Analysing UTAUT in Flipped Learning Implementation
(Menganalisa UTAUT didalam Pelaksanaan Flipped Learning)

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ABSTRACT

The flipped learning approach focuses on meaningful learning and it is based on responsibility shared by educators and learners. Flipped learning also authorises learners to take an engaging role in learning whilst educators facilitate the learning process. While the implementation of flipped learning has proven to enhance ESL teaching and learning in the previous studies, flipped learning in terms of Malaysian ESL lecturers in public universities has yet to be explored. This study aims to explore the utilization of Unified Theory of Technology Acceptance and Use of Technology (UTAUT) towards Malaysian ESL lecturers' attitude in implementing flipped learning. This study employs a quantitative research where a set of online questionnaire is used in collecting the data. Four public universities are chosen and 206 ESL lecturers participated in this study. The data was analysed using structural equation modelling (SEM). The result of this study indicates that performance expectancy and effort expectancy are the strong predictors in predicting Malaysian ESL lecturers' attitude towards the implementation of flipped learning. Furthermore, this study enriches the literature in 21st century education as well as the integration of technology in teaching and learning. In addition, this study could help educators and stakeholders in adapting or enhancing the flipped learning approach by distinguishing the distinct predictors in technology acceptance.

Key Words: UTAUT; Flipped Learning; Technology Acceptance; ESL; Flipped Classroom

ABSTRAK

Pendekatan flipped learning berfokus kepada pembelajaran bermakna and ianya berdasarkan kepada tanggungjawab bersama oleh pendidik dan pelajar. Flipped learning memberi sepenuh peluang kepada pelajar untuk mengambil peranan penting dalam pembelajaran manakala pendidik membantu didalam proses pembelajaran tersebut. Didalam kajian lepas, pelaksaanaan flipped learning telah terbukti berjaya meningkatkan kadar pengajaran dan pembelajaran Bahasa Inggeris sebagai Bahasa Kedua, bagaimanapun flipped learning untuk aspek pensyarah Bahasa Inggeris sebagai Bahasa Kedua masih belum dikaji. Kajian ni bertujuan untuk melihat penggunaan Unified Theory of Technology Acceptance and Use of Technology (UTAUT) terhadap sikap pensyarah Bahasa Inggeris sebagai Bahasa Kedua terhadap pelaksanaan flipped learning. Hasil kajian ini mendapati bahawa Performance Expectancy dan Effort Expectancy adalah peramal terkuat dalam meramal sikap pensyarah Bahasa Inggeris sebagai Bahasa Kedua dalam melaksanakan pedekatan flipped learning. Justeru itu, kajian ini memperkayakan lagi kajian Pendidikan Abad ke 21 dan juga integrasi teknologi didalam pengajaran dan pembelajaran. Disamping itu, kajian ini diharap dapat membantu pendidik dan badan-badan berkenaan didalam pelaksaan dan peningkatan pendekatan flipped learning dengan adanya pengetahuan tentang peramal-peramal tertentu untuk penerimaan teknologi.

Key Words: UTAUT; Flipped Learning; Technology Acceptance; ESL; Flipped Classroom

INTRODUCTION

Technology has been affecting our live from working and communicating to our lifestyles, education is affected as well (Yemma 2015). Our education is now focusing on the 21st century education and also moving towards industrial revolution 4.0 where our students are expected to meet the requirements of our fast-growing industries and be able to excel in both learning and working in the industries later on (Yeop 2019). Thus, in fulfilling the needs, the integration of technology is a must. Our Ministry of Education has highlighted the ICT based-learning called Globalized Online Learning (GOL) in the 9th shift of Malaysian Education Blueprint for Higher Education (2015-2025). The teeming changes of technology creates demands especially from the students as they integrate technology in daily lives

especially social media, therefore educators need to go along with it (Jones 2016). As part of the blended learning, flipped learning is the latest version of technological pedagogical approach in teaching and learning. There are four elements of blended learning as explained by Staker and Horn (2012).

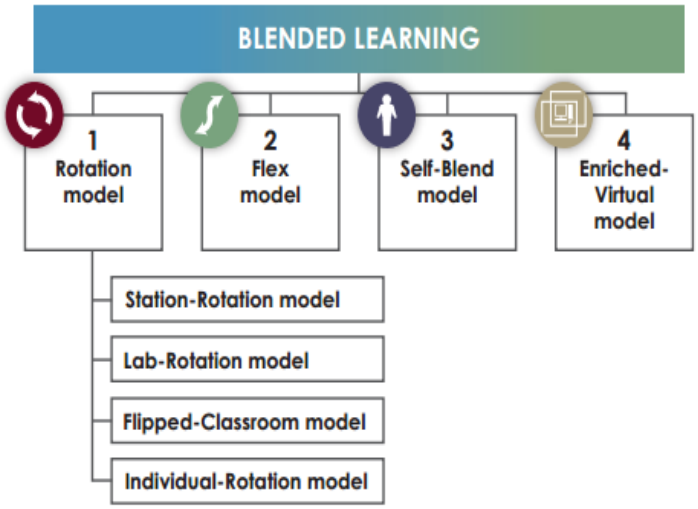

FIGURE 1. Blended Learning Model (Staker & Horn 2012)

Figure 1 shows the blended learning model. As we can see from the figure, flipped learning falls under the rotation model. The other three elements are flex model, self-blend model and enriched-virtual model. Blended learning employs the integration of basic online and face to face teaching and learning meanwhile flipped learning pushes the lesson out of the classroom and the classroom session meant for cooperative learning and problem-solving activities (Kaur et al. 2017).

LITERATURE REVIEW

Flipped Learning

Flipped learning has been created by Bergman and Sams (2007) when their students did not come to class due to a lot of trainings and tournaments. In order to make sure their students did not miss the lessons, they had to figure out a creative way to solve this problem. Thus, flipped learning was invented. Both teachers started to record their lecture and instructions using screen-cast-omatic software so the absent students can watch it at home and follow the instructions. Soon after, flipped learning has been gaining its popularity all over the world (Sams & Bergmann 2013). Hamdan et al. stresses out the meaning of flipped learning is by pushing out the content of the lesson out of the classroom, and making the classroom as the medium of interactive learning and dynamic and educator should facilitate the teaching and learning while students engaging creatively in the classroom.

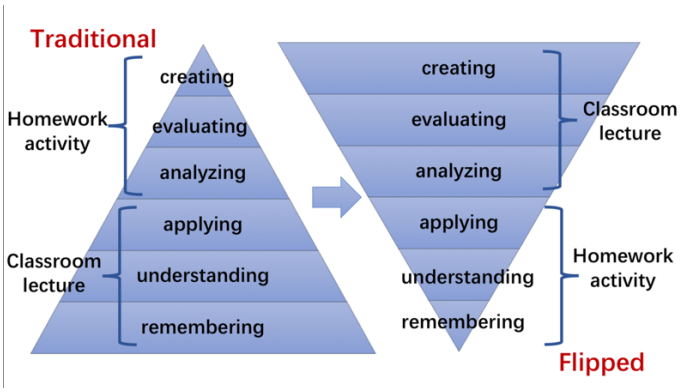

Figure 2. The Bloom's Taxonomy of Flipped Learning vs Traditional Classroom

In differentiating flipped learning and traditional classroom, Bloom Taxonomy is best described the different. The first three basic layers of Bloom taxonomy are remembering, understanding and applying for the traditional classroom are happening in the classroom itself. However, for flipped learning approach, those layers are taken out from the classroom as the homework activities. Meanwhile for the higher order thinking skill elements (analysing, evaluating and creating) are to be practised outside of the classroom as the homework activities. On contrary, flipped learning approach uses analysing, evaluating and creating skills in the classroom by applying various teaching techniques such as problem solving, project-based learning, collaborative review, in-depth discussion, or hands-on activities (Howitt & Pegrum 2015). As supported by Vygotsky (1978), meaningful learning takes place within an active in-class learning where students communicate with peers and educator and participated well in the learning activities. Thus, educators can put extra attention to students who are struggling and require extra assistance in learning. Tucker (2012) says, it is not only content that matters, but the support from students is important too in making sure that flipped learning succeeds. Educators should provide more rooms for students to apply more information as flipped learning incorporates constructivism and transformative learning theories in the teaching and learning process (Bergmann & Sams (2012). Flipped learning is best described by the flipped model by (Hamdan et al. 2013).

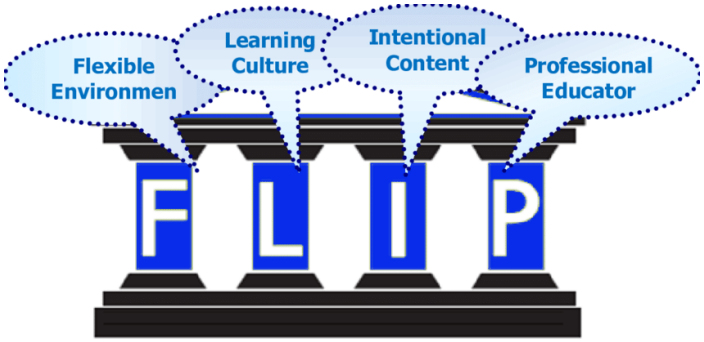

FIGURE 3. The Flipped Learning 4 Pillars

Flexible Environment (F) is the first pillar that represent the various of learning activities that can be implement in-class and out-of-class activities. This allows students to learn on their own pace. Learning Culture (L) means learner-centred approach as the class-time is for students to engage in meaningful learning and enrich themselves in learning opportunities. Intentional Content (I) means educators must consider the benefits that students will gain when developing the lesson instructions. They are also recommended to comprise student-

centred approach and active learning according to content and students' level. Professional Educator (P) is the last pillar. It represents the role of educator who is supposed to be professional in teaching. Observe, respond and evaluate students' work are the things that a professional educator must do. Even though the role of educator is noticeably less in flipped learning approach, they still a very important party in making sure that flipped learning is succeeded. This supported by Chen et al. (2014) that educator role is even more crucial compared to educator in the traditional classroom.

Technology Acceptance Model

In explaining and predicting user acceptance, advancement has been made over the years in various field of studies. Behaviour is also been examined by researchers in 1918 to 1970 through the effect of attitude (Al-Qeisi 2009). Attitude has both of direct and indirect effect towards behaviour and might as well develop multidimensional and unidimensional factors. There numerous models in technology acceptance however this study only incorporates Unified Theory of Technology Acceptance and Use of Technology (UTAUT) by (Venkatesh et al. 2003). However, it is also important to be able to differentiate between different models in adapting the theories into one's studies.

One of the earliest models manifested from the research programs was the Theory of Reasoned Action (TRA). It was developed by Aizen and Fishbein in the late of 1950s in applied settings (Taiwo & Downe 2013). They integrated various of theories on attitude for example, learning theories, attributions, and cognitive dissonance and the purpose of their research was to develop a theory that could estimate, clarify and influence individual's behaviour (Sugar Crawley & Fine 2004). The Theory of Reasoned Action (TRA) was established in 1967 but it was refined, appendage, and tested over the years (Aizen & Fishbein 1980). This theory confirmed that the upmost predictor in determining the individual's behaviour is behavioural intention.

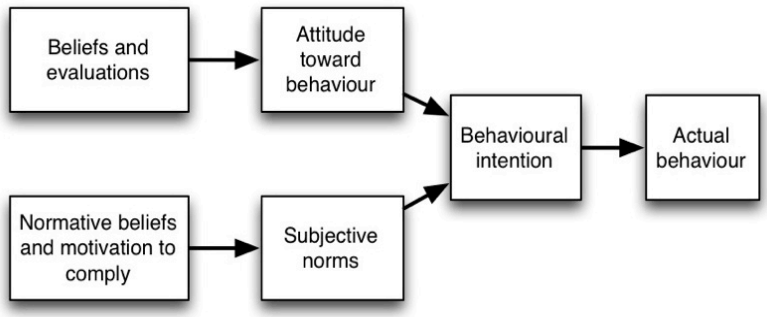

FIGURE 4. Theory of Reasoned Action (Ajzen & Fishbein, 1969)

Nonetheless, due to the Theory of Reasoned Action (TRA) limitations, the Theory of Planned Behaviour (TPB) was developed. Theory of Reasoned Action (TRA) was tested and extended and became the theory of Planned Behaviour (TPB). In this theory, issues of unintended behaviour are addressed as other factors that influence one's behavioural intention as it could lead to changes in intentions of behavioural control (Ajzen 1991).

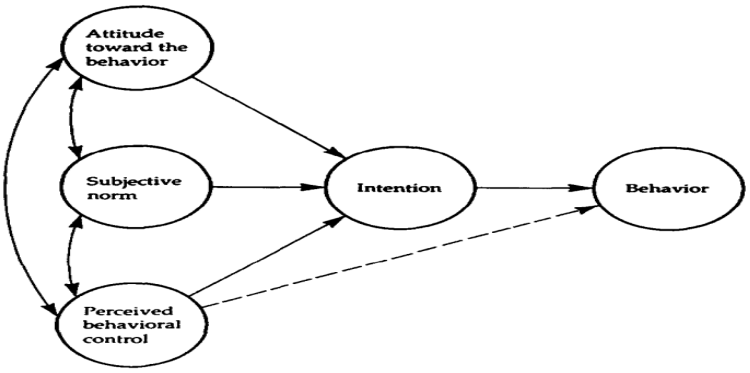

FIG. 1. Theory of planned behavior.

FIGURE 5. Theory of Planned Behaviour (Ajzen 1991)

Furthermore, Technology Acceptance Model (TAM) was established by Davis et al. (1989) and it was established to explore the behavioural intention in using a system. This model is widely used all over the world especially in information system (Liu, 2010; Yuen & Ma, 2008; King & He, 2006; Spacey et al., 2004; Gao, 2005; Shin, 2009). Generally, Technology Acceptance Model theorizes a person's behavioural intention in using a system, it is regulated and mediated by two factors which are perceived usefulness and perceived ease of use. Perceived usefulness is referring to one's belief that by using one system, it will help his or her job performance. Meanwhile perceived usefulness is referring to one's belief that he or she will have zero effort by using one system (Davis et al. 1989). Technology acceptance model has become the most powerful, vigorous model in 10 years for determining user acceptance (Venkatesh & Davis 2000).

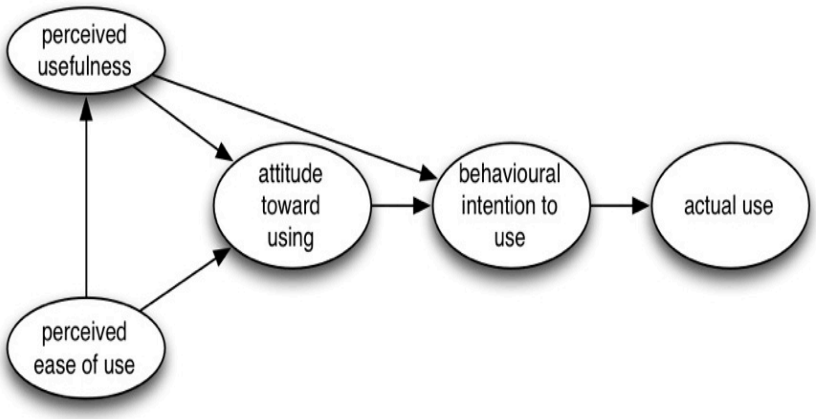

FIGURE 6. Technology Acceptance Model (Davis et al., 1989)

In addition, Technology Acceptance Model was revised, refined and extended to be the Technology Acceptance Model 2 (Venkatesh & Davis 2000). Technology Acceptance Model 2 (TAM 2) integrates the subjective norm, voluntariness, image, job relevance, output quality, result demonstrability and perceived ease of use. Hence, Technology Acceptance

Model 2 (TAM 2) theorizes the direct relationship of subjective norm towards one's intentions.

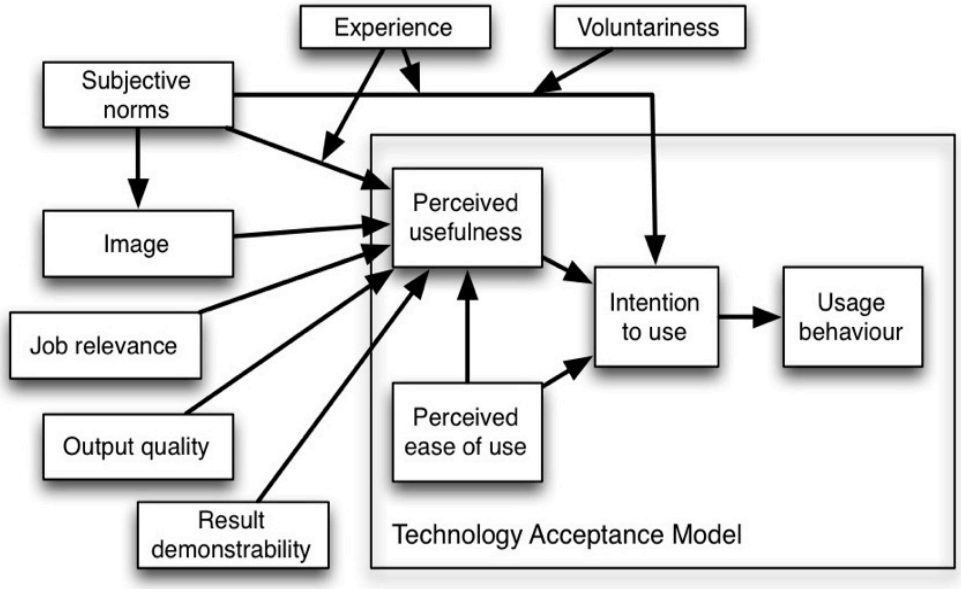

FIGURE 7. Technology Acceptance Model 2 (TAM2) (Venkatesh and Davis, 2000)

Finally, Venkatesh & Bala (2008) integrated the necessary constructs from Technology Acceptance Model 2 by Venkatesh & Davis (2000) and the perceived ease of use (Venkatesh 2000) to create Technology Acceptance Model 3 (TAM 3).

Unified Theory of Technology Acceptance and Use of Technology (UTAUT)

The Unified Theory of Technology Acceptance and Use of Technology (UTAUT) model is a reviewed model from the eight models which are; Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model, the Theory of Planned Behaviour (TPB), the combined TAM and TPB, the model of Personal Computer Utilization, the Innovation Diffusion Theory and the Social Cognitive Theory (Venkatesh et al. 2003).

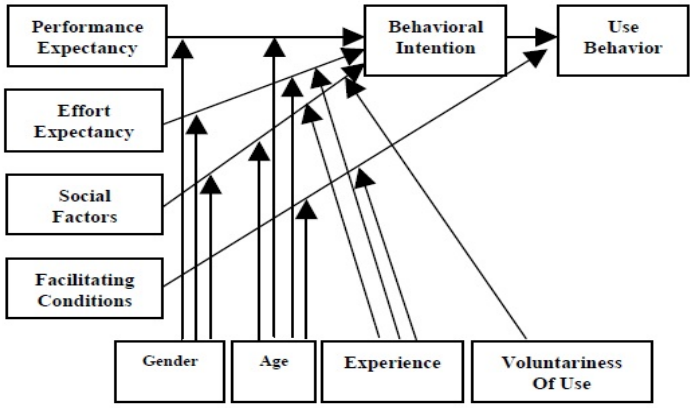

FIGURE 8. The UTAUT Model (Venkatesh et al. 2003)

Unified Theory of Technology Acceptance and Use of Technology (UTAUT) model comprise four constructs which are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. Performance Expectancy refers to one's belief that he/she will gain benefits by using technology in performing a task. Effort Expectancy means to ease of use of technology experienced by a user. Social Factors refers to one perceives that important others believe that he/she should use the technology. Facilitating Conditions means perception of user that technical supports are available to help him/her while using a system. Since there are four constructs in this model, however, this study employs only the first two constructs; Performance Expectancy and Effort Expectancy.

Performance Expectancy is well-defined as the level to which the individual or in this study Malaysian ESL lecturers believe that using the technology will them to achieve the various academic teaching at a local university. Venkatesh et al. (2003) proposes that performance expectancy is the greatest of the four constructs in his model. This theory is also reinforced by other researchers; (Agarwal & Prasad, 1997, Compeau & Higgins, 1995; Taylor & Todd, 2001) on the acceptance models. Therefore, integrating performance expectancy to the context of this study recommends that ESL lecturers in Malaysia universities will discover flipped learning useful in facilitating lecturers in teaching English language. In this study, the direct relationship between performance expectancy with Malaysian ESL lecturers' attitude towards flipped learning is studied.

Effort Expectancy is described as the level of ease linked with the use of the system. It is believed that effort-oriented construct was predicted to be more prominent in the early stages of a new behaviour (Venkatesh 1999; Venkatesh et al 2003; Venkatesh et al 2012). Thus, integrating effort expectancy to the context of this study recommends that ESL lecturers in Malaysia universities will find flipped learning easy to apply in assisting lecturers in teaching English language. In this study, the direct relationship between effort expectancy with Malaysian ESL lecturers' attitude towards flipped learning is tested.

In the 21st century education, students are predicted to be anticipated with student-centred teaching and learning, hence ICT was established in supporting teaching and learning (Saad Md Yunus & Embi 2013). Nonetheless, in incorporating technology in teaching and learning, it has its own downsides and it could affect students' achievement as well as the mismatch between educators' methods of teaching and students' learning styles (He 2016). By understanding the matters and downsides from incorporating technology in teaching and learning, it is hoped to explore the factors that affecting Malaysian ESL lecturers' in adapting flipped learning in the classroom. There are numerous technology acceptance models done in integrating technology in education but there is little research on the integration of flipped learning and Unified Theory of Technology Acceptance and Use of Technology (UTAUT)

(Inan & Lowther 2010). It is crucial to see the Performance Expectancy and Effort Expectancy as the determinants in predicting lecturers' attitude in implementing flipped learning. In addition, tThere are many other vital elements, nonetheless these two interpreters are only simply a little part of it. Hence, the objectives of the study are;

(1) to see the relationship between Performance Expectancy and Malaysian ESL lecturers' attitude in implementing flipped learning.

(2) to see the relationship between Effort Expectancy and Malaysian ESL lecturers' attitude in implementing flipped learning.

Meanwhile, in achieving the objectives, the research questions were developed. Thus, the research questions are;

(1) does Performance Expectancy have any significant effect on Malaysian ESL lecturers' attitude in implementing flipped learning?

(2) does Effort Expectancy have any significant effect on Malaysian ESL lecturers' attitude in implementing flipped learning?

METHODOLOGY

This research employs quantitative approach and survey is used to collect data. This study examines whether Performance Expectancy and Effort Expectancy have any significant relationship towards Malaysian English as a Second Language (ESL) lecturers' attitude in implementing flipped learning approach. Only four universities are selected even though there are 19 public universities in Malaysia and 206 ESL lecturers responded to this online survey. The cluster sampling technique was used and four universities were chosen using as it is the utmost time and cost-efficient sampling (Sekaran & Bougie 2013). The questionnaire was modified from Sam et al. (2005). As for the validity, face and content validity were confirmed by one English lecturer and two experts in educational technology area. On the other hand, the reliability test was performed to see the Cronbach's Alpha value for each item in Performance Expectancy and Effort Expectancy. In gathering the data, a consent letter was enclosed with the online survey. A representative of each university was appointed to distribute the online questionnaire to all of the ESL lecturers within his/her faculty. Finally, in analysing the data, three sets of statistical analyses were tested which are confirmatory factor analysis (CFA), goodness of fit indices and structural equation modelling (SEM).

TABLE 1. Scale Reliability Cronbach's Alpha Value for each item in performance expectancy

Constructs	Item	Corrected Item-Total Correlation	Decision	Cronbach's α
Performance Expectancy (PE)	I find Flipped Learning useful for teaching ESL.	.695	Accept	.895
	I find using Flipped Learning for teaching ESL will ease interaction.	.858	Accept	
	I find it easy to become skilful at using Flipped Learning for teaching ESL.	.827	Accept	
	I find Flipped Learning easy to use for teaching ESL.	.720	Accept	

Table 1 shows the Cronbach's Alpha value for items in evaluating performance expectancy constructs. There are four items and all are accepted to be added in the final instrument as the Cronbach's Alpha value meets the requirement of a high reliability coefficient, which is 0.971 (DeVellis 1991).

TABLE 2. Scale Reliability Cronbach's Alpha Value for each item in effort expectancy

Constructs	Item	Corrected Item-Total Correlation	Decision	Cronbach's α
Effort Expectancy (EE)	Using Flipped Learning for teaching ESL is easy for me.	.754	Accept	.883
	I find Flipped Learning appealing to me if majority of my colleague used it.	.843	Accept	
	I would use Flipped Learning in teaching ESL if my boss has encouraged using it.	.794	Accept	

There are three items in effort expectancy construct and all of three items are encompassed in the final instrument as the Cronbach's Alpha value meets the requirement of a high reliability coefficient, which is 0.971 (DeVellis 1991). Table 2 shows the reliability value of each item.

FINDINGS AND DISCUSSION

TABLE 3. CFA results for performance expectancy

Construct	Item	Factor Loading	AVE (above 0.5)	CR (above 0.6)
Performance Expectancy (PE)	I find Flipped Learning useful for teaching ESL	0.980	0.881	0.967
	I find using Flipped Learning for teaching ESL will ease interaction	0.975		
	I find it easy to become skillful at using Flipped Learning for teaching ESL	0.904		
	I find Flipped Learning easy to use for teaching ESL	0.891		

The Average Variance Extracted (AVE), factor loading and Composite Reliabilities (CR) are presented in Table 3. As seen from table above, all factor loadings are greater than 0.6, ranging from 0.891 to 0.980. The Average Variance Extracted also displays a value more than 0.5 (AVE=0.881). This fulfilled that convergent validity was established. On the other hand, Composite Reliabilities of Performance Expectancy (PE) construct has a value higher than 0.60 (CR=0.967), indicating adequate internal constancy.

TABLE 4. CFA results for effort expectancy

Construct	Item	Factor Loading	AVE (above 0.5)	CR (above 0.6)
Effort Expectancy (EE)	Using Flipped Learning for teaching ESL is easy for me.	0.980	0.760	0.861
	I find Flipped Learning appealing to me if majority of my colleague used it.	0.748		

The Average Variance Extracted (AVE), factor loading and Composite Reliabilities (CR) are presented in Table 4. As seen from table above, both factor loadings are greater than 0.6, ranging from 0.748 to 0.980. The Average Variance Extracted also displays a value more than 0.5 (AVE=0.760). This fulfilled that convergent validity was established. On the other hand, Composite Reliabilities of Effort Expectancy (EE) construct has a value higher than 0.60 (CR=0.861), specifying adequate internal constancy.

TABLE 5. Summary of fit statistics for final measurement model

Name of Index Category	Name of Index	Index Value	Level of Acceptance	Comments
Absolute Fit	RMSEA	0.093	RMSEA 0.05 to 0.10 acceptable	The required level is achieved
Incremental Fit	CFI	0.907	CFI > 0.90	The required level is achieved
Parsimonious Fit	ChiSq/df	2.791	Chisq/df < 3.0	The required level is achieved

Table 5 shows the fit indices indicate the good model fit after many items have been discarded. The chi-square/df ratio is 2.791 (recommended < 3.0), and the Comparative Fit Index (CFI) is 0.907, which is more than 0.90. Value 0.90 is needed in order to support that misspecified models are not accepted (Hu & Bentler, 1999). The Root Mean Square Error of Approximation (RMSEA) is 0.093 (recommended < 0.10) which measured as indication of good fit (MacCallum et al. 1996).

In understanding the Performance Expectancy and Effort Expectancy effect on Malaysian ESL lecturers' attitude in implementing flipped learning approach, the hypotheses of this study were confirmed and the hypotheses as well as the results are as follow:

H_1: Performance Expectancy has a significant effect on the Malaysian ESL lecturers' attitude in implementing flipped learning approach.

TABLE 6. The Coefficient Value for performance expectancy

Construct			Coefficients		P	Result
			Unstandardized	Standardized		
ATT	←	PE	0.315	0.356	0.023	Significant at 0.05 ($p < 0.05$) and at 0.10 ($p < 0.10$)

Result from table above shows that performance expectancy does have a significant effect on the Malaysian ESL lecturers' attitude in implementing flipped learning approach ($\beta = 0.356$, p-value < 0.05). Therefore, the hypothesis H_1 was accepted. This finding was consistent with the previous research where flipped learning offers better engagement than traditional classes and educators' existent is not a must. Operating flipped learning also creates teaching and learning process more effective especially in ESL/EFL classes. By implementing flipped learning as a teaching medium can overcome the restriction of distance

too (Bergmann & Sams 2012; Foulger & Jimenez-Silva 2007; Wang & Sutton 2002). From the finding, it is confirmed that performance expectancy has a significant effect on Malaysian ESL lecturers' attitude in implementing flipped learning approach.

H_2: Effort Expectancy has a significant effect on the Malaysian ESL lecturers' attitude in implementing flipped learning approach.

TABLE 7. The Coefficient Value for effort expectancy

Construct			Coefficients		P	Result
			Unstandardized	Standardized		
ATT	←	EE	0.294	0.386	0.035	Significant at 0.05 ($p < 0.05$) and at 0.10 ($p < 0.10$)

Result from table above shows that effort expectancy does have a significant effect on the Malaysian ESL lecturers' attitude towards flipped learning ($\beta = 0.386$, p-value < 0.05). Hence, the hypothesis H_2 was accepted. However, this result differs with a few research where effort expectancy is discovered to be non-significant predictor in predicting behavioural intention (Heerink, Krose, Wielinga & Evers 2009; Schaupp, Carter & Hobbs 2009).

IMPLICATIONS

Based on the results, few implications were drawn. As for the theoretical implication, it can be seen that Performance Expectancy and Effort Expectancy are the strong predictors in determining the Malaysian ESL' lecturers' attitude in implementing flipped learning. In methodological implication, this study has utilised Unified Theory of Technology Acceptance and Use of Technology (UTAUT) and empirical data was established. Similar findings were gained with the past studies however replication of this study still can be done with some modifications of samples or settings in order to get different results. Pedagogical implication from this study is certainly an important aspect to be emphasized in order to help educators in determining the strong predictors. By distinguishing the strong predictors, it could help educators to incorporate or enhance certain aspects in applying flipped learning especially in managing computer-related tasks, software, or any internet-based applications to be applied in the classroom. Last but not least, for the policy perspective, flipped learning should be employed in all universities; public and private ones, colleges, college universities and schools. Policy makers could consider in coaching the educators in operating flipped learning especially in managing technology in enhancing the ESL teaching and learning. They can also take into consideration in affording better environment in altering technology into education especially in the second language learning.

CONCLUSION AND RECOMMENDATIONS

In conclusion, Performance Expectancy and Effort Expectancy do have significant relationship with Malaysian ESL lecturers' attitude in implementing flipped learning approach in the classroom. This study is expected to give visions to educators and stakeholders and provide benefits to students especially in boosting students' critical

thinking skills by employing technology in teaching and learning. In addition, it is proposed to have further studies especially on these two predictors; Performance Expectancy and Effort Expectancy as researcher has inadequate number of respondents. Larger sampling perhaps could be developed in different result. Since this study is steered in public universities, more studies could be done to private universities, polytechnics, college universities as well as community colleges all over Malaysia.

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