Unveiling Determinant of Student Engagement

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Abstract: The purpose of this study was to examine the moderating role of feedback in the influence between lecturer leadership, lecturer engagement, and student engagement. The study was conducted on students at the Universitas Muhammadiyah Sumatera Utara, Indonesia where the number of respondents who filled out the questionnaire was 231 respondents. With structural equation modeling, using SemPLS, a moderation test was conducted to prove the research hypothesis that had been designed. The results of the study show that although feedback affects student engagement, feedback does not act as a moderator in the influence between lecturer leadership, lecturer engagement, and student engagement. Meanwhile, lecturer engagement was found not to affect student engagement, but lecturer engagement significantly affected student engagement. In learning, lecturers must pay attention to feedback and lecturer leadership, if lecturers expect high student engagement. This has implications that lecturers have to provide feedback and practice lecturer leadership in the classroom.

Keywords: Lecturer Engagement, Lecturer Leadership, Student Engagement, Feedback.

INTRODUCTION

Involving students in learning is one of the many goals facing educators, in addition to improving student learning. Generally speaking, one of the better indicators of learning and personal development is student engagement, such as critical thinking and grades, on the premise that the more students learn or practice a subject, the more likely they are to learn it. This causes teachers to want full engagement from students in their class. Newmann states that the most pressing and frequently encountered problem for students and teachers is not a low achievement, but student disengagement which is often indicated by students interrupting class, skipping it, or failing to complete assignments. The opposite is engagement. Engagement involves a psychological investment in learning, understanding, or mastering knowledge, skills, and crafts, not just a commitment to complete a given task or to earn symbols of high performance such as grades or social approval. Contrarily, in this context, engagement is seen as a behavior (moving energy in one's work role) that is a manifestation of psychological presence, a particular mental state. As a result, engagement is thought to produce favorable results, both at the individual level (personal growth and development) and at the organizational level (quality of performance). Student engagement is viewed as motivated behavior that can be measured by the type of cognitive strategy students choose to employ (e.g., simple processing strategy, elaboration), and by their willingness to persevere with task difficulty by controlling their learning behavior. Engagement refers to the active engagement of students in online education to access the

desired learning outcomes. Engagement in learning is influenced by whether student masters or demonstrates academic performance and learning goals are positively associated with increasing levels of engagement. Student engagement describes a learning task or value that refers to cognitive processes, active participation, and students' emotional engagement in certain learning procedures. Eventually, behavioral engagement, emotional engagement, and cognitive engagement affect the perceived effectiveness of learning. Student engagement which consists of affective, cognitive, and behavior is influenced by psychosocial aspects, namely university aspects (teaching, staff, support, and workload) and student (motivation, skills, identity, and self-efficacy) and student engagement provide satisfaction for students and continuous learning. The logic is that with engagement, students will be more active and learn a lot, in addition to getting more interaction and feedback from the teacher, so they are more satisfied. In addition, it can be said that student engagement refer to a students' willingness to participate in regular school activities, such as attending class, submitting assignment, and adhering to teacher instructions.

Many benefits can be taken from student engagement, so engagement is important to research. Several studies have found many antecedents of student engagement, such as the characteristics of all learners are significant predictors of online student engagement. On the other hand, Chiu found that online learning environments that supported greater autonomy were more likely to engage students cognitively in acquiring two crucial lifelong skills, namely digital literacy and self-directed learning and an environment lacking in emotional engagement, tools and resources, combined with the perceived digital disability and ineffective learning experiences of the students suppress cognitive and emotional engagement. Besides that, researcher found students are engaged, find learning enjoyable and meaningful, and invest energy and effort in their learning.

Student engagement certainly does not stand alone but is also supported by lecturer engagement. Teacher involvement can be demonstrated by a variety of behaviors, such as planning and developing lessons and curricula, and teaching through describing, explaining, helping, listening, reflecting, encouraging, and evaluating. For teachers, the challenge is how to get students to do academic work and take it seriously enough to learn; while for students, the challenge is how to cope with the demands of teachers to avoid boredom, maintain self-esteem, and, at the same time, succeed in school. Simultaneous teacher and student engagement involve a psychological investment in doing good work, but teacher engagement has its specific character. It is supported by Bilal et al. who state that active lecturer engagement in higher education is needed to make their students satisfied with their pedagogical abilities, and increase their interaction with students. Teacher support is important for student engagement, with the expectation that teachers demonstrate a caring, well-structured learning environment that demonstrates high, clear, and fair expectations.

With social exchange theory which describes the behavioral interaction between two or more individuals and how this behavioral interaction strengthens the behavior of others, the researcher links student engagement with lecturer leadership. As stated by Zepke, one of the factors that influence student engagement is the teacher-student relationship. The teacher-student relationship that may occur is related to the transfer of knowledge and technology, and teacher behavior in directing and motivating students in achieving learning goals. The teacher can be said to be the leader in the class he cares for. Leaders' direct students to complete assignments, motivate students to complete assignments as well as possible, help students solve the problems they face, and various other leadership roles.

Transformational classroom leadership has substantial benefits in terms of increasing the quality of the classroom experience for students and teachers. Meanwhile, Leithwood and Jantzi concluded that the effect of transformational leadership was significant although weak on student engagement. How the leader in the class can inspire their students with transformational leadership to always be engaged in learning, will contribute to student learning outcomes, but another study, Balwant use authentic leadership and found that authentic leadership is related to student engagement and academic performance. The different types of lecturer leadership in this class become a research gap, where researchers

will use transformational leadership that can inspire students, especially in showing engagement in the classroom. Many studies in the field of organizational behavior and psychology have been conducted to examine the influence of leadership and engagement but at the level of leaders and employees/members of the organization. University as a service industry, of course, contains elements of leaders and members, where researchers in this case make an analogy for lecturers as leaders in the class, with students as members. The leadership style used by lecturers is very important in encouraging student engagement. There is still very little research that uses leadership and engagement relationships between students and lecturers, so this research is very interesting by displaying the novelty of this relationship. By raising feedback as a moderating variable, this study pays great attention to feedback that occurs in student and lecturer relationships, especially if one expects high student engagement in class.

Differences in student engagement in the classroom, transformational leadership practices by lecturers, and low lecturer engagement in class, especially in online learning, are the basis for the importance of conducting this research. The low student engagement is triggered by the low lecturer engagement and the less effective lecturer leadership. Lecturers have not fully become inspirational figures in the class who can grow and increase student engagement. On the other hand, in engagement in the classroom, feedback is very important, because, with feedback, the lecturer knows how far the students understand the material. Meanwhile, from the student's perspective, they know the extent to which the lecturer pays attention to student understanding. Involvement in providing feedback to peers and responding to peer feedback is quite related to learner-content interaction, and learner-content interaction is strongly correlated with learning outcomes. Feedback can explain learning outcomes. In addition, feedback and engagement explain the variance in student performance. Chakraborty and Nafukho emphasized that one of the student engagement strategies that can be used is to provide consistent, timely feedback. In practice, providing feedback in e-learning is considered quite complicated by lecturers and students, citing time constraints, and difficulties in online communication.

For these reasons, the researcher deems it necessary to research the role of lecturer transformational leadership and lecturer engagement on student engagement moderated by feedback. This research is important because student engagement is quite difficult during the e-learning period, and support from lecturer engagement and lecturer leadership is very important, where this relationship will be strengthened by feedback. The results of this study will provide input for lecturers and institutions related to how students perceive lecturer leadership and lecturer engagement with student engagement moderated by feedback, so lecturers can demonstrate effective leadership in their engagement with students.

The basic idea of this research is derived from the assumption that in a person's life there is dependence on others, in addition to a strong desire that comes from him. According to the social exchange theory (SET), when two or more people interact behaviorally, it reinforces other people's conduct because it is thought that exchange will benefit both parties. Researchers take an approach based on SET, where lecturer engagement and lecturer leadership will increase student engagement. In addition, the feedback obtained, both from teachers and colleagues, is a social exchange that will strengthen student engagement. On the other hand, researchers use self-determination theory (SDT), as a psychological construct, then, referring to self-caused actions, people act of their own volition, based on their own will. Self-determined behavior is an intentional act and is self-caused or self-initiated. Based on SDT, the engagement made by lecturers and students is caused by their own will on purpose. This study aims to examine the moderating role of feedback in the influence of lecturer leadership and lecturer engagement on student engagement. So, the researcher formulates the research hypothesis as: i) H1: lecturer leadership has a positive effect on student engagement; ii) H2: lecturer engagement has a positive effect on student engagement; iii) H3: Feedback moderates the influence of lecturer leadership on student engagement; and iv) H4: Feedback moderates the effect of lecturer engagement on student engagement.

RESEARCH METHOD

With an explanatory approach, this study intends to examine the relationship between variables, where data collection is carried out by survey. The subjects of this study were students at the Universitas Muhammadiyah Sumatera Utara, with a total population of 20,418 people. Therefore, the researcher determined the sample using the Slovin formula, with an e of 5%, so that the total sample was 392 students. Data collection is done by using Google Form. From the entire sample, the number of respondents who filled out the questionnaire was 231 respondents, so the response rate was 58.9%. With the number of male students as many as 99 people (43%), and female students as many as 132 people (57%). The age of the respondents is 18 years to 24 years, which is presented in Table 1.

Table 1. The respondent's age

Age	Amount	Percentage
18 years	1	0%
19 years	48	21%
20 years	90	39%
21 years	66	29%
22 years	20	9%
23 years	4	2%
24 years	2	1%

The table shows that the number of students aged 20 years is the largest, where at that age students already have greater learning motivation by demonstrating engagement in class. So far, the relationship between transformational leadership and engagement has only been used to assess employees at the company and has never been used for students. Hence, with the approach of social exchange theory and self-determination theory, researchers will examine the role of lecturer leadership and lecturer engagement on student engagement moderated by feedback. Student engagement is the involvement of students in learning, which is measured by the dimensions, namely psychological motivation, peer collaboration, cognitive problem solving, interaction with instructors, and learning management. Lecturer leadership is a lecturer's lead character in the classroom, which is measured by the dimensions of directing students to complete assignments, motivating them to complete assignments as well as possible, helping students solve the problems they face, and various other leadership roles. Lecturer engagement is the engagement that lecturers do in their class, which is measured by the dimensions of vigor, dedication, and absorption. While feedback is information received by students about the learning process and the results of its achievements, which includes providing feedback to colleagues and responding to peer feedback, and obtaining feedback from lecturers, with dimensions of content of the feedback, feedback delivery, timing of feedback.

To test the proposed hypothesis, the researcher used moderated hierarchical regression, with the help of Smart PLS software. The partial least squares approach (PLS), is a method of analysis that may be used to estimate models with formative constructs and can work with variables and nonmetric data that present non- normal distributions [28]. PLS estimates measurement models and structural models, where the measurement model involves variables measured by indicators and formative variables measured by reflective indicators.

RESULTS AND DISCUSSION
Results

At the initial stage, the researcher evaluates the outer model with a reflective model on each indicator and evaluates the inner model using a significance level of 5%. Values of factor loadings indicate the validity value of the research instruments, while the reliability value is indicated by composite reliability (CR), average variance extracted (AVE), and Cronbach alpha (CA). Researchers use the cut-off value of validity (loading factor) is 0.7, so that a loading factor value that is smaller than 0.7 will not be used in bootstrapping or hypothesis testing. The researcher uses Cronbach's alpha value >0.7, composite reliability

(CR) >0.7, average variance extracted (AVE) >0.5, this shows that consistency between items is acceptable.

Meanwhile, the variance inflation factor (VIF) value indicates the multicollinearity that occurs between the researches variables. The cut off VIF value used to assess multicollinearity is 5, so the VIF values must be less than 5, it can be stated that among the research variables there is no multicollinearity. As for the value factor loadings, CR, AVE, CA, and VIF are presented in Table 2.

Table 2. Factor loadings, CR, AVE, CA, and VIF

Variable	Items	VIF	Factor loadings	CR	AVE	CA
Lecturer leadership	Lecturers direct students to complete assignments independently	1.639	0.617			
	Lecturers motivate students to always be involved in the learning process	3.184	0.815			
	Lecturers motivate students to complete assignments as well as possible	3.288	0.825			
	Lecturers motivate students to work together in completing assignments	2.188	0.718			
	Lecturers direct students to help colleagues who have difficulty learning the material	2.855	0.794	0.937	0.623	0.924
	Lecturers are willing to help students in solving problems they face related to lessons	3.190	0.827			
	Lecturers can inspire students to follow campus life	2.946	0.841			
	The ideal role of lecturers in motivating students is very important	1.978	0.722			
	Lecturers can set a good example for students	2.197	0.764			
	Lecturers direct students to always be involved in the learning process	2.850	0.771			

Table 2. Factor loadings, CR, AVE, CA, and VIF (continued)

Variable	Items	VIF	Factor loadings	CR	AVE	CA
Lecturer engagement	Lecturers are actively involved in e-learning by providing answers to student questions	2.414	0.816			
	Lecturers try hard so that students understand the material presented in e-learning	4.527	0.914			
	Lecturers work hard to teach in a method that is easily understood by students	3.153	0.861	0.946	0.747	0.932
	Lecturers show interest in e-learning actively	3.456	0.896			
	Lecturers show their involvement with students both in class and outside class	2.395	0.824			

	Lecturer shows concern for student involvement in e-learning	3.094	0.870			
Feedback	Students get feedback from colleagues	2.033	0.642			
	Feedback from lecturers shows that lecturers pay attention to the level of student involvement	3.217	0.767			
	Students get feedback from lecturers	2.748	0.801			
	The feedback given by the lecturer can provide a better understanding of the material	3.157	0.805			
	Feedback given by colleagues is able to help understand the material better	2.375	0.724			
	The feedback given by the lecturer shows that the lecturer has an attachment to e-learning	3.154	0.808	0.936	0.621	0.923
	Feedback given by students shows that students have an attachment to e-learning	2.817	0.786			
	Feedback from students shows that students understand the material well	2.636	0.796			
	Feedback from students shows that students have an interest in the material presented	3.126	0.797			
	Feedback from lecturers shows that lecturers have an interest in interacting intensively with students	2.580	0.778			
Student engagement	I am happy if I can be actively involved in Learning	1.777	0.634			
	Lecturers are quite interactive in the learning process	2.652	0.721			
	Lecturers respond well to the learning process	2.674	0.738			
	I can manage my study schedule well	1.902	0.692			
	I have regular discussions with colleagues about solving Learning problems	3.008	0.713			
	I have regular discussions with lecturers about solving Learning problems	3.010	0.727			
	Actively involved in learning can show my intelligence	1.495	0.558			
	Being actively involved in learning shows that I am interested in learning	2008	0.605	0.906	0.660	0.872
	Being actively involved in learning shows that I have high learning motivation	2.195	0.627			
	Colleagues collaborate in completing the exercises given by the lecturer	2.437	0.661			
	Colleagues collaborate in studying the material	2.782	0.711			
	I am actively involved in doing group assignments	1.758	0.614			

I can complete the given task	1.758	0.648
I can understand the material given well	2.190	0.718

The table shows the validity and reliability of the research instrument. Among the 40 items in the measures used in this study, 11 items were deleted based on factor loadings less than 0.7, because the instrument was declared invalid. Furthermore, the researchers did bootstrap to test the research hypothesis. The results of bootstrapping to test the moderating role of feedback in the relationship between lecturer leadership, lecturer engagement, and student engagement are presented in Table 3.

Table 3. Moderation test results

Connection	Original sample	Sample mean	Standard deviation	T Statistics	P Values	Conclusion
Lecturer leadership Student-engagement	-0.076	-0.061	0.143	0.528	0.598	Rejected
The effect of moderating feedback on lecturer Leadership Student engagement	-0.0128	0.0127	0.127	1.012	0.312	Rejected
Lecturer engagement☐ Student engagement	0.466	0.458	0.132	3,520	0.000	Accepted
The effect of moderating feedback on lecturer engagement☐ Student engagement	0.133	0.130	0.115	1.159	0.247	Rejected
Feedback Student engagement	0.418	0.416	0.102	4.087	0.000	Accepted

Table 3 shows the results of the moderation test that has been carried out on all research variables. The results of the study show that lecturer engagement influences student engagement, feedback influences student engagement. However, the feedback does not play a role in moderating lecturer leadership and lecturer engagement on student engagement.

DISCUSSION

Hypothesis 1 which states that lecturer leadership affects student engagement is rejected, meaning that lecturer leadership does not affect student engagement. This is not in line with the research results by Balwant, that transformational leadership can inspire students to always be engaged in learning. Students need to get an inspiring presentation, which comes from the experience provided by the lecturer. In this study, social exchange theory has not been able to adequately explain the influence of lecturer leadership on student engagement. Students who are willing to be engaged in the learning process may be influenced by other factors, which can come from themselves. Hypothesis 2 which states that feedback moderates the influence of lecturer leadership on student engagement is rejected, meaning that feedback does not moderate the influence of lecturer leadership on student engagement. This shows that feedback is not a moderator or reinforcement of lecturer leadership on student engagement.

Hypothesis 3 which states that Lecturer engagement affects student engagement is accepted. This research supports research conducted by Bilal et al. that lecturer engagement is one source of student satisfaction, so it can increase lecturer interaction with students. Klem and Connell also emphasized the importance of lecturer support for student engagement. Social exchange theory can explain that between lecturer engagement and student engagement there is a social exchange, which is pending for students to show engagement. Hypothesis 4 which states that feedback moderates the effect of lecturer engagement on student engagement is rejected. This means that feedback plays a role in moderating the influence of lecturer engagement on student engagement. Students will show engagement when lecturers also show engagement, not because of feedback, but because feedback comes from colleagues and lecturers.

Hypothesis 5 which states that feedback affects student engagement is accepted.

This strengthens the research conducted by Chakraborty and Nafukho that one of the student engagement strategies that can be used is to provide consistent, timely feedback. Feedback is very important for students and lecturers. With feedback, lecturers know the extent of the effectiveness of learning. Meanwhile, for students, feedback can provide satisfaction in learning, because the lecturer provides the necessary attention and interaction. The role of feedback can be viewed from the framework of social exchange theory, where the feedback given by colleagues and lecturers is a social exchange with engagement. Students show engagement when they believe that there is satisfactory feedback on the engagement they show.

Lecturer leadership, lecturer engagement, and feedback are very important for student engagement. Although the hypothesis that lecturer leadership affects student engagement is not accepted, in reality, students need lecturers who can inspire, manage classrooms and motivate students to show engagement in learning. This study shows that students want leadership roles that are shown in the classroom not only in transformational characteristics but can be in other forms, possibly servant leadership, and authentic leadership, as the results of the study show [29]. As long as leadership is inspiring, shows exemplary, it will certainly be a good example for students in showing engagement.

CONCLUSION

In learning, engagement is very important, both for students and lecturers. With student engagement, lecturers know how far the learning outcomes show their effectiveness. Meanwhile, with lecturer engagement, students feel that the lecturer gives full attention to the learning process, and has an interest in learning outcomes. Lecturers are required to have leadership that can motivate and inspire students to be willing to be engaged in the learning process. In addition, in the learning process, lecturers and students must pay attention to feedback, which shows an intense interaction on a reciprocal basis, so that it has an impact on student engagement.

Research on student engagement is very interesting to do because the effectiveness of learning can be assessed from the extent of student and lecturer engagement. In future research, the researcher suggests including several other variables that are considered important to form student engagement, both from the point of view of social exchange theory and self-determination theory. From the point of view of social exchange theory, it is necessary to explore the exchange factors that trigger student engagement, such as the culture and climate applied in the classroom. Meanwhile, from the point of view of self-determination theory, exploration is carried out on individual factors that can encourage student engagement, such as self-efficacy and intrinsic motivation.

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