationships between variables have a significant

V. CONCLUSION

Intrinsic motivation refers to the degree to which an individual is compelled to act because of an inherent interest in and enjoyment of the action itself [9]. As a result, intrinsically motivated individuals have “an inherent tendency to seek out new things and challenges, to expand and exercise one's capacities, to explore, and to learn” [11]. Based on the explanation above, it can be understood that intrinsically motivated individuals will take the activities they carry out very seriously because these activities are part of the individual's own interests, so that when doing an activity that is of interest and is driven by intrinsic motivation, the individual will feel pleasure and focus only on what he is doing at the moment. As several meta-analyses have illustrated, intrinsic motivation represents the most autonomous form of motivation along the self-determination continuum, and is the strongest predictor of academic achievement and work quality compared to other forms of motivation (i.e., extrinsic or motivational). controlled motivation [21].

In the context of this research, the researcher aims to see the effect of engagement which consists of Behavioral Engagement, Cognitive Engagement, Emotional Engagement and Self-Efficacy on the emergence of students' intrinsic motivation towards learning. Based on the previous literature, it is said that students who are intrinsically motivated will increase their learning achievement [21]. This is in accordance with the theoretical concept, if students are intrinsically motivated then students will feel pleasure and at the same time have a deep focus on learning, this of course can make a student better in learning achievement and academic achievement. However, intrinsic motivation can be owned by someone depending on the person's condition and the right driving factor [11], so that in this study the researchers included

the engagement variable as a driving factor that could trigger the emergence of intrinsic motivation in students in the learning process.

From the results of data analysis, it was found that the engagement variable consisting of Behavioral Engagement, Cognitive Engagement, Emotional Engagement was proven to have positive and significant results on the emergence of intrinsic motivation. These results are in line with the findings of Cristenson et al (2012) [14] conceptualizing student engagement as a latent factor consisting of student involvement, continuous attention, and lack of boredom. This finding is very important for academics and educators to know so that it can be a reference in increasing students' intrinsic motivation which in the end this intrinsic motivation can help students improve their academic achievement. Intrinsic motivation is the highest motivation compared to other types of motivation, because this motivation gives a person encouragement from within himself without any outside influence, so that if an activity is carried out intrinsically motivated, then the activity will be carried out continuously with a strong focus. in and pleasure in doing so. Based on this, why intrinsic motivation is very important to be researched in the academic field.

Another finding from this study is that self-efficacy has a positive and significant effect on intrinsic motivation. Self-efficacy is defined as “belief in one's ability to organize and carry out the actions necessary to produce a given achievement” [22]. Self-efficacy then clearly represents a major component of an individual's competency needs, and therefore, according to the SDT proposition, the path to student intrinsic motivation.

Based on the results of the research analysis, it can be concluded as follows:

1. Behavioral Engagement is proven to have a positive and significant effect on Intrinsic Motivation.
2. Cognitive Engagement is proven to have a positive and significant effect on Intrinsic Motivation.
3. Emotional Engagement is proven to have a positive and significant effect on Intrinsic Motivation.
4. Self-Efficacy has been proven to have a positive and significant effect on Intrinsic Motivation.

VI. ACKNOWLEDGMENTS

Intrinsic motivation is the type of motivation that most strongly influences individual behavior compared to other types of motivation, because intrinsic motivation comes from within the individual itself. In the world of education, it is important for students to have intrinsic motivation in learning, because intrinsically motivated individuals will be very focused and happy in the activities they do, in the context of this study, learning. so that the final result will improve student achievement. This study provides insight to educators regarding the role of engagement and self-efficacy in influencing the emergence of intrinsic motivation. The researcher

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