

THE USE OF GOOGLE CLASSROOM AMONG SECONDARY SCHOOL TEACHERS

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ABSTRACT

Background and Purpose: The use of technology in school classrooms and other innovations in teaching has become very crucial in the education field. Google Classroom is one of the technology innovations which has been developed to allow teachers and learners to meet up virtually to promote an interesting teaching and learning experience. In this present study, this paper outlines the results of a survey which was carried out to identify the factors the intention to use Google Classroom among secondary schools' teachers in Kinta Selatan District in Perak. The study investigated the different parameter which contribute directly to teachers' intention to use Google Classroom which are technical support, attitude, perceived ease of use, perceived usefulness, and technological knowledge.

Methodology: The sample consisted 216 government secondary schools in Kinta Selatan District. A self-administered questionnaire was distributed to the participants with the assistance of the principals of the schools.

Findings: The result of the study revealed that the variables of attitude, perceived usefulness and technological knowledge have a significant effect in the intention to use Google Classroom. As far as

technical support and perceived ease of use are concerned, the relationship with intention to use Google Classroom was found negative.

Contributions: This study contributes to the area of Google Classroom use for education since it may be used to do future research into how to improve teachers' abilities to teach more effectively using Google Classroom.

Keywords: Google Classroom, secondary schools, teachers, technology, classroom.

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1.0 INTRODUCTION

In 2014, Google Apps for Education (GAPE) launched Google Classroom (GC). The application is free to use for teachers and students which makes it an ideal fit for developing countries, where budgets are limited. It is provided without cost for schools, where class security feature is also included for free to plan holders (Ventayen et al., 2018). It has been employed by teachers in the learning process (Railean, 2012) and listed as one of the leading scaffolding out there for strengthening teachers' workflow (Iftakhar, 2016). GC grants the permission to the teachers to invest extra time with their students and reduce their time spent on the paperwork, and at present it is even better (Martínez-Monés et al., 2017). This application service is considered to be a substitute way in solving problems and threats in classroom teaching (Brown & Hocutt, 2015). GC is a substitute way to increase the quality of learning (Sewang, 2017) and it is a media for Improving Attainment of Graduate Attributes (Madhavi, Mohan, & Nalla, 2018). Ventayen et al. (2018) state that GC promotes paper free instruction for streamlining assignments and it improves collaboration. Fostering seamless communication to make teaching more dynamic, meaningful, and purposeful and as it is easily deployed in the URL classroom.google.com, teachers are able to organize classroom in minutes and set up suitable content for teaching the students in a more effective way (Ventayen et al., 2018).

Looking at the different terms used for GC, Sudarsana et al. (2019) categorized GC as LMS while Ventayen et al. (2018) categorised it as online learning. According to Wijaya (2016), Classroom use of Google which is categorized as e-learning is expected to improve quality and provide assistance in education. In Singapore, GC is used as a virtual classroom

for the secondary students for all the subjects without exception, covering the language subjects too e.g. English, Indonesian, and Chinese. Since 2015, Pantai Indah Kapuk School has fully utilized GC as a part of G-Suite for Education. The data by Ashari (2015) on benefits and barriers of using GC is hoping to be beneficial to understand, evaluate, and reflect the use of GC as the virtual classroom used in language class. Rabbi, Zakaria, and Tonmoy (2017) state that GC is a present evolution of Google for academic institutions to secure a blended learning scaffolding to simplify inventing, distributing, and evaluating assignments in an environment without paper.

1.1 Research Objectives

1. To examine the relationship between technical support with the intention to use GC
2. To determine the relationship between teachers' attitudes towards technology with the intention to use GC
3. To determine the relationship between PEOU with the intention to use GC
4. To examine the relationship between PU with the intention to use GC
5. To determine the relationship of teachers' technological knowledge with the intention to use GC
6. To determine the most significance factor between all the factors with the intention to use GC

1.2 Research Questions

1. Is there any relationship between technical support with intention to use GC?
2. Is there any relationship between teachers' attitudes towards technology with the intention to use GC?
3. Is there any relationship between PEOU with the intention to use GC?
4. Is there any relationship between PU with the intention to use GC?
5. Is there any relationship between teachers' technological knowledge with intention to use GC?
6. What is the most significant factor of the intention to use GC among all the factors?

1.3 Research Hypothesis

H1 Technical supports positively influence the intention to use GC

H2 Teachers' attitudes towards technology have positive influence on the intention to use GC

H3 Perceived Ease of Use (PEOU) has positive influence on the intention to use GC

H4 Perceived Usefulness (PU) positively influence the intention to use GC

H5 Teachers' technological knowledge has positive influence on the intention to use GC

H6 There is a significant relationship between technical supports, teachers' attitudes, PEOU, PU, and technological knowledge with the intention to use GC.

2.0 LITERATURE REVIEW

GC is a merge or blended learning of online digital media with traditional classroom methods (Rabbi et al., 2017) and supported by Iftakhar (2016) who states that GC grants the teachers permission to spend extra time with their students and reduce time doing the paperwork. With the latest updated functions, it provides the newest announcement and grants more than a teacher to be included in a classroom besides preparation for the classes could be ahead of time too (Iftakhar, 2016). Ventayen et al. (2018) in their research has concluded that as an online learning tool, GC plays a great role in making learning easier and being highly recommended as it saves cost and acts as a platform for E-learning tool. Rahmad et al. (2019) in the study done in Universitas Negeri Medan, Indonesia on Meteorology and Climatology students states that utilization of GC in learning made it effortless for lecturers and students to organize lectures, specifically in terms of task management, students learn independently, and critical thinking of students are at medium level.

As for Malaysia, from 2012 till June 2019, Frog Virtual Learning Environment (VLE) has been utilized to promote quality teaching and learning in Malaysia's government public schools. It was the main mechanism in supporting virtual learning in primary and secondary schools in Malaysia (Kaur & Hussein, 2014). It acts as an instrument to support students' learning which evolved from the 1BestariNet Project. A few studies have been done on Frog VLE as it was a platform being used in Malaysian primary and secondary schools before it was abolished in Jun 2019 and being replaced by GC. A restricted access to the internet, inadequate of teaching time, and teachers' excessive workload are the major obstacles in Frog VLE usage (Norazilawati et al., 2013), lack of awareness on Frog VLE (Hussin, Jaafar, & Downe, 2011), lack of technology (Sailin, 2014), teachers' attitude (Van Raaij & Schepers, 2008) is among the

variables tested. Kaur and Hussien (2014) have shown that in spite of completing the Frog VLE training among teachers, there were teachers who have failed to use it in their daily teaching and learning process.

Internet connection plays an important role in LMS as mentioned by Rani, Suradi, and Yusoff (2014) who claimed that internet connection contributes significantly in the usage of the tool. Many teachers refused to go on using the system, although they approved on the advantages provided by Frog VLE (Cheok & Wong, 2016). Second, few studies also suggest an association between user satisfaction and the actual usage of LMS (Eom, 2012 as cited in Mohammadi, 2015). Van Raaij and Schepers (2008) state that in Frog VLE case, teachers who decided to join the virtual teaching are motivated to help their school to obtain the highest achievement usage of Frog VLE because of their (teachers) general attitude towards new technology. Auditor-General's Report 2013 (KPM, 2013) has mentioned that the Frog VLE project had not accomplished its aims of equipping high-speed 4G broadband and VLE platform to schools in the country. The report has also acknowledged that the level of VLE utilization by educators, students, and parents were very depressing which is amid of 0.01% to 46.9% (Cheok, Wong, & Ayob, 2017).

The benefits of GC were highlighted by many researchers in foreign countries. In Malaysian context, Auditor General Report 2013 related to Frog VLE in Malaysia has highlighted the problems in the implementation of Frog VLE in public schools. This has urged Ministry of Education (MOE) to implement GC which is believed to have a potential to fully engage students and educators to promote teaching and learning process. By adopting GC, teachers are forecasted to promote teaching by supplying students' access to subjects closely related to information and providing complete chances to communicate with teachers and friends.

The lack of research on GC, specifically in Malaysia as it being introduced recently, has prompted the need to investigate the intention to use the tool among teachers in secondary schools. The intention to use the technology for the right purpose is one of the major barriers for the educators to supervise a VLE, therefore this study is focused on assessing the factors affecting the intention to use GC. So far, to the best knowledge of the researcher, all the studies conducted on GC have indicated responses from the students and lecturers. None of the research has focused on considering the secondary schools' teachers in Malaysia and the factors affecting the intention to use GC among them. Besides that, most of the research has been done in the foreign context which results cannot be generalised for Malaysia due to different culture. As Malaysia has used Frog VLE as a virtual learning before, many studies

have carried out to understand the usage and intention in various fields but as far as GC is concerned till date, no data has been collected. Considering the importance of GC in Malaysian education system, this study would like to explore the factors that affect the intention of secondary school teachers to use it as a tool in their classrooms.

2.1 Theoretical Framework

For this study, the Technology Adoption Model (TAM) developed by (Davis, 1989) is being proposed to test the variables identified such as technical support, attitude, perceived ease of use (PEOU), perceived usefulness (PU), and technological knowledge. The researcher has examined the direct relationship between PEOU and PU as external variables with the intention to use. At the same time, in studying the intention to use GC, attitudes towards technology also will be acting as an external variable. As GC is recently being introduced in primary and secondary of public schools, it is vital to evaluate the intention to use this tool among teachers. The role of instructors, students, and schools support in the success of such technology is important. The factors on technological knowledge, technical support, PU, PEOU, and attitudes towards technology are being categorized as independent variables. Keeping in view the parsimonious nature of TAM, this study is integrating technology factors (technological knowledge, technical support, PEOU, PU and attitudes towards technology) with TAM to test a model to evaluate secondary schools' intention to use GC.

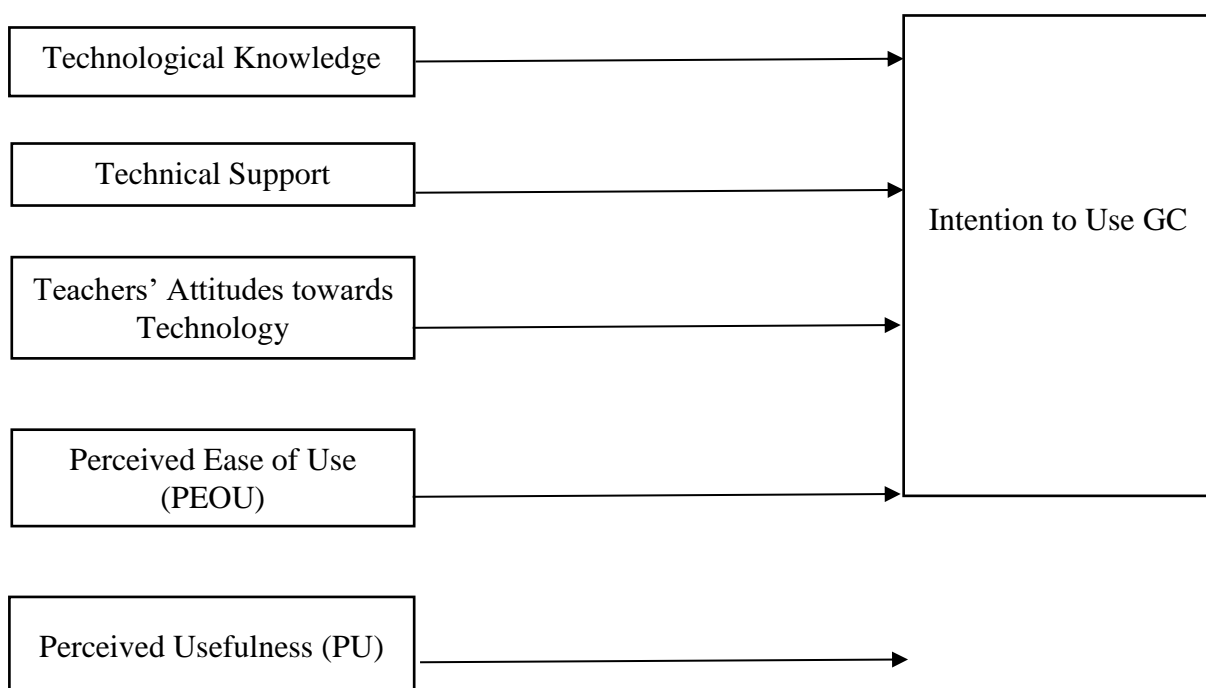


Figure 1: Research framework

3.0 RESEARCH DESIGN

The data is collected by employing the survey method. A set of questionnaires was developed for this purpose. The non-experimental method is chosen because the researcher cannot directly manipulate the independent variable or randomly assign research participants (Johnson & Christensen, 2008). It is also further explained by Creswell (2014) that non-experimental approach does not lead to a causal relationship. It assists to provide the details of the relationships between variables and describe trends in the data. As for this investigation, self-administered questionnaires are applied as the research tool and the survey was a mean of collecting data at a specific point in time. The aim of doing so is to describe the dependent variable of interest and examine the connection between the dependent variable and independent variables in the investigation carried out. By using self-administered questionnaire, it gives confidentiality to respondents in completing questions and also grants respondents to complete questions at times that are convenient and suitable to them as the respondents can answer the questions without the interviewer being present (Saunders, Lewis, & Thornhill, 2011).

Specifically, a collection of questionnaires was prepared to study the factors affecting the intention to use GC among secondary schools' educators in Kinta Selatan district in daily public secondary schools and this method was ideally suitable for the descriptive and predictive goals of survey research. Therefore, this method is appropriate for this quantitative study where "the questionnaires were used to provide answers from a relatively large number of groups" (Mohd Tahir et al., 2020a, p. 162) in order to answer the research objectives and also to test the intention to use GC among teachers.

3.1 Participants

Mohd Tahir and Tunku Mohtar (2016) stated that a sample size should be the representative of the population. The size of the population should be sufficient to obtain the desired accuracy. The aim of this research investigation is to investigate the factors affecting the intention to use GC among secondary schools' teachers in Kinta Selatan, Perak. The target population identified are the teachers of Kinta Selatan, Perak who are teaching in government secondary schools in the district. Kinta Selatan consists of fourteen (14) secondary schools with the whole population of 1103 teachers.

For the purpose to complete this study convenience sampling is being utilized. It is one of the non-probability sampling methods as the choice to select the respondents for this survey to collect the sample elements. The respondents are selected because of their availability at the

right venue and time (Mohd Tahir et al., 2020b). This method is the most commonly used, uncostly and a list of population elements are not required. According to Krejcie and Morgan's (1970) table, a sample size of 278 is needed for the total population of 1000 which is about 28 percent. Based on the discussions, for this research study, as representative sample requires certain percentage of the statistical population to replicate as closely as possible the quality or characteristic being studied or analysed (Sekaran, 2006), 280 samples were taken to represent 28 percent (Krejcie & Morgan, 1970) from the total number of 1103 population of teachers and it is an adequate sample size for the study. The questionnaires were dispersed to the educators of the secondary schools in Kinta Selatan District with the assistance from the school principals. The researcher collected the questionnaires personally from each school upon receiving calls from participating schools.

3.2 Materials and Instruments

A questionnaire will be developed by the researcher as an instrument to obtain information needed for the study because this study applied quantitative research method to explain the relationship between variables. The questionnaire has been designated by referring to the research framework of the study. The respondents are requested to demonstrate their level of agreement with the items listed. Items in the questionnaire were measured utilizing a five-point Likert Scale, with 1 representing "Strongly disagree" and 5 representing "Strongly agree". The questions have taken the form of statements and the respondent is required to indicate to what extent they agree or disagree with each statement. Overall, the questionnaire in this study contained seven sections, namely, (a) teachers' demographic characteristics, (b) technical support, (c) teachers' attitudes, (d) PU, (e) PEOU, (f) intention to use GC, and (g) technological knowledge. Part A collects the basic demographic data such as gender, age, education level, teaching experience, type of teacher, and frequency of GC usage. Section A consists of six (6) questions and the respondents are required to provide their background information. Section B is aimed to get the respondents opinion on support they receive when they engaged themselves with GC, Section C is designed to gain some information on the respondents' opinions on GC usage. Section D and E basically projected to get the information on how they find GC in their teaching and learning. Section F is aimed to gather information on their present and future plans to continue using GC, and lastly Section G is developed to look at the level of knowledge related to GC that they posse.

The questionnaires consist of six scales and being adapted from AlQudah (2014) for variables of demographic, technical support, attitudes towards technology, and intention to use

is adapted from AlQudah (2014) and Amin (2008). As for PU and PEOU, questionnaires from Al-Alak and Alnawas (2011) was adapted. Lastly, for variable of technological knowledge, it is adapted from Archambault and Barnett (2010). The questionnaires of these studies are being retrieved and modified according to the need of the present study.

3.3 Research Procedures

In this study, the data is collected through a survey-based approach which is developed based on the objectives of the study. A survey is a research technique in which information is gathered from a sample of people using a questionnaire (Zikmund et al., 2013). Letter of support from Open University Malaysia (OUM) was used to access the schools and teachers. An attachment of a cover letter is being put together to the survey questionnaire to familiarize the respondents to the research topic. It is also to avoid any suspicion or mistrust which respondents might have with related to the study. The attachment letter is also with the aim to inspire and instruct the respondents to answer the questions in the study and at the same time giving them the assurance of anonymity and confidentiality. The cover letter attached to the questionnaire describes the aims of the survey and highlights the importance of the survey. The researcher email address and mobile phone number are included too in case further explanations about the questionnaire are required. The respondents were assured of complete confidentiality and honest opinions were encouraged and the set of questionnaires was delivered personally to school principals of each school.

3.4 Data Analysis

The data collected from the questionnaires was analysed by using the Statistical Package for Social Science (SPSS) version 26. Multiple regression analysis was used to determine the proportion of the variance in the intention to use GC that can be explained by the selected independent variables and the relative significant of each in explaining the dependent variable. According to Pallant (2016), the multiple regression can be used to explore the relationship between one continuous dependent variable and a number of independent variables. As for this study, all the hypothesis was tested using the Pearson correlation to determine the relationship between independent and dependent variables.

3.4.1 Descriptive Statistics

Descriptive analysis is utilized to identify the respondents' profile. The result of this analysis would help to identify any biasness in the response. The analysis used are mean, standard deviation, maximum, and minimum values.

3.4.2 Pearson Correlation

According to Plackett (1983), the objective of the correlation coefficient is to figure out is there a significant relationship (i.e., correlation) between two variables. The most commonly used correlation coefficient is the one published by Karl Pearson in 1895. The correlation between any two variables using Pearson's r will always be between -1 and $+1$. A correlation coefficient of 0 means that there is no relationship, either positive or negative, between these two variables Plackett (1983). All the hypothesis in this study was tested using Pearson Correlation to determine the positive or negative relationship of independent and dependent variables.

3.4.3 Multiple Regression Analysis

According to Pallant (2016), multiple regression is a family of techniques that can be used to explore the relationship between one continuous dependent variable and a number of independent variables. It can be used to address a variety of research questions and to tell us how well a set of variables is able to predict a particular outcome. In this study, multiple regression analysis was carried out to test the hypotheses and its relationship with dependent variable. Hierarchical regression analysis was also performed to test the hypotheses and explain the relationships between independent variables and dependent variables. The significant of the hypothesis was measured by referring to P-value, where the lower the P-value is, the higher the significant level. R-Square is to determine the percentage variance of dependent variable that can be explained by independent variable.

4.0 ANALYSIS AND DISCUSSION

4.1 Correlation Analysis

The result of the correlation analysis displayed in Table 1 proved the existence of a correlation between dependent and independent variables. Technical support ($r = 0.39$), teachers' attitudes ($r = 0.69$), perceived ease of use ($r = 0.68$), perceived usefulness ($r = 0.14$) and technological knowledge ($r = 0.60$) was found to be related positively with the intention to use and are significant at 0.01 . As there is no negative value, it showed only positive relationships of the variables with the intention to use GC.

Table 1: Pearson Correlations of study variables (N=216)

| | Technical Support | Teachers' Attitude | Perceived Ease of Use | Perceived Usefulness | Technological Knowledge |
|--------------------------------|--------------------------|---------------------------|------------------------------|-----------------------------|--------------------------------|
| Technical support | 1 | | | | |
| Teachers' attitudes | 0.53 | 1 | | | |
| Perceived ease of use | 0.41 | 0.78 | 1 | | |
| Perceived usefulness | 0.21 | 0.14 | 0.41 | 1 | |
| Technological Knowledge | | | | | 1 |
| Intention to use | 0.39 | 0.69 | 0.68 | 0.14 | 0.60 |

4.2 Descriptive Statistics

Descriptive statistics analysis was performed to determine the mean scores and standard deviations for the variables. Taking 216 valid cases into account, the total was being examined for five independent variables and one dependent variable, the statistics output as shown in Table 2:

Table 2: Descriptive Statistics for all the principle variables (N=216)

| Variables | No of Items | Mean | Standard Deviation |
|-------------------------|--------------------|-------------|---------------------------|
| Technical support | 5 | 3.16 | 0.672 |
| Teachers' attitude | 3 | 3.50 | 0.843 |
| Perceived ease of use | 5 | 3.24 | 0.755 |
| Perceived usefulness | 5 | 3.15 | 0.570 |
| Technological knowledge | 11 | 3.01 | 0.800 |
| Intention to use | 6 | 3.26 | 0.843 |

Apparently, the mean scores for all variables are above 3.0. Teachers' attitudes mean was the highest which is 3.50 as shown in Table 2. The teachers' attitude should be right towards the intention to use GC as it is very important in carrying out their daily task in the teaching line. Technological knowledge mean is found to be the lowest mean which is 3.01. It can be concluded that teachers need to upgrade their technological knowledge in promoting the intention to use GC.

Standard deviations for the five independent variables and one dependent variable were in the ranges of 0.570 to 0.843. This shows the presence of significantly small variability within

the data set. The variation value signifies that all the answers given by the respondents in the survey questionnaires towards research variables were not much diverse from one respondent to other respondent. This indicates the presence of small differences in the responses.

4.3 Hypothesis Testing

Multiple regression was used to test the hypotheses for H1, H2, H3, H4, H5 and H6. This method was applied to examine direct relationship between independent and dependent factors, and to determine the most significant factor of the intention to use GC among all the factors. The results of regressions are tabulated in Table 3 and hypotheses number one to six (H1, H2, H3, H4, H5 and H6) have been tested to look into direct association between all the independent variables (technical support, teachers' attitudes, PEOU, PU, and technological knowledge) with a dependent variable (intention to use).

Table 3: Multiple Regressions for factors affecting intention to use Google Classroom

| Predictor Variable | Intention to Use | |
|------------------------------|------------------|-----------|
| | Beta | t – value |
| Technical support | -0.067 | -1.421 |
| Teachers' attitude | 0.403 | 5.628*** |
| Perceived ease of use (PEOU) | 0.303 | 4.321*** |
| Perceived usefulness (PU) | 0.019 | 0.477 |
| Technological knowledge | 0.278 | 5.601*** |
| F – value | 92.461 | |
| Durbin Watson | 1.949 | |
| R square | 0.697 | |
| Adjusted R square | 0.689 | |

*** $p < 0.001$

From the output of multiple regression involving all the independent variables (technical support, teachers' attitudes, PEOU, PU and technological knowledge) and dependent variable (intention to use) as tabulated in Table 3, the variables were tested with the value $F = 92.461$ shows that teachers' attitudes, PEOU, and technological knowledge are statistically significant with $p < 0.001$. Technical support and PU are proved statistically not significant with $p > 0.001$. There were nine cases of outliers which had been deleted and the regression tests demonstrated a good inference with R square of 0.697. Generally, 69.7 percent differences of intention to use GC can be explained by all the variables. The adjusted R-value is 0.68. The Durbin-Watson

coefficient of 1.949 was between the acceptable ranges of 1.5 to 2.5. As can be seen in Table 3, the beta value (standardize coefficients) of technical support ($\beta=-0.067$) and the value of beta for perceived usefulness (PU) is ($\beta=0.477$) shows that these independent constructs are negatively linked to intention to use GC. Therefore, hypothesis H2 and H5 are not supported. As for teachers' attitude ($\beta=-0.403$), perceived usefulness (PEOU) ($\beta=-0.303$), and technological knowledge ($\beta=-0.278$) show that these independent constructs are positively linked to the intention to use GC, hence H1, H3 and H4 are supported.

The tolerance is above 0.1, variance inflation factor values were below 10, and the condition limit indices were below the safety limit of 30 which indicated the multicollinearity problems did not exist as shown in Table 4 below. The regression analysis showed that the following tested constructs were statistically significant at $p<0.001$ -99.9 percent degree of confidence.

Table 4: Collinearity Statistics for factors affecting intention to use Google Classroom

| Model | Collinearity Statistics | |
|------------------------------|-------------------------|-------|
| | Tolerance | VIF |
| Technical support | 0.680 | 1.471 |
| Teachers' attitudes | 0.295 | 3.394 |
| Perceived ease of use (PEOU) | 0.306 | 3.270 |
| Perceived usefulness (PU) | 0.904 | 1.107 |
| Technological knowledge | 0.612 | 1.634 |

The normality requirement of the samples was revealed by a bell shape histogram as shown in Figure 2 and P-P plots also demonstrated no sign of normality of the error.

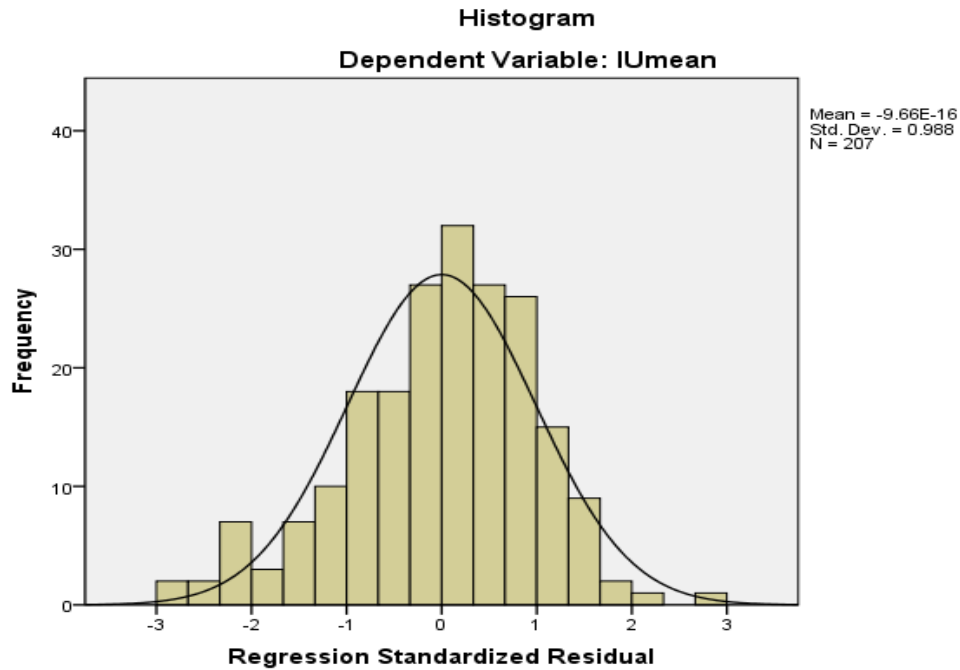


Figure 2: Histogram on factors affecting the intention to use Google Classroom

In order to find out the most significant factor of the intention to use GC among all the factors, a multi regression analysis has been carried out and based on the beta value from table 5, it shows that the most significant factor is teachers' attitudes that influences the intention to use GC with value of $\beta=0.369$.

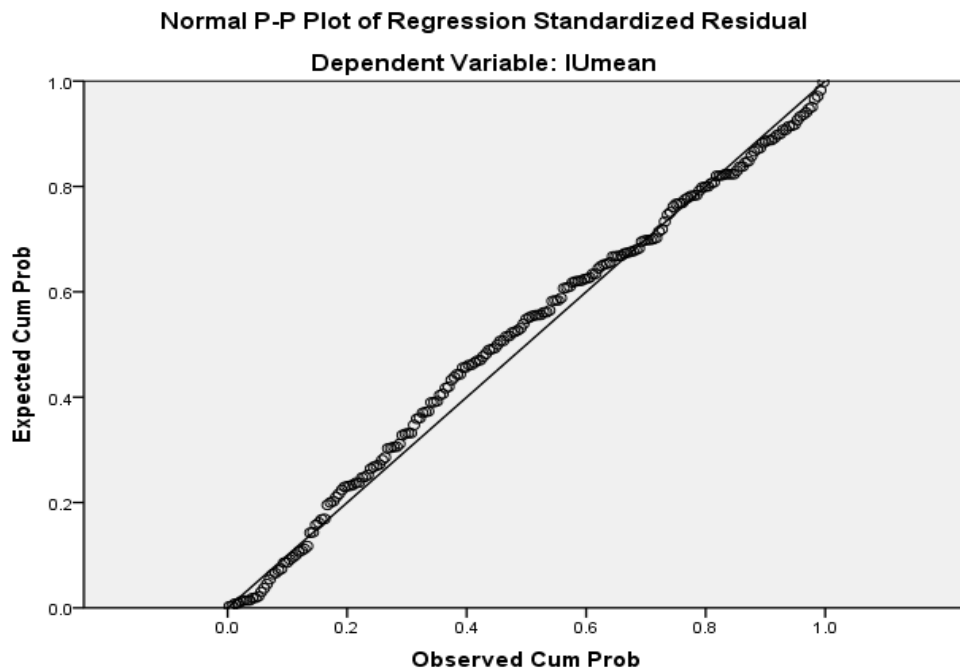


Figure 3: P-P Plot on factors affecting the intention to use Google Classroom

Table 5: Unstandardized Coefficients for factors affecting the intention to use Google Classroom

| Model | Unstandardized Coefficients | |
|-------------------------|-----------------------------|------------|
| | B | Std. Error |
| Technical support | -0.077 | 0.054 |
| Teachers' attitudes | 0.369 | 0.066 |
| Perceived ease of use | 0.314 | 0.073 |
| Perceived usefulness | 0.028 | 0.058 |
| Technological knowledge | 0.275 | 0.049 |

4.4 Hypothesis Summary

Overall, there are 6 hypotheses have been examined. Three have been accepted and two have been rejected. For the H6, the most significant factor has been identified. The summary of hypothesis is shown in Table 6:

Table 6: Summary of hypothesis testing

| | Hypotheses | Results |
|----|--|--|
| H1 | Technical supports positively influence the intention to use GC | Rejected |
| H2 | Teachers' attitudes towards technology have positive influence on the intention to use GC | Accepted |
| H3 | Perceived Ease of Use (PEOU) has positive influence on the intention to use GC | Rejected |
| H4 | Perceived Usefulness (PU) positively influence the intention to use GC | Accepted |
| H5 | Teachers' technological knowledge has positive influence on the intention to use GC | Accepted |
| H6 | There is a significant relationship between technical supports, teachers' attitudes, PEOU, PU, and technological knowledge with the intention to use GC. | Teachers' attitudes towards technology |

4.5 Discussion

Our research findings recommend a number of vital managerial implications in order to meet the 21st century educational needs. PEOU, technological knowledge, and teachers' attitudes are significant predictors of intention to use GC to encourage educators to use it in their daily teaching. This suggests that the management level of schools, districts, states, and national should clearly design and focus on developing attitudes and knowledge. This step is important to create a positive utilization of GC surrounding among the teachers. So, assistance from all aspects from the stakeholders should be supplied to boost teacher's intention to actual

technology use to an advance level. The support or assistance should consider the issues of continuously changing education policies and classroom practice. The connection between the factors that shape intention changes dynamically from time to time due to the ongoing technological developments. In order to keep up with technology trends, administrators and policymakers should assist the educators to maintain and develop the liking for technology.

In order to make it happen, professional development has shown its importance in educators' lives when it comes to technology in teaching. Educators have to undergo tremendous professional development in order to build a world-class education system. O'Moore (2000) stated that professional development is about change and renewal is another reason to show its importance. He describes it as an indispensable vehicle that we use in our teaching routine. It is intended to strengthen our communications with children and families, and to enhance our job experience and satisfaction. Besides, it also upgrades the standard of the teachers' programs as well as achieve aims of teachers at school level up to the aims of MOE including districts and states (O'Moore, 2000). Providing the staff development courses as an ongoing habit will surely benefit everyone as participants. They will accomplish all of these goals in a fun, meaningful, and professional way. In order to equipped educators with high level of knowledge, especially technological knowledge to meet the need of 21st century "technology world", teachers have to attend training, professional developments, and so forth.

In order to support this, the government must put a lot of effort to increase educators' effectiveness which will further enhances students learning. This step needs to be considered as the quality of school education is the main concern of the government. In order to make it possible for educators to develop professionally alliance with the aims of improving the education systems, Malaysian schools must be a good learning organization. The vital ingredient for the learning organization is continuously creating a space to learn new things. Hence, that learning can be utilized to improve performance and development of new ideas. Another important element is curriculum restructuring to meet the workforce requirements in a knowledge-based economy. Thus, it is important for Malaysian schools to learn and fulfil those demands in a fast mode. The school acts as learning organization, which is devoted to expanding the learning capacity of the students and teachers, as everyone should play their roles well.

Despite of having positive attitudes, teachers sometimes have difficulty in using technologies in their teaching process in the classrooms. Few studies have highlighted the need of professional development in order to get the teachers to apply those technology in their classrooms. Tautkevičienė and Bulotaitė (2009), explored teachers' attitudes towards the use

of ICT among students with special needs and have concluded that quite a big number of special education teachers had positive attitudes towards ICT. At the same time, the study also concluded that fifty percent of the teachers did not use ICT with their students due to difficulty in using ICT for educational purposes. In other words, they were not trained to use ICT with their students to deliver their lessons, therefore they needed more professional development support. This finding was supported by Ribeiro, Moreira, and Almeida (2011), who found that Portuguese teachers also had low level of ICT use with special needs children due to limited training despite having a very positive attitude. Need of training is also highlighted by Ndibalema (2014) who studied on teachers' attitudes towards the use of ICT in secondary schools in Tanzania. The study reported that the majority of the teachers did not effectively integrate ICT in their teaching. This happens due to the insufficient training in the use of ICT, even though they had a positive attitude towards the use of ICT.

Based on the result of this study, attitudes and perceived ease of use are the affecting factor to the intention to use GC. Attitude also acts as a personal belief, self-motivation, and self-satisfaction for teachers when they develop their intention to use GC. Thus, personal feelings towards intention to use GC may provide teachers the motivation to build up an intention. The intention can be developed regardless of the obstacles of technical support, usefulness, infrastructure, and many more in reality. In today's educational system, it is vital to understand teachers' attitude towards handling with various students' needs who comes from different background, social-economic status, and ability. Therefore, policymakers should help to create a job environment where the teachers will maintain their positive attitudes to provide excellent service to guide their students in the learning process. In case educators experience difficulties related to the use of GC, they may assume GC is hard to use and thus they might develop avoidance. In order to positively influence teachers' beliefs and attitudes, strategies and support mechanisms that create successful experiences for teachers in the use of GC should be devised and implemented. When teachers feel supported and have successful experiences with GC, in all likelihood they will develop positive attitudes towards GC, and in turn, will reinforce their intention to use it over time.

As stated by Khan, Hasan, and Clement (2012), an effective integration of ICT in educational institutions rely a lot on teachers and principals, who require in-depth professional development due to limited ICT knowledge and skills. Therefore, extra attention needs to be provided to in-service teacher training for both teachers and principals. Besides, pre-service training for newly appointed teachers before joining the regular classes should also be carried out. This is to prepare them with the vital role of technology in the schools setting and to train

them on how to prepare and use ICT competently. Afshari et al. (2009) also discussed the importance of professional development. It is necessary for teachers to facilitate them to use technology effectively in order to improve student learning. Staff development should also be collaboratively created, based on faculty input and school needs. This will assist to prepare the teachers to use technology effectively in their teaching. Trainings will help to build proper knowledge and skills. Fullan (1992) suggested that training should not be one-shot workshop, but rather ongoing experiences so that learners or teachers will be up to date with ever-changing technologies. During their teacher training programs, teachers need to be given opportunities to practice using technology more practically so that they can see ways in which technology can be used to augment their classroom activities (Rosenthal, 1999).

The educators should be provided with continuous training in accordance with the needs in technical and functional skills. The skills include social skills training, problem-solving training and others related to improving their working performance, growth, and development. Venkatesh and Bala (2008) stress that the implementation of a complex system often needs substantial changes to organizational structure, employees' roles and jobs, control and coordination mechanisms, and work processes. Hence, educators may believe that support from educational institutions in the form of commitment and communication is vital. Besides commitment and communication, providing the required infrastructures and training which are related to the implementation of GC system will accelerate the adoption of such system. The availability of management support regarding GC will be an incentive to accelerate the adoption of GC. Wechsler (2003) state that individuals might experience pressures from others as an attempt to discourage them from utilizing the technology in question, and therefore, this may result in the opposite impact compared to what was intended. The educators may receive pressures from the schools which will de-motivate them since the concept of GC is not well conceptualized and understood within the school setting and hence, educators may resist changing from their work routines since the attained benefits of GC system may not fully understood. So, to help educators to improve the effectiveness of using GC, the policymakers should provide more training of handling GC as a priority and compulsory to all the teachers.

5.0 CONCLUSION

The result of the study revealed that the variables of attitude, perceived usefulness and technological knowledge have a significant effect in the intention to use GC. As far as technical support and perceived ease of use are concerned, the relationship with intention to use GC was found negative. The results from this research also enhance and widen our understanding of

variables that effect on intention to use Google Classroom, continued study is required to enhance this research and to deal with the limitation of current research. As such, it is expected that this research will provide a preliminary insight and understanding of the factors affecting the intention to use GC in Malaysia context. It would be useful and suggested in future studies to obtain a broader sample of educators and randomly chosen samples which may give a more inclusive result. It is also suggested the study to be widened to all states of Malaysia, particularly Sabah and Sarawak. This will help to generalize better the findings of the study.

Finally, upcoming studies may think about some moderating constructs in the correlation between factors affecting the intention to use GC. Among these constructs, the researcher suggests educators' gender and personality. At the time of writing, Movement Control Order (MCO) has been announced due to pandemic Covid-19. All public and private institutions at levels not only Malaysia but around the world were required to postpone all the classes and lectures. Instead, all these institutions were requested to pursue classes and learning using any suitable online platforms beginning in April 2020. Henceforth, for the first time, all educators had to conduct courses and classes on an online basis. Invariably, this methodology has led to many challenges that educators faced when conducting these online classes. Due to this unprecedented phenomenon, the researcher feels that there is a need for special research to be conducted based on the experiences that these educators had acquired. Outcomes of this research finding could be shared with interested parties and educators to understand the various challenges facing online learning methodology in the education fraternity in Malaysia and how to overcome these challenges.

REFERENCES

- Afshari, M., Bakar, K. A., Luan, W. S., Samah, B. A., & Fooi, F. S. (2009). Factors affecting teachers' use of information and communication technology. *International Journal of Instruction*, 9(3), 319-342.
- Al-Alak, B. A., & Alnawas, I. A. (2011). Measuring the acceptance and adoption of e-learning by academic staff. *Knowledge Management & E-Learning: An International Journal*, 3(2), 201-221.
- AlQudah, A. A. (2014). Accepting Moodle by academic staff at the University of Jordan: Applying and extending TAM in technical support factors. *European Scientific Journal*, 10(18), 183-200.
- Amin, H. (2008). Factors affecting the intentions of customers in Malaysia to use mobile phone credit cards. *Management Research News*, 31(7), 493-503.

- Archambault, L. M., & Barnett, J. H. (2010). Revisiting technological pedagogical content knowledge: Exploring the TPACK framework. *Computers & Education*, 55(4), 1656-1662.
- Brown, M. E., & Hocutt, D. L. (2015). Learning to use, useful for learning: A usability study of Google apps for education. *Journal of Usability Studies*, 10(4), 160-181.
- Cheok, M. L., & Wong, S. L. (2016). Frog VLE for Malaysian schools: Exploring teachers' experience. In J. Zhang (Ed.), *ICT in education in global context* (pp. 201–209). Springer.
- Cheok, M. L., Wong, S. L., & Ayub, A. F. (2017). Teachers' perceptions of e-learning in Malaysian secondary schools. *Malaysian Online Journal of Educational Technology*, 5(2), 20-33.
- Creswell, J. W. (2014). *Educational research: Planning, conducting, and evaluating quantitative* (4th ed.). Pearson Education Limited.
- Davis, F. D. (1989). PU, PEOU, and user acceptance of information technology. *Management Information Systems Quarterly*, 13(3), 319–339.
- Eom, S. B. (2012). Effects of LMS, self-efficacy, and self-regulated learning on LMS effectiveness in business education. *Journal of International Education in Business*, 5(2), 129-144.
- Fullan, M. (1992). *Successful school improvement: The implementation perspective and beyond*. Open University Press.
- Hussin, N. H., Jaafar, J., & Downe, A. G. (2011). Assessing educators' acceptance of virtual reality (VR) in the classroom using the unified theory of acceptance and use of technology (UTAUT). In *International Visual Informatics Conference* (pp. 216-225). Springer.
- Iftakhar, S. (2016). Google Classroom: What works and how? *Journal of Education and Social Sciences*, 3(1), 12-18.
- Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches* (3rd ed.). Sage Publications, Inc.
- Kaur, T., & Hussein, N. (2014). Teachers' readiness to utilize Frog VLE: A case study of a Malaysian secondary school. *Journal of Education, Society & Behavioral Science*, 5(1), 20-29.
- Khan, S. H., Hasan, M., & Clement, C. K. (2012). Barriers to the introduction of ICT into education in developing countries: The example of Bangladesh. *International Journal of Instruction*, 5(2), 1308-1470.

- KPM. (2013). *Laporan awal-ringkasan eksekutif: Pelan pembangunan pendidikan Malaysia 2013-2025*. Kementerian Pendidikan Malaysia.
- Krejcie, R. V, & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 38(1), 607–610.
- Madhavi, B. K., Mohan, V., & Nalla, D. (2018). Improving attainment of graduate attributes using GC. *Journal of Engineering Education Transformations*, 31(3), 200-205.
- Martínez-Monés, A., Reffay, C., Torío, J. H., & Muñoz-Cristóbal, J. A. (2017). Learning analytics with GC: Exploring the possibilities. *In Proceedings of the 5th International Conference on Technological Ecosystems for Enhancing Multiculturality*, 47(1), 1-6.
- Mohammadi, H. (2015). Factors affecting the e-learning outcomes: An integration of TAM and IS success model. *Telematics and Informatics*, 32(4), 701–719.
- Mohd Tahir, M. H., & Tunku Mohtar, T. M. (2016). The effectiveness of using vocabulary exercises to teach vocabulary to ESL/EFL learners. *Pertanika Journal of Social Science and Humanities*, 24(4), 1651-1669.
- Mohd Tahir, M. H., Albakri, I. S. M. A., Adnan, A. H. M., & Karim, R. A. (2020a). The effects of explicit vocabulary instructions on secondary ESL students' vocabulary learning. *3L: Language, Linguistics, Literature. The Southeast Asian Journal of English Language Studies*, 26(2), 158-172.
- Mohd Tahir, M. H., Albakri, I. S. M. A., Adnan, A. H. M., Shah, D. S. M., & Shaq, M. S. Y. (2020b). The application of visual vocabulary for ESL students' vocabulary learning. *Arab World English Journal*, 11(2), 323-338.
- Ndibalema, P. (2014). Teachers' attitudes towards the use of information communication technology (ICT) as a pedagogical tool in secondary schools in Tanzania: The case of Kondo District. *International Journal of Education and Research*, 2(1), 1-16.
- Norazilawati, A., Noraini, M. N., Nik Azmah, N. Y., & Rosnidar, M. (2013). Aplikasi persekitaran pengajaran maya (Frog VLE) dalam kalangan guru Sains. *Jurnal Pendidikan Sains dan Matematik*, 3(2), 63–76.
- O'Moore, M. (2000). Critical issues for teacher training to counter bullying and victimisation in Ireland. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 26(1), 99-111.
- Pallant, J. (2016). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (6th ed.). Open University Press.
- Plackett, R. L. (1983). Karl Pearson and the chi-squared test. *International Statistical Review/Revue Internationale de Statistique*, 15(9), 59-72.

- Rabbi, M. M. F., Zakaria, A. K. M., & Tonmoy, M. M. (2017). Teaching listening skill through GC: A study at tertiary level in Bangladesh. *DUET Journal*, 3(1), 103-108.
- Rahmad, R., Wirda, M. A., Berutu, N., Lumbantoruan, W., & Sintong, M. (2019). GC implementation in Indonesian higher education. *Journal of Physics: Conference Series*, 1175(1), 012153.
- Railean, E. (2012). Google apps for education – A powerful solution for global scientific classrooms with learner centred environment. *International Journal of Computer Science Research and Application*, 2(2), 19-27.
- Rani, N. S. A., Suradi, Z. U. R. I. N. A. H., & Yusoff, N. H. (2014). An analysis of technology acceptance model, LMS attributes, e-satisfaction, and e-retention. *International Review of Management and Business Research*, 3(4), 1984-1996.
- Ribeiro, J. M., Moreira, A., & Almeida, A. M. P. (2011). Stakeholders' perceptions of the use of ICT in the education of students with SEN. *International Journal of Technology Enhanced Learning*, 3(3), 242-254.
- Rosenthal, I. G. (1999). New teachers and technology: Are they prepared? *Technology and Learning*, 19(8), 22-24, 26-28.
- Sailin, S. N. (2014). Barrier influencing teacher's technology in their practice. *Journal of Basic and Applied Sciences*, 8(23), 352-358.
- Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research methods for business students*. Pearson.
- Sekaran, U. (2006). *Research methods for business: A skill building approach* (4th ed.). John Wiley & Sons.
- Sewang, A. (2017). Keberterimaan GC sebagai alternatif peningkatan mutu di IAI DDI Polewali Mandar. *Jurnal Pendidikan Islam Pendekatan Interdisipliner*, 2(1), 35-46.
- Sudarsana, I. K., Putra, I. B. M. A., Astawa, I. N. T., & Yogantara, I. W. L. (2019). The use of GC in the learning process. *Journal of Physics: Conference Series*, 1175(1), 012165.
- Tautkeviciene, G., & Bulotaite, D. (2009). Teachers' attitudes towards the use of information and communication technologies and application of software to educate children with disability in Special Educational Institutions of Kaunas. *Special Education*, 1(1), 110-118.
- Van Raaij, E. M., & Schepers, J. J. (2008). The acceptance and use of a VLE in China. *Computers & Education*, 50(3), 838-852.
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273-315.

- Ventayen, R. J. M., Estira, K. L. A., De Guzman, M. J., Cabaluna, C. M., & Espinosa, N. N. (2018). Usability evaluation of GC: Basis for the adaptation of gsuite e-learning platform. *Asia Pacific Journal of Education, Arts and Sciences*, 5(1), 47-51.
- Wechsler, D. (2003). *Wechsler intelligence scale for children* (4th ed.). The Psychological Corporation.
- Wijaya, A. (2016). Analysis of factors affecting the use of GC to support lectures. In *The 5th International Conference on Information Technology and Engineering Application (ICIBA2016)*. Bina Darma University.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods*. CENGAGE Learning Custom Publishing.