



Evaluating Students Acceptance of Google Classroom in Co-Curricular Photography Course Using Technology Acceptance Model (TAM)

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Abstract

The purpose of this study is to evaluate the factors that affect Google Classroom (GC) acceptance among student's photography courses in Politeknik Sultan Haji Ahmad Shah (POLISAS). The framework of the study is based on the Technology Acceptance Model (TAM). This study attempts to evaluate, 1) Is there any significant relationship between perceived ease of use (PEOU) with perceived usefulness (PU) of GC usage? 2) Is there any significant relationship between perceived ease of use (PEOU) with behavioural intention (BI) to use GC usage? and 3) Is there any significant relationship between perceived usefulness (PU) with behavioural intention (BI) to use GC usage? A questionnaire was distributed online for users to give their feedback about the application of Google Classroom for the photography club. The populations for this research are 35 students who enrolled in the Photography course in June 2019 Session where Google Classroom is being applied as a teaching and learning tool. A total of 29 samples are collected based on simple random sampling. The Partial Least Square-Structural Equation Modeling (PLS-SEM) approach was used to determine the hypothesis model. Cronbach's Alpha (CA) coefficient and Composite Reliability (CR) are used to determine the internal consistency reliability with the value > 0.8 . The Factor Loading is > 0.5 with the range from 0.701 to 0.939 for convergent validity (CV). Discriminant validity (DV) for HTMT is met with the value of constructs < 1 . The results revealed that there is a significant relationship between PEOU with PU of GC usage, PEOU positively affects BI for students' in the POLISAS photography club to use Google Classroom and the result indicates that there is no significant relationship between PU with BI to use GC. The study indicates that further efforts and improvements should be done to student's attitudes and behaviour in applying new teaching and learning methods.

Keywords : Google Classroom, Technology acceptance model, perceived usefulness, Behavioural Intentions to use, e-learning

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1. Introduction

Educator's teaching methods should be in line with the development of today's educational environment and technology progression on effective teaching and learning. This requires the commitment of educators who are willing to face changes in the 21st century learning and Education 4.0. The role of educators is increasingly challenging, and they need to prepare for the Fourth Industrial Revolution (IR4), or risk being left behind. Students are exposed to a digital world, where the internet, cloud computing, mobile apps, and social media had challenged the formal education system. The rapid development of

technology requires a paradigm shift among educators in adapting new teaching methods to empower students in their cognitive, skills and attitudes.

The rapid changes in teaching and learning (TnL) methods force educators to find educational tools to fulfil IR4 needs. Google Classroom (GC) is one of the TnL tools in line with a new technology that combines the internet, cloud computing, and social media. Kasey Bell (2015) defined GC as a free application designed to help students and teachers communicate, collaborate, organize and manage assignments, go paperless, and much more. Vangie Beal (2019) defined GC as a free collaboration tool for teachers and students. Teachers can create an online classroom, invite students to the

class then create and distribute assignments. Within the GC students and teachers can have conversations about the assignments and teachers can track the student's progress. Based on this definition, GC is one of the e-learning and m-learning TnL method which can be used in the classroom or to the distance students. The study by Shital P. B and Pankaj B.D. (2010) shows that e-learning incorporates all forms of online instruction using personal computers-learning. According to Lan and Sie (2012), m-learning is defined as a learning model that allows students to gather learning materials at anywhere and anytime with the use of mobile technology. Parsons (2014), relates that m-learning is part of e-learning and distance learning.

1.1 Problem Statement

The rapid changes in technology have forced educators to upgrade their skills and teaching methods to inculcate themselves in using the technology and to ensure suitable applied tools that are useful and easy to be used in TnL for both educators and learners. To update educators to follow these changes, educators have to learn new technology and programs available to support students and encourage their learning in different ways. Technology-based instruction provides an opportunity for students to learn and practice in a visual and virtual environment (Bonk, 2011; Davidson & Goldberg, 2009). With the technology available in the classroom, more education institutions are integrating technology into their curriculum.

The Google Classroom is one of the current technologies used as a TnL tool. The GC is very useful and easy to apply in the classroom or outside of the classroom, but the questions are Google Classroom can be accepted by the students and is it really useful and easy to use base on the student's perception.

1.2 Research Objective

The main objective of this study is to evaluate the factors that affect google classroom acceptance among student's photography courses in Politeknik Sultan Haji Ahmad Shah.

1.3 Research Questions

This study is going to answer these following research questions:

- 1) Is there a significant relationship between perceived ease of use (PEOU) with perceived usefulness (PU) of GC usage?
- 2) Is there a significant relationship between perceived ease of use (PEOU) with behavioural intention (BI) to use GC usage?
- 3) Is there a significant relationship between perceived usefulness (PU) with behavioural intention (BI) to use GC usage?

1.4 Research Hypothesis

Three (3) hypotheses required to answer research questions.

H1: Perceived ease of use positively influences the perceived usefulness of GC usage (PEOU→PU).

H2: Perceived ease of use positively influences the behavioural intention to use GC usage (PEOU→BI).

H3: Perceived usefulness positively influences the behavioural intention to use GC usage (PU→BI).

Literature Review

Google Classroom (GC) is one of the education technology tools which is easy and useful to the students and lecturers and can be used in the classroom and outside the classroom, but not all the new technologies can be accepted by students. The technology acceptance model (TAM) introduced by Davis in 1986 is one of the models related to technology acceptance. Davis (1986) develop and validate new measurement scales for perceived usefulness (PU) and perceived ease of use (PEOU), two distinct variables hypothesized to be determinants of computer usage. The new scales were found to have strong psychometric properties and to exhibit significant empirical relationships with self-reported measures of usage behaviour. Also, several new insights were generated about the nature of PU and PEOU and their roles as determinants of user acceptance.

Most of the researchers found that GC is the best tool for TnL. The study by Kgalemelo R.M (2018), proved that the respondents saw Google classroom to be the best tool for instruction and learning and the outcomes have appeared and inferred that learning and acquiring skills and knowledge through Google classroom is preferable over that which is acquired through in-classroom contacts.

Perceived Ease Of Use And Perceived Usefulness (PEOU & PU)

Keith R.H and Joanne Y. (2018), reveals that students valued how Google Classroom made it easy to access all the material that was required for the course because all the information needed was in one place and be able to submit assignments as well as contribute to the discussion through this medium. Students also identify that the use of Google Classroom changed the nature of the classroom in a positive fashion. Students liked that it made the learning atmosphere more relaxed as it allowed them to interact dynamically with classroom content, but also more focused on the learning experiences. Students also valued the opportunity to use the learning tool at any time, not just in the classroom.

Izwan Nizal M.S (2016), found that students strongly agreed with all components in factor ease of access which are signing on to the Google Classroom which are accessing course materials, sending and receiving the assignment, submitting an assignment, navigating the system and easy to understand. This study also found that students strongly agreed with

factor perceived usefulness which is quality of learning activity was excellent, an excellent medium for social, help to submit assignment on, course activities helped to examine issues, to evaluate new ideas, and to apply what have learned, feedback provided by the lecturer is useful, the grading system in Google classroom help in monitoring their performance and understanding the current topic discussed. Most students are satisfied with Google Classroom's thus shows that it is effective as an active learning tool.

Venkatesh and Davis (1996), found that users base their ease of use perceptions on computer self-efficacy before hands-on system use, irrespective of the extent of procedural information given to them. They also found that determinant of ease of use only after a direct experience with the system.

Based on past studies had shown that the perceived ease of use has a significant relationship between perceived usefulness of GC usage.

Behavioural Intention (BI)

Student's behavioural intention (BI) to use GC depends on other variables such as self-efficacy, ease of use and usefulness of GC. A few studies stated that self-efficacy, ease of use and usefulness have a significant relationship between behavioural intentions to use GC.

Park, S. Y. [11], perform a study and the result shows that both e-learning self-efficacy and subjective norm plays an important role in affecting attitude towards e-learning and behavioural intention to use e-learning. Rana A. and Mostafa (2018) proved that usefulness and ease of use as crucial features of Google classroom. These two features affect significantly the chosen sample of undergraduates' intention as Google classroom works as a facilitator to develop their learning activities. One of the outstanding results that can be of great importance to any decision makers in academic institutions is the fact that the students who rely on Google classroom technology will be able to use it as a new gadget for leveraging their educational system.

Research Framework

The research framework theory is based on the Technology Acceptance Model (TAM) by Venkatesh & Davis [4]. Figure 1 shows the adapted model which proposes that perceived ease of use and perceived usefulness of technology are predictors of user behavioural intentions using the technology and actual usage. In TAM, perceived usefulness refers to the degree to which the user believes that using the technology will improve their work performance, while perceived ease of use refers to how effortless users perceive using the technology will be. Both factors influence the user's behavioural intention to use technology. Figure 2 is the research framework for this study which is a reduced TAM model. This framework

excludes the external variables and actual system use because this study would like to direct examine perceived usefulness and perceived ease of use to behavioural intention to use GC.

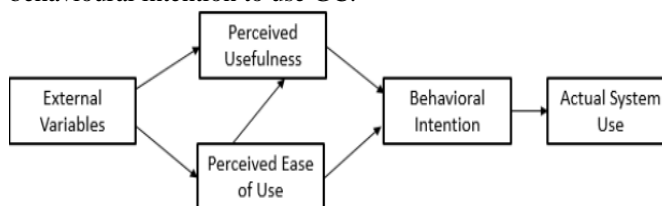


Figure 1: Final model for Technology Acceptance Model (TAM) (Venkatesh & Davis, 1996)

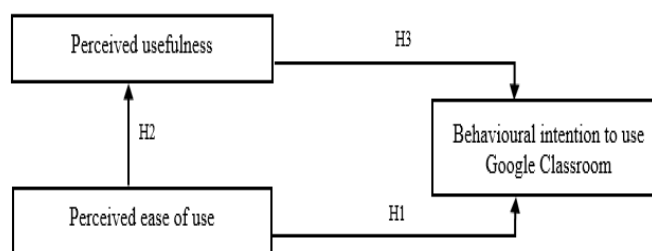


Figure 2: The Research framework (A technology usage framework for Google Classroom)

2. Methodology

Research Design

This research designed base on action research because of Sagor R. (2004), defined action research as a tool used to help educators uncover strategies to improve teaching practices. This study has five (5) phases in the research design, as shown in figure 3.

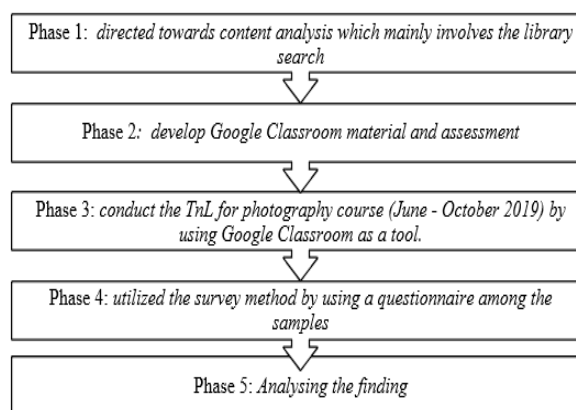


Figure 3: Phases in the Research Design

3.1 Population and Sample

The populations for this research are students who had enrolled in the Photography course in Session June 2019 Politeknik Sultan Haji Ahmad Shah where the

class is taught by using Google Classroom as a tool. In order to have a random selection method, simple random sampling had been applied when choosing the sample. The total sample is 29 students from 35 populations. Total sample calculated using the Sample Size Calculator by The Survey System version 10.5 (2019). The researcher has used the 95% confidence level.

3.2 Research Instrument and Data Analysis

The questionnaire developed as a research instrument and divided into two (2) sections, the 1st section included questions on demographics and the 2nd section divided into three (3) variables which are, perceived usefulness, perceived ease of use and behavioural intention to use Google Classroom. The questionnaires adopted from Rana A.S A.M (2018) and Izwan Nizal M.S et.al (2016). An online questionnaire distributed to respondents by using Google form. The variables measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

For the data analysis, a statistical tool from SmartPLS3 was used to analyze the data from the survey method. Data were analyzed using both descriptive and inferential statistics. The first data analysis is to determine the reliability of the questionnaire.

The Confirmatory Factor Analysis (CFA) and Cronbach's Alpha used to examine the internal consistency reliability from the data. The CFA uses Composite Reliability (CR) and supported by Cronbach's Alpha (CA). The second analysis is to test construct validity which is CFA use Average Variance Extracted (AVE) to test construct validity. The third analysis is to confirm the hypothesis of the study related to the relationship between two (2) variables. In order to test the relationship, the researchers have used Spearman's Correlation test because the variables are measured on a scale that is at least ordinal.

3.3 Demographic, Knowledge, and Experience In GC

Table 1 shows the demographic, knowledge and experience in GC of the respondents. The females constitute 82.8% of the collected data while only 17.2% for males. In terms of GC experience and usage, the result showed that 72.4% of the respondents have heard of GC before joining the Photography course and 27.6% never heard about GC. Most of the respondents are 1st time users of GC in TnL with the percentage of 62.1 %, 6.9% have used 2 times in TnL and 31% have used 3 times. Furthermore, results indicated that 72.4% have used 1 semester GC in TnL, 3.5% have to use GC 2 semesters in Tnl and 24.1% have used more than 2 semesters.

Table 1: Demographic, Knowledge, and Experience In GC

Attributes	Sub-groups	(%)
Gender	Male	17.2
	Female	82.8
Have heard of GC	Yes	72.4
	No	27.6
Have applied of GC in a course	1 course	62.1
	2 course	6.9
	3 course	31
	None	0
Applied duration of GC	1 Semester	72.4
	2 Semester	3.5
	More than 2 semester	24.1

3.1 Reliability and Validity

From the sample data collection, Cronbach's Alpha Coefficient and Composite Reliability determined the internal consistency reliability. According to J. F. Hair et.al (2014), the measure of reliability ranges from 0 to 1, with values of .60 to .70 deemed the lower limit of acceptability. As shown in Table 2, the Cronbach's Alpha values are greater than 0.9 for each construct. According to Nunnally, J.C [13], in those applied settings where important decisions are made with respect to specific test scores, reliability of 0.90 is the minimum that should be tolerated. The Composite Reliability from table 2 shown the value greater than 0.9 for each construct. According to Bagozzi R. P. and Yi Y. (1988), the Composite Reliability must be larger than 0.6. Thus, the internal consistency reliability for the data collections is accepted and meets the recommendation for item reliability.

Table 2: Internal Consistency Reliability of Measurement Model.

Constructs	Cronbach's Alpha (>0.7)	Composite Reliability (>0.7)
Perceived usefulness	0.95	0.969
Perceived ease of use	0.91	0.935
Behavioural intention to use GC	0.93	0.957

The convergent and discriminant validities are two fundamental aspects of construct validity in CFA. The convergent validity is demonstrated when different items are used to measure the same construct, and the scores from the different items are strongly correlated. To ensure convergent validity, all factor loadings should be significant and larger than 0.5 (J. F. Hair et.al 2014). As shown in Table 3, the Factor Loading of the study greater than 0.5 with the range from 0.701 to 0.939 and the AVE

values for each construct is greater than 0.5. Thus constructs' convergent validity for each construct is established.

Table 3: Convergent Validity of Measurement Model

Constructs	Items Code	Items	Factor Loadings (>0.5)	P Value (P<0.005)	AVE (>0.5)
Behavioural Intention To Use (BI)	BI1	I intend to increase the use of the Google Classroom if being used in the course	0.919	0.002	0.818
	BI2	It is worth to recommend the Google Classroom for other students	0.865	0.000	
	BI3	I'm interested to use the Google Classroom more frequently in the future	0.901	0.000	
	BI4	I hope that lecturers are using the Google Classroom more frequently in the future	0.930	0.000	
	BI5	I am ready to use Google Classroom if it is being used by lecturers in a course	0.903	0.000	
Perceive Ease Of Use (PEOU)	PE1	Google Classroom is convenient and user-friendly	0.863	0.000	0.743
	PE2	Google Classroom requires no training	0.701	0.000	
	PE3	Google Classroom enables me to access the course material	0.939	0.000	
	PE4	Google Classroom is easy to use	0.928	0.000	
	PE5	Google Classroom allows me to submit my assignments	0.858	0.000	
Perceive Of Usefulness (PU)	PU1	Google Classroom helps me to understand the current topic discussed	0.908	0.000	0.838
	PU2	Google classroom help me to submit an assignment on time	0.909	0.001	
	PU3	The grading system in Google classroom help in monitoring my performance	0.920	0.000	
	PU4	The quality of learning activity by using Google classroom was excellent	0.910	0.000	
	PU5	Google Classroom enables me to accomplish tasks more quickly	0.932	0.000	
	PU6	Google Classroom enhances my learning productivity	0.912	0.000	

In order to examine the discriminant validity, cross loading and Heterotrait-Monotrait Ratio (HTMT) were examined. Based on Table 4, discriminant validity for HTMT is met with the value of constructs is less than 1. The discriminant validity is confirmed if the value does not have a value of 1 on any constructs (J. Henseler et. al 2015).

Table 4: Discriminant Validity - HTMT

	Perceived Ease of Use (PEOU)	Behavioural Intention to Use (BI)	Perceived of Usefulness (PU)
Perceived Ease of Use	-	-	-
Behavioural Intention to Use	0.975	-	-
Perceived of Usefulness	0.95	0.879	-

Referring to the value of discriminant validity cross loading as shown in Table 5, the discriminant validity is met because of the loading of each indicator is higher than the loadings of its corresponding constructs' indicator.

Table 5: Discriminant Validity Cross Loading

Items Code	Perceived Ease of Use	Behavioural Intention to Use	Perceived of Usefulness
BI1	0.827	0.919	0.768
BI2	0.882	0.865	0.843
BI3	0.82	0.901	0.771
BI4	0.79	0.93	0.724
BI5	0.779	0.903	0.673
PE1	0.863	0.85	0.83
PE2	0.701	0.621	0.546
PE3	0.939	0.861	0.789
PE4	0.928	0.869	0.861
PE5	0.858	0.793	0.798
PU1	0.856	0.832	0.908
PU2	0.857	0.791	0.909
PU3	0.744	0.737	0.92
PU4	0.816	0.813	0.91
PU5	0.846	0.751	0.932
PU6	0.795	0.696	0.912

3.1 Relationship Analysis

Figure 4 and Table 6 demonstrates the path coefficients and p-value for each hypothesis. It shows that only two hypotheses are supported, and one hypothesis is unsupported. The hypothesis test is supported based on three conditions which are i) direction and beta value will show the direction either positive or negative, ii) T-Value must be higher than 1.645, significant at 0.05, or 2.33; significant at 0.01 and iii) Lower level (LL) and Upper Level (UL), there should not have 0 in the between (Ramayah et al., 2018).

From table 6, the results show that positive directions are PEOU → BI, beta= 0.782, t= 2.815, LL = -0.003, UL= 1.123. PEOU → PU, beta=0.897, t= 8.582, LL =-0.603, UL= 0.967. Hence, H1 and H2 are supported and it is concluded that PEOU has a positive relationship with the Intention to Use Google classroom, and PEOU also has a positive relationship with PU towards Google classroom. Meanwhile, PU (H3) does not has a positive relationship with the Intention to Use Google classroom.

H1 (β= 0.782, P<0.05) describes the relationship between PEOU and BI, this indicates that perceived ease of use of enhancing the behavioral intention to use Google Classroom. H2 (β= 0.897, P<0.05) describes the relationship between PEOU and PU, this reveal that perceived ease of use influence the perceived usefulness of Google Classroom. H3 (β= 0.142, P>0.05), describes the relationship between PU and BI. The result shows

that perceived usefulness cannot influence the student behavioural intention to use Google Classroom. Data interpreted base on Cohen (1988), the interpretation is shown in table 7.

Table 6: Hypothesis Test Results

Hypothesis	Relationship	Beta	SE	T Value	P Values	LL
H1	PEOU → BI	0.782	0.278	2.815	0.005	0.003
H2	PEOU → PU	0.897	0.105	8.582	0	0.603
H3	PU → BI	0.142	0.252	0.563	0.574	-0.226

Table 7: Interpretation r correlation, Cohen 1988.

r, correlation	Level
0.10 – < 0.30	Small
0.30 – < 0.50	Medium
≥ 0.50	Large

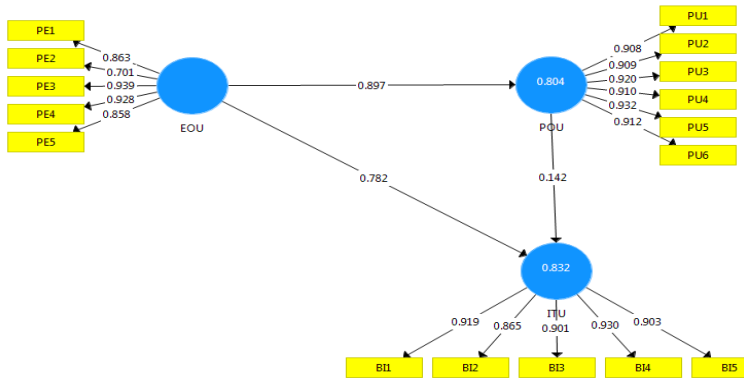


Figure 4: Path Analysis Results.

3. Results and Discussions

1st research question: Is there a significant relationship between perceived ease of use with perceived usefulness of GC usage?

The study showed that there is a significant relationship between perceived ease of use with perceived usefulness of GC usage. There is a large effect size for the relationship PEOU and PU with correlation ≥ 0.50 (Cohen 1988).

2nd research question: Is there a significant relationship between perceived ease of use with behavioural intention to use GC usage?

The result revealed that perceived ease of use positively affect behavioural intention students' photography club in POLISAS to use Google Classroom. Students have a positive impact on perceived ease of use of Google Classroom. There is a large effect size for the relationship PEOU and BI with correlation ≥ 0.50 (Cohen 1988).

3rd research question: Is there a significant relationship between perceived usefulness with behavioural intention to use GC usage?

This result indicates that there is no significant relationship between perceived usefulness with behavioural intention to use GC usage. Even students' perceived usefulness in using GC but the behavioural intention to use GC is low. There is a small effect size for the relationship PEOU and BI with correlation < 0.30 and close to 0.1 (Cohen 1988).

4. Conclusions

This study is to Evaluating Students Acceptance of Google Classroom in Co-Curricular Photography Course Using Technology Acceptance Model (TAM). The outcomes revealed that from the chosen sample of students' photography club in POLISAS had proved that not all the factors have a significant relation to the behavioural intention (BI) to use GC. This study emphasis the perceived usefulness and perceived ease of use as crucial factors of Google classroom to be used as an alternative teaching method. The perceived usefulness (PU) factor does not affect significantly the chosen sample of students' intention to use GC. However, perceived ease of use (PEOU) factor has a significant relationship with BI for students to use GC, but Davis (1989) found that usefulness had a significantly greater correlation with usage behaviour than the ease of use. The possible reason incurred because of a lack of Computer Self-Efficacy (CSE) among respondents. Based on the study by Mohd Shoki M.A et.al (2012), found that CSE gave stronger influence than PU and PE on respondents' BI to use the technology given.

The importance of these results to any decision makers in academic institutions is the fact that the students who rely on Google classroom technology will be able to use it as a new gadget for leveraging their educational system. The decision makers of the higher educational institutions should acknowledge the factors of Google classrooms and build their infrastructure based on the result achieved in this study. To implement this technology practically, the higher educational institutions should provide the students with training-opportunities so that students' abilities to discover the comprehensive and effective features of Google classrooms will be more apparent and implemented widely by the end-users. Due to this fact, this study has a few limitations. The limitations of this study could be summarized as follows: (1) this study adopts the TAM factors and not all the factor from TAM is used, further research should focus on determining other factors in TAM such as CSE that may influence the acceptance of Google classrooms. (2) the data was collected from Co-Curricular Photography Course students only, thus, the results could not be generalized to all the polytechnic in Malaysia. Therefore, further research is required to collect data from other polytechnics in Malaysia in order

to increase the generalizability of the results. (3) the data collection was constrained on students only. Thus, future research should involve the lecturer in order to understand the factors that affect Google classroom acceptance.

References

1. Bagozzi, R. P., & Yi, Y., *On the evaluation of structural equation models*. Journal of the Academy of Marketing Science, 16, 74–94. (1988).
2. Bonk, C. J., *The World Is Open: How Web Technology Is Revolutionizing Education*. San Francisco, Calif: Jossey-Bass. doi:10.1002/9781118269381. (2011).
3. Creative Research System, *The Survey System 10.5* <https://www.surveysystem.com/sscalc.htm#one>. (2019).
4. Cohen, J., *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. Hillsdale, NJ: Erlbaum. (1988).
5. Cohen, J., Cohen, P., West, S. G., & Aiken, L. S., *Applied multiple regression/correlation analysis for the behavioral sciences*. (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates. (2003).
6. Davidson, C. N., & Goldberg, D. T., *The Future Of Learning Institutions In A Digital Age*. Cambridge, Mass: MIT Press. (2009).
7. Fornell C, Larcker DF., *Evaluating structural equation models with unobservable variables and measurement error*. Journal of Marketing Research; 18(1):39–47. (1981).
8. Izwan Nizal M.S, Jastini M.J, and Syamimi M.R, *Google Classroom as a Tool for Active Learning*. Proceedings of the International Conference on Applied Science and Technology 2016 (ICAST'16) AIP Conf. Proc. 1761, 020069-1–020069-6; doi: 10.1063/1.4960909, (2016).
9. J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," J. Acad. Mark. Sci., vol. 43, no.1, pp. 115–135. <https://doi.org/10.1007/s11747-014-0403-8> (2015).
10. Joseph F. Hair Jr., William C. Black, Barry J. Babin, and Rolph E. Anderson, *Multivariate Data Analysis*. Seventh Edition Pearson Education Limited (2014).
11. Kasey Bell, *Teacher's Guide to Google Classroom*. Shake Up Learning, LLC (2015).
12. Kgalemelo R., *Capabilities of Google Classroom as a Teaching and Learning Tool in Higher Education*. International Journal of Science Technology & Engineering Volume 5 | Issue 5 | November 2018 ISSN (Online): 2349-784X (2018).
13. Keith R.H and Joanne Y., *Getting the Most from Google Classroom: A Pedagogical Framework for Tertiary Educators*. Australian Journal of Teacher Education · Vol. 43, 3, March 2018, 140 -153 (2018).
14. Lan, Y. F., & Sie, Y. S., *Using RSS to Support Pintare Learning Based on Media Richness Theory*. Computers & Education, 55(2), 723-732. (2010).
15. Mohd Shoki Md Ariff, Yeow S.M, Norhayati Zakuan, Ahmad Jusoh, and Ahamad Zaidi Bahari. *The Effects of Computer Self-Efficacy and Technology Acceptance Model on Behavioral Intention in Internet Banking Systems*. Procedia - Social and Behavioral Sciences 57, 448 – 452. (2012)
16. Nunnally, J.C., *Psychometric Theory*. 2nd edition. New York: McGraw-Hill. (1978).
17. Park, S. Y., *An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning*. Educational Technology & Society, 12 (3), 150–162. (2009).
18. Parsons, D., *The future of pintare learning and implications for education and training*. In Ally, M. & Tsinakos, A., Editors, Perspectives on Open and Distance Learning: Increasing access through m-Learning. Commonwealth of Learning and Athabasca, University of Vancouver, Canada. (2014).
19. Rana A. S. A. M and Mostafa A., *Students Acceptance of Google Classroom: An Exploratory Study using the PLS-SEM Approach*. International Journal of Emerging Technologies in Learning (IJET), June 2018, 112-123. (2018).
20. Sagor, R., *The action research guidebook: A four-step process for educators and school teams*. Thousand Oaks, CA: Sage. (2004).
21. Sekaran, U. 2003. *Research methods for business: A skill-building approach (4th ed.)*. New York, NY: John Willey & Sons. (2003).
22. Shital P. Bora and Pankaj B.Dhumane. *Mobile Learning: Its Implication in Education and Training*. Online International Interdisciplinary Research Journal, {Bi-Monthly}, ISSN2249-9598, Volume-II, Issue-II, Mar-Apr (2012).
23. Vangie Beal, *Google Classroom* <https://www.webopedia.com/TERM/G/google-classroom.html> (2019).
24. Viswanath Venkatesh and Fred D. Davis, *A model of the antecedents of perceived ease of use: Development and test*. Decision sciences 27, 3: 451–481. (1996).