


Identifying the Determinants of Students' Classroom Engagement

Forbis Ahamed^{1*}, Nurul Asyikeen Binti Abdul Jabar², Noor Hazliani Binti Harun³, Nur Aineen Zulaikha Binti Nazrei⁴, Nur Ainin Sofiya Binti Mohd Suffian⁵

¹Department of Business Management and Law, Faculty of Business Management & Professional Studies, Management and Science University, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia.

Email: forbis_ahamed@msu.edu.my

²Department of Business Management and Law, Faculty of Business Management & Professional Studies, Management and Science University, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia.

Email: nurul_asyikeen@msu.edu.my

³Faculty of Business Management & Professional Studies, Management and Science University, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia.

Email: hazliani919@gmail.com

⁴Faculty of Business Management & Professional Studies, Management and Science University, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia.

Email: zulaikhanazrei@gmail.com

⁵Faculty of Business Management & Professional Studies, Management and Science University, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia.

Email: mizz_sofiya@yahoo.com

ABSTRACT

CORRESPONDING

AUTHOR (*):

Forbis Ahamed
(forbis_ahamed@msu.edu.my)

KEYWORDS:

Self-determination
Self-efficacy
Partners in learning
Transformative learning
Classroom engagement

CITATION:

Forbis Ahamed et al. (2022). Identifying the Determinants of Students' Classroom Engagement. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 7(8), e001649.

<https://doi.org/10.47405/mjssh.v7i8.1649>

Classroom engagement is well thought out to be amid the better forecasters of education, yet there is a rising apprehension that there is no compromise on the intangible groundwork. A developmental theory for higher education. This research aimed at identifying relationship between factors such as self-efficacy, partners in learning, transformative learning, pedagogies, and student's overall classroom engagement. Data has been collected from Management and Science University (MSU) students by utilizing online survey questionnaire and a total of 110 students have responded. A proper standardised statistical method was used for data analysis. The results revealed that all factors except transformative learning showed significant positive relationships with the classroom engagement, which indicates that students' ultimate academic achievement via classroom engagement is mostly determined by several factors particularly, their self-efficacy, whom they partner in learning, and pedagogies. The findings were deliberated in the light of previous studies and relevant theories. Lastly, some recommendations to all stakeholders including future researchers and limitation of the study are discussed.

Contribution/Originality: This paper significantly contributed to the body of knowledge, educators, and all other stakeholders involved in teaching learning

processes. The results of the study uncovered strong relationships among some the key determinants that influence students' classroom engagement which ultimately give them fruitful learning experiences while enabling the teachers to enhance appropriate teaching approaches.

1. Introduction

Exploring classroom engagement is of most necessary than never before especially in the learning society today with huge technological advancement. Classroom engagement is a key in diverse arrangements of learning activities in academic institutions, and students are likely to learn from an activity if they are engaged and motivated (Hansho, 2017). This paper is intended to identify the factors that contribute classroom engagement behaviour of the students. By identifying factors towards the classroom engagement and suggesting ways to upsurge the classroom engagement behaviour of the students, undergraduates have shown better academic outcomes and less risk of quitting school (DeVito, 2016). Owing to the expressive relations with numerous substantial education factors, students are found to be an underlying incentive for engaging in studying, taking classes and partaking in study programs (Plamondon & Martinussen, 2015).

Studies revealed that classroom engagement has been enhancing the students' accomplishment direction, sharpening their intellectual and letting a thriving to student's skills (Hansho, 2017). However, most of the previous researchers rely on as a predictor of effective classrooms of primary, for example, identifying cognitive weakness specifically from age 7-9 (Keat, et al., 2018) and secondary schools on students' engagement and not at tertiary level institutions.

Fredricks et al. (2011) in their research indicated that there are three kinds of engagements namely cognitive, behavioural and emotional. On the other hand, students' classroom engagement is a broad subject and regardless of whether cognitive, behavioural, and emotional, it is primarily influenced by many factors, among others, students' self-determination, decisiveness, commitment, self-efficacy, whom they partners with, learning styles, environment where they are in, and pedagogies or teachers and lecturer's professionalisms, etc. Its relic to be realized if scientific researchers can intellectualize and examine a cohesive sight of classroom engagement that ponders numerous dimensions in collaboration (Núñez & León, 2018).

It is believed to be beneficial to have classroom engagement that fosters undergraduate's active engrossment in the education upsurges something to be remembered, how well it is conformed and how the education is utilized in new circumstances (Sinatra, Heddy, & Lombardi, 2015). Events like class partaking inspire undergraduates to be active partakers in-class events and boost the undergraduates to preserve obligation for the education. Besides that, reassure undergraduates to get ready for lesson and inspire students to imitate on matters and difficulties that relate to the lesson (Sinatra, Heddy, & Lombardi, 2015). It also enhances undergraduates in emerging their communication and presentation talent and allowing them to validate such skills through their relations with partners and educators (DeVito, 2016). This ensures undergraduates' critical abilities and capabilities to review thoughts and perceptions in an encouraging atmosphere as well as in emerging their cooperative and groupwork skills.

Therefore, the objective of the project is set to examine the factors that significantly influence engagement of the students in their classroom at university level. To fulfil this noble objective, this study investigated how students from primary and secondary schools as well as the tertiary education in Malaysia engaged in their classroom by looking at the four factors of classroom recommended by (DeVito, 2016). The factors adopted from the various empirical studies such as self-efficacy (Ackerman, 2019), partners in learning (Ladyshevsky, 2017), transformative learning (Kember, et al., 2000) and pedagogies (Jackson, Helms, & Ahmadi, 2011) respectively.

Therefore, the significance of this paper is to comprehend the things that motivates the undergraduates to engage with the classroom. The contributing factors towards classroom engagement were substantiated in the light of relevant theoretical supports.

2. Literature Review

2.1. Theoretical Foundation

2.1.1. Self-Efficacy Theory (SET)

Self-efficacy can be characterized as transmissions of an ability to activate energy, cognitive resources and behaviour necessary to encounter situational requirements (Wood & Bandura, 1989; Akhtar, 2008). Committed undergraduates are most likely to hunt for education risks, lead for greater self-confidence (Ackerman, 2019; DeVito, 2016). Students assess their level of self-efficiency on the basis of personal beliefs, individual performance and experiences with them, including persuasions or discouragements from peers and teachers, physiological responses, and environmental situations (Akhtar, 2008; Ladyshevsky, 2017). Appealing and caring about university settings that enable mastery involvements are the chances for innovative thought and prospects for public concerning and signifying enhancement of student self-efficacy and backing up optimistic thoughts about believing themselves (Akhtar, 2008; Viorel, Mih, & Dragoş, 2015).

2.1.2. Partners in Learning Theory (PLT)

This would entirely affordable to mention a student's effectiveness in education performance is usually a count of apprehension for each educator and the civilization in standard, in addition to the student's circle of relatives particularly (Csikszentmihalyi, 2014). Importance of schooling in current civilization should not be underrated. Hence, undergraduates, who quit school, frequently come from low-income position, which is due to lack of essential capabilities, they could pursue especially low-paid professions (Burrus & Roberts, 2012). People, who devote to the schooling, however, count onto more rivalry positions in phrases of employment and generally, have a tendency to obtain and preserve the social and financial balance (Ezeala-Harrison, 1996). These inclinations essentially provide an explanation for the sensibleness of courtesy toward student engagement in the classroom.

2.1.3. Transformative Learning Theory (TLT)

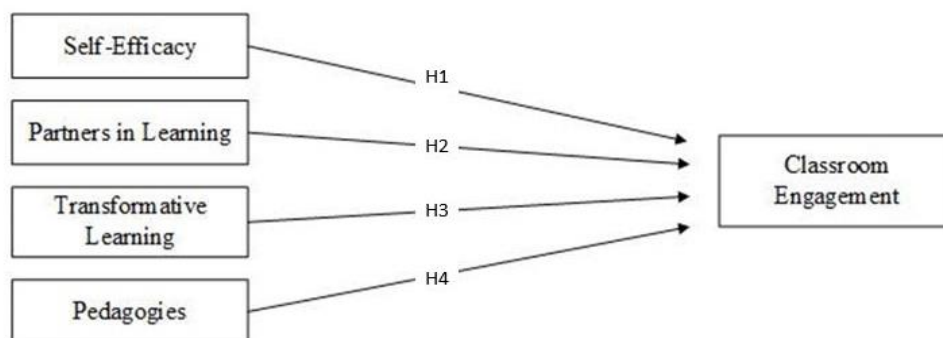
Transformative learning blends the effect on a student's perception, school, the environment and the whole of the universe with student social and educational

encounters through universities. The product of the student contribution to humanisation or the development of personality that emerges from tertiary education is strongly reflection the learning (Taylor, 2007; Kahu, 2011; Kandiko & Mawer, 2013). Both are involving and generating a sense of adulthood, individuality and receiving of himself or herself and themselves (Merriam, 2004) and ascends as of bottomless engagement with numerous characteristics of the involvement in tertiary education (Taylor, 2007; Kandiko & Mawer, 2013). It would be one core aspects in a transformative education (Taylor, 2007) and it runs the undergraduates with a broader standpoint, which is an exclusive, a porous and an unified with others' sights (Merriam, 2004). The advantages are comprehended at one person and united level as it has ripple outcome during the higher education to profit other undergraduates, faculties and the public people (Anderson & Ostrom, 2015).

2.1.4. Pedagogical Theory (PT)

Traditional lessons, written materials, plans, individual discussion, gatherings and presentations of the student and modern teaching systems that utilize technologies such as data-related devices, e-mails, computer programs that provide links to the internet from the classroom as a variety of classroom pedagogies (Jackson, Helms, & Jackson, 2008). There is a lack of consensus about whether advanced technology education should be implemented to improve the educational cycle, despite the rise of advanced technology and its importance in tertiary education (Ma & Runyon, 2004). A study into the utilization of technology in lifetime learning is both restricted and conflicting, together with the research on the direct connection between the learning of an advanced technology in the classroom and student education. Schacter (1999) indicated cautious expectation for both positive relationships of technology utilization and student education. The aspirations of the students though Smith (2001) suggested that school expenses and time could overshadow technology's advantages for education to the students. Nonetheless, when implementing an advanced technology in school whereas other researches could not notice any major improvement in student's performance (Rankin & Hoas, 2001; Spinelli, 2001). The research framework is stated in Figure 1.

Figure 1: Conceptual Framework



2.2. Hypothesis Development

Students may exhibit the four factors that affected the classroom engagements (Hamsho, 2017), namely self-efficacy (Ackerman, 2019), partners in learning (Mutch & Collins, 2012), transformative learning (Anderson & Ostrom, 2015) and pedagogies (Jackson, Helms, & Jackson, 2008). Researchers might convey each of the factors of classroom

engagement to debate the relations with certain university as well as student accomplishment influences.

The following hypothesis were tested:

H1: Self-Efficacy is positively related to classroom engagement.

H2: Partners in learning are positively related to classroom engagement.

H3: Transformative learning is positively related to classroom engagement.

H4: Pedagogies are positively related to classroom engagement.

3. Method

The type of research used in this paper is causal studies which is to investigate the relationships between cause and effect of the variable. The variability in the variable which is expected to induce adjustments in another variable is decided through casual study. As the goal of this investigation is to analyse the aspects of classroom engagement of the university students as endogenous variable whereas the other possible exogenous variables were critically extracted from previous researches. Thus, the independent or endogenous variables chosen for this research are student's self-efficacy, partners in learning, transformative learning and pedagogies meanwhile, the dependent variable is classroom engagement.

Generally, reliability implies that the calculations or the test's capacity to find the consistency and generate the same effects under the same circumstances is reliable and repeatable (McLeod, 2013). The general rule suggested by the scientific society is that Cronbach's alpha value should be above 0.70 to fulfil minimum requirement to pass reliability test. Thus, the reliability analysis showed that the Cronbach Alpha value for all measurement scales of the study are observed as: Classroom Engagement (.705), self-efficacy (.726), partners in learning (.826), transformative learning (.784) and pedagogies (.924) respectively can be observed in Table 1.

Table 1: Measurement Instrument (adopted)

Variable	No. of Items	Cronbach Alpha (α)	Scale Type	Source/Year
Self-Efficacy	3	.726	1-5 Point Likert Scale	Núñez & León (2018)
Partners in learning	4	.826	1-5 Point Likert Scale	Ladyshewsky (2017)
Transformative learning	4	.784	1-5 Point Likert Scale	Kember et al. (2000)
Pedagogies (or) Educator's Professionalism	14	.924	1-5 Point Likert Scale	Jackson, Helms, & Ahmadi (2011)
Classroom Engagement	7	.705	1-5 Point Likert Scale	DeVito (2016)

This research is to prove the hypothesis as well as identify the affiliation between the independent variable and the dependent variable whether it is positive or negative, quantitative survey method was applied. This research data was accumulated by distributing google form questionnaires among students in Management and Science University (MSU). Hence, convenient sampling method was used to determine number

of samples from the total population. About 150 questionnaires distributed via online link available out of which 110 students have responded within the timeframe given (response rate 73.3%).

The survey questionnaires for all research variables were adopted from previous studies and all these indicators were measured through 5-point Likert scale, from 1 = strongly disagree to 5 = strongly agree. Out of total 32 items, 'self-efficacy' was measured by 3-item (Núñez & León, 2018), 'partners in learning' has 4-item (Ladyshevsky, 2017), 'transformative learning' was measured using 4-item (Kember, et al., 2000), whereas 14 items belong to 'pedagogies', and classroom engagement was measured by using a 7-item questionnaire developed by (DeVito, 2016).

The research data collected via online survey was analysed by using latest version of SPSS (Statistical Package for Social Sciences). To be able to identify the expected outcomes, descriptive analysis, reliability testing, correlation analysis and regression analysis were conducted accordingly.

4. Result and Discussion

Results of the study consisted of demographic information obtained through descriptive analysis, reliability, Pearson's coefficient correlation, and multiple regression analysis to explain research hypothesis sets earlier.

Total respondents 110 comprised of 39 male (35.5%) and 71 female (71%) while as for the age, majority 82 (75%) of them ages range between 21~24 whereby only 2 (2.8%) are above 28 years. Nationality wise, 97 (88%) Malaysian and the rest 13 (12%) are foreign students. Obviously, majority of them 83 (75.5%) of them are Malay, 14 (12.7%) Indians, only 6 (5.5%) are Chinese while the 7 of them mentioned others. Faculty wise, 71 (65%) are from FBMP followed by 14 (12.7%) from SESS and the rest are from other faculties. As for level of study, majority 80 (73%) doing Bachelor degree followed by 20 (18%) Diploma, only 4 (3.6%) in Diploma and the rest doing their postgraduates, 4 masters and 2 in Ph.D program. Majority 48 (44%) of them coming from their own residence while the rest living in nearby hostel residence such as 17 (15.5%) at Menara U, 17 (15.5%) at Arte, followed by 11 (10%) in Minara U2 and the rest of them at their convenient places. Table 2 provides a full demographic information of participants.

Table 2: Demographic Information

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	39	35.5	35.5	35.5
	Female	71	64.5	64.5	100.0
	Total	110	100.0	100.0	
Age	17-20 Years Old	17	15.5	15.5	15.5
	21-24 Years Old	82	74.5	74.5	90.0
	25-28 Years Old	9	8.2	8.2	98.2
	> 28 Years Old	2	1.8	1.8	100.0
	Total	110	100.0	100.0	
Nationality	Malaysian	97	88.2	88.2	88.2
	Non-Malaysian	13	11.8	11.8	100.0

Ethnicity	Total	110	100.0	100.0	
	Malay	83	75.5	75.5	15.5
	Chinese	6	5.5	5.5	90.0
	Indian	14	12.7	12.7	98.2
	Others	7	6.4	6.4	100.0
Faculty	Total	110	100.0	100.0	
	FBMP	71	64.5	64.5	64.5
	FISE	8	7.3	7.3	71.8
	FHLS	7	6.4	6.4	78.2
	SESS	14	12.7	12.7	90.9
	IMS	7	6.4	6.4	97.3
	SPH	2	1.8	1.8	99.1
	SHCA	1	.9	.9	100.0
	Total	110	100.0	100.0	
Study Program	Foundation	4	3.6	3.6	3.6
	Diploma	20	18.2	18.2	21.8
	Degree	80	72.7	72.7	94.5
	Master	4	3.6	3.6	98.2
	PhD	2	1.8	1.8	100.0
Residency	Total	110	100.0	100.0	
	MSU Residence	8	7.3	7.3	7.3
	Menara U	17	15.5	15.5	22.7
	Menara U2	11	10.0	10.0	32.7
	Arte	17	15.5	15.5	48.2
	Brunsfeld	5	4.5	4.5	52.7
	Emira	3	2.7	2.7	55.5
	Prima U1	1	.9	.9	56.4
	Owned Residence	48	43.6	43.6	100.0
Total	110	100.0	100.0		

Table 3: Descriptive Analysis

Variables	Mean	Standard Deviation	Minimum	Maximum
Classroom Engagement	3.5623	.49950	2.14	4.43
Self-Efficacy	3.8909	.70401	2.00	5.00
Partners in Learning	4.1636	.67850	2.00	5.00
Transformative Learning	4.1136	.66069	2.00	5.00
Pedagogies	4.0253	.61761	1.79	5.00

As illustrated in the Pearson's Correlation Coefficient Table, the linear correlations between all independent variables and dependent variable significantly positive as well as coefficient correlation among independent variables are highly significant.

Correlation between independent variable pedagogies and classroom engagement is found to be the highest that is 0.672, self-efficacy .727, is the second highest followed by transformative learning which is 0.639, and lastly, correlation value for partners in learning to classroom engagement is 0.514. As shown in Table 4, all coefficient values are significant at 0.000, which mean there is a significant positive relationship between

independent variables and the dependent variable. Overall, looking at the correlation status, the pedagogies and self-efficacy fall under the category of higher level while, partners in learning, and transformative are of moderate level.

Table 4: Correlation among Study Variables (Pearson Correlation)

		Self-Efficacy	Partners in Learning	Transformative Learning	Pedagogies	Classroom Engagement
Self-Efficacy	Pearson Correlation	1	.482**	.587**	.645**	.727**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	110	110	110	110	110
Partners in Learning	Pearson Correlation	.482**	1	.262**	.392**	.514**
	Sig. (2-tailed)	.000		.006	.000	.000
	N	110	110	110	110	110
Transformative Learning	Pearson Correlation	.587**	.262**	1	.589**	.639**
	Sig. (2-tailed)	.000	.006		.000	.000
	N	110	110	110	110	110
Pedagogies	Pearson Correlation	.645**	.392**	.589**	1	.762**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	110	110	110	110	110
Classroom Engagement	Pearson Correlation	.727**	.514**	.639**	.762**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	110	110	110	110	110

Multiple regression analysis was conducted by using SPSS to further explore how much independent variables of the study predict classroom engagement behaviour of the students. Model summary in Table 5 shows R square (R^2) value of .586 which means 58.6% of students' classroom engagement was determined by the designated independent variables such as self-efficacy, partners in learning, and pedagogies except transformative learning.

Table 5: Model Summary

Model	R	R Squares	Adjusted R Square	Std. Error of the Estimate
1	.765 ^a	.586	.570	.32762

While the remaining 41.4% is unidentified due to external or additional factors. ANOVA Table shows that the P-value at .000^b, which means the relationship is significant at

≤ 0.05 level. Thus, as indicated in Table 6, overall the relationship between independent and dependent variable is highly significant, therefore, the data of the study rejects the null hypothesis and accepts alternative.

Table 6: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.925	4	3.981	37.093	.000 ^b
	Residual	11.270	105	.107		
	Total	27.195	109			

Last but not least, the coefficient analysis in Table 7 explained that all of the independent variable have positive impact on dependent variable. Firstly, self-efficacy shows the coefficient value of 0.117, $p=0.004$ where as partners in learning indicates coefficient value 0.146, $p=.027$ while pedagogies explains a coefficient value of 0.313, $p=0.001$ except transformative learning, which obtains coefficient value 0.127, $p=0.092$.

Table 7: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	.716	.243		2.949	.004
	Self-Efficacy	.117	.052	.165	2.240	.027
	Partners in Learning	.146	.062	.198	2.358	.020
	Transformative Learning	.127	.075	.169	1.701	.092
	Pedagogies	.313	.091	.387	3.454	.001

Therefore, the hypothesis testing displays in Table 8 summarizes the relationships between self-efficacy, partners in learning, and pedagogies to classroom engagement which are statistically significant except transformative learning ($p>0.05$).

Table 8: Summary of Research Outcomes

	Hypothesis	Status
H1	Self-Efficacy is positively related to classroom engagement.	Supported
H2	Partners in Learning is positively related to classroom engagement.	Supported
H3	Transformative Learning is negatively related to classroom engagement.	Not supported
H4	Pedagogies is positively related to classroom engagement	Supported

5. Conclusion

Students' classroom engagement is the procedure through which lecturers create and retain proper behaviour of students in classroom settings. The aim of instigating classroom management approaches is to enhance pro social behaviour as well as to upsurge students' academic performance. Effective students' classroom engagement mostly can establish and sustain a neat atmosphere in the classroom, which can upgrade

an expressive educational learning experience besides simplifying social and emotional evolution. It also decreases undesirable behaviours and enhances commitment in academic achievement. To assure all undergraduates obtain the greatest learning experience, it is advantageous for the plan and to create warm classroom atmosphere. The outcome of the study pin points several dimensions that determine students' classroom engagement behaviour. Firstly, self-efficacy is one of the most essential things amid the students in getting attention in-class or outside class. Committed undergraduates are most likely to hunt for education risks, lead for greater self-confidence. The chances for innovative thought and prospects for public concern besides signifying enhancement of student self-efficacy and backing up optimistic thoughts about believing themselves.

Partners in learning is the essential element for successful students to have a clear description of partner students' characters accessible and excellently interconnect them. Undergraduates usually feel that they may not be informed approximately about their schooling/upgrading roles that is why they mostly apprehend dissimilar predictions of each person characters. Partners in learning lean towards enhancing inspiration and education for undergraduates. Nevertheless, learning partners dig out the students' education, boosting their confidence and enhance their concentration through proper manner rather than merely the invention of education.

Transformative learning is grounded on the awareness that learners visible to this kind of education and learning atmosphere. Transformative learning triggers an occurrence or befuddling dilemma, perilous individual reflection, dissertation with other students, and an accomplishment utilizing the altered standpoint. This triggering event shows students in the class, who sense contented and buoyed are more expected to share their judgements, enquire questions, and be exposed to inquisitive or conflicting sights. Transformative learning blends the effect on a student's perception, school, the environment and the whole of the universe with student social and educational encounters through universities. However, the assumptions were not supported by the findings.

By encouraging the quality of pedagogies which directly contribute to the students in the classroom engagement. A study into the utilization of technology in lifetime learning is both restricted and conflicting, together with the research on the direct connection between the learning of an advanced technology in the classroom and student education. It indicated cautious expectation for both positive relationships of technology utilization and student education. The aspirations of the students suggested that school expenses and time could overshadow technology's advantages for education to the students but rather it is the educator's professionalism which ultimately apprehend student's classroom engagement.

5.1. Limitation

One of the significant challenges found in this study was the lack of studies in the particular area of engagement in the classroom rather most of the studies available were on the employees' work engagement. Although students' classroom engagement and employees' engagement in their work are different in context, but psychologically, as described in engagement theory, the characteristics of engagement such as absorption, dedication, and vigour quite similar in both situations. Furthermore, some previous researches observed in this area specifically discussed about the students' engagement

in their overall studies in general and not really on the classroom engagement itself. However, unavailability of measurement for classroom engagement is one of the unavoidable limitations among others. All in all, in this research project, shortage of information sources due to significantly smaller number of previous studies limits researchers' understanding. And the nature of the subject matter actually remands a grounded inductive or qualitative approach so that the in-depth direct information about classroom engagement would be collected. But due to the time and resource limitations, the study was solely relied on quantitative survey method only. On top of that, identifying research gap that helps in focusing research problem was also one of the challenges faced by the researcher.

5.2. Recommendation

Other than student's self-efficacy, partners in learning, transformative learning, and pedagogies discussed in this study, it is assumed that there are many other factors that might influence students' classroom engagement. As described by [Chan and Keat \(2020\)](#), traditional passive classroom learning only is no more applicable and universities require to have online self-regulated learning approach that can presumably guarantee students of new generation to be more engaged with their studies. Thus, future researchers should explore more factors that possibly impact students' classroom engagement. It is also recommended that future researcher should consider qualitative approach in order to get information on the real issues in the ground. The researcher at least should go for triangulation if not purely inductive method. Future researchers need to take bigger sample as well as data should be collected from different institutions so that the outcome of the study can be generalized. As mood of classroom has already been changed due to the advancement of technology, especially, most of the tertiary education are offered online, how to make virtual classroom effective is an emerging phenomena, the up-coming researchers focus classroom engagement in virtual levels before too late.

Ethics Approval and Consent to Participate

The researchers used the research ethics approval provided by the University Ethics Committee (UEC), Research Management Center (RMC), Management and Science University, Malaysia. All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee. Informed consent was obtained from all participants according to the Declaration of Helsinki.

Acknowledgement

Special thanks go to MSU students who assisted us by giving their sincere feedback on this study.

Funding

This study received no funding.

Conflict of Interests

The authors declare no conflict of interests in this study.

References

- Ackerman, C. E. (2019, July 3). *What is Self-Efficacy Theory in Psychology?* Retrieved March 21, 2020, from Positive Psychology: <https://positivepsychology.com/self-efficacy/>
- Akhtar, M. (2008, November 8). *What is Self-Efficacy? Bandura's 4 Sources of Efficacy Beliefs.* Retrieved March 21, 2020, from Positive Psychology: <http://positivepsychology.org.uk/self-efficacy-definition-bandura-meaning/>
- Anderson, L., & Ostrom, A. L. (2015). Transformative service research: Advancing our knowledge about service and well-being. *Journal of service research, 18*(3), 243-249.
- Burrus, J., & Roberts, R. D. (2012, February). Dropping Out of High School: Prevalence, Risk Factors, and Remediation Strategies. *R&D Connections, 18*, 1-9. Retrieved April 3, 2020, from https://www.ets.org/Media/Research/pdf/RD_Connections_18.pdf
- Chan, B., & Keat, O. B. (2020). Academic Credit System in Contributing to Online Self-Regulated Learning in China. *Journal of Management and Science, 18*(2), 66-71.
- Csikszentmihalyi, M. (2014) Learning, "Flow," and Happiness. In: *Applications of Flow in Human Development and Education.* Springer, Dordrecht. https://doi.org/10.1007/978-94-017-9094-9_7
- DeVito, M. (2016). *Factors Influencing Student Engagement.* Retrieved April 4, 2020, from Digital Commons: <https://digitalcommons.sacredheart.edu/cgi/viewcontent.cgi?article=1010&context=edl>
- Ezeala-Harrison, F. (1996). Economic development: theory and policy applications. *Economic development, 1*-280. Retrieved April 3, 2020, from <https://catalogue.nla.gov.au/Record/1299>
- Fredricks, J., McColskey, W., Meli, J., Montrosse, B., Mordica, J., & Mooney, K. (2011, January). Measuring student engagement in upper elementary through high school: a description of 21 instruments. *Institute of Education Sciences, 1*-80. Retrieved March 20, 2020, from https://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/rel_2011098.pdf
- Hamsho, N. (2017, January). The Impact of Classroom Behaviors and Student Attention on Written Expression. *Social and Behavioral Sciences Commons, 1*-62.
- Jackson, M. J., & Helms, M. M. (2008). Student perceptions of hybrid courses: Measuring and interpreting quality. *Journal of Education for Business, 84*(1), 7-12.
- Jackson, M. J., Helms, M. M., & Ahmadi, M. (2011, September 27). *Quality as a gap analysis of college students' expectations.* *Quality Assurance in Education, 19*(4), 392-412. doi:10.1108/09684881111170096
- Kahu, E. R. (2011, August 18). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758-773. doi:10.1080/03075079.2011.598505
- Kandiko, D. C., & Mawer, D. M. (2013). Student Expectations And Perceptions of Higher Education. *London: King's Learning Institute, 1*-82. Retrieved April 5, 2020, from <https://www.kcl.ac.uk/study/learningteaching/kli/people/research/dl/qaareport.pdf>
- Keat, O. B, Mohamad, M., Haji Ismail, K., & Keong, C. M. (2018). The Classification of Learning Difficulties among Primary Schoolchildren according to their Cognitive

- Processing. *Journal of Advance Research in Dynamical & Control System*, 10(6), 836-842.
- Kember, D., Leung, D. Y., Jones, A., Loke, A. Y., McKay, J., Sinclair, K., . . . Yeung, E. (2000). Development of a Questionnaire to Measure the Level of Reflective Thinking. *Assessment & evaluation in higher education*, 25(4), 381-395. doi:10.1080/713611442
- Ladyshevsky, R. K. (2017, February). *Peer coaching as a strategy to increase learning and development in organisational life – a perspective*. Retrieved April 2, 2020, from Semantic Scholar: <https://pdfs.semanticscholar.org/dfb4/be2f43a9ddd19d52d99896ba4303a4c5d086.pdf>
- Ma, Y., & Runyon, L. R. (2004, July). Academic Synergy in the Age of Technology--A New Instructional Paradigm. *Journal of Education for Business*, 79(6), 367-371. Retrieved April 5, 2020, from <https://eric.ed.gov/?id=EJ745230>
- McLeod, J. (2013) *An Introduction to Research in Counselling and Psychotherapy*. London: Sage
- Merriam, S. B. (2004, November 1). The Role of Cognitive Development in Mezirow's Transformational Learning Theory. *Adult Education Quarterly*, 55(1), 60-68. doi:10.1177/0741713604268891
- Mutch, C., & Collins, S. (2012). Partners in Learning: Schools' Engagement With Parents, Families, and Communities in New Zealand. *School Community Journal*, 22(1), 167-187.
- Núñez, J. L., & León, J. (2018, November 7). Determinants of classroom engagement: a prospective test based on self-determination theory. *Teachers and teaching*, 25(2), 147-159. doi:10.1080/13540602.2018.1542297
- Plamondon, A., & Martinussen, R. (2015, June 5). Achievement Mostly Through Variance Shared With Intrinsic Motivation and Behavioral Engagement. *Journal of Attention Disorders*, 23(14), 1816-1828. doi:10.1177/1087054715587098
- Rankin, E. L., & Hoas, D. (2001, February). The use of power point and student performance. *Atlantic Economic Journal*, 29(1), 113. doi:10.1007/BF02299936
- Schacter, D. L. (1999, April). The Seven Sins of Memory - Insights From Psychology and Cognitive Neuroscience. *American Psychologist*, 54(3), 182-203. doi:10.1037//0003-066X.54.3.182
- Sinatra, G. M., Heddy, B. C., & Lombardi, D. (2015, February 27). The Challenges of Defining and Measuring Student Engagement in Science. *Engagement in the Context of Science Learning*, 50(1), 1-13. doi:10.1080/00461520.2014.1002924
- Smith, E. A. (2001). The role of tacit and explicit knowledge in the workplace. *Journal of Knowledge Management*, 5(4), 311-321. Retrieved April 5, 2020, from https://www.uky.edu/~gmswan3/575/KM_roles.pdf
- Spinelli, M. A. (2001, September 1). The Use of Technology in Teaching Business Statistics. *The Journal of Education for Business*, 77(1), 41-44. doi:0.1080/08832320109599669
- Taylor, E. W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999–2005). *International journal of lifelong education*, 26(2), 173-191.
- Viorel, M., Mih, C., & Dragoş, V. (2015, December 3). Achievement Goals and Behavioral and Emotional Engagement as Precursors of Academic Adjusting. *Procedia - Social and Behavioral Sciences*, 209, 329-336. doi:10.1016/j.sbspro.2015.11.243
- Wood, R., & Bandura, A. (1989, July 1). Social Cognitive Theory of Organizational Management. *The Academy of Management Review*, 14(3), 361-384.

doi:10.5465/AMR.1989.4279067<https://surface.syr.edu/cgi/viewcontent.cgi?article=1146&context=thesis>