

An Evaluation of Teachers' Knowledge of the Influence of Flipped Classroom Model on Instructional Effectiveness in Lagos Metropolis, Nigeria

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Abstract

Flipped classroom model is a modern and practical instructional approach that is technology-based. It intentionally shifts instruction to active, student-centred learning, whereby the teacher makes teaching available in the form of video lessons which students are expected to review before coming to class. At the same time, face-to-face time is for active discussion of concepts and engaging in individual and collaborative activities to improve their mastery of the materials. Consequently, this study evaluated teachers' knowledge of the influence of flipped classroom model on instructional effectiveness. The study adopted the *Descriptive Survey Research Design*. The population comprised all junior and senior secondary school teachers in government-owned schools in education district six (VI) of Lagos State. A sample size of 200 respondents was selected for the study using purposive and simple random sampling techniques. The researcher formulated and tested four research hypotheses at a 0.05 level of significance. The study used the Teachers' Knowledge of Flipped Classroom Model on Instructional Effectiveness Questionnaire (TKFCMIEQ) to collect relevant data. The data were analysed using independent samples t-test and one-way analysis of variance (ANOVA). It was recommended, among others, that the flipped classroom model be implemented in public or government-owned secondary schools, owing to its instructional efficiency. Additionally, professional development training should be organised to equip teachers with the technological know-how of the flipped classroom model and the use of the approach for effective instruction.

Background to the Study

Effective instruction is the designed goal of every teacher. Thus, a good teacher uses varieties of teaching methods, strategies, approaches or models to help improve teaching and learning. Instructional effectiveness implies the capacity or potential of teaching for achieving results. It is dependent on, but not limited to, the strategies or models employed during instructional delivery. Other elements or factors include the students themselves (motivation or readiness), teacher knowledge of the subject matter, content, learning activities and experiences, and learning environment.

Students are the centre of learning; their success, therefore, depends on effective teaching, not just occasionally, but every day in every classroom and school (Killion and Hirsh, 2011). However, in the conventional model of classroom instruction, the teacher is typically the central focus of a lesson and the primary disseminator of information during the class period. The teacher guides and directs the students to answer their questions and give them feedback. In a conventional classroom, students learn individual lessons using the lecture style. In addition, traditional teaching models limit student engagement to activities in which students work independently on an application task designed by the teacher. Class discussions typically centre on the teacher, who controls the flow of the conversation (Ryback and Sanders, 1980). This teaching pattern gives students the task of reading from a textbook or practising a concept by working on a problem set, for example, outside school (Strauss, 2012).

In a traditional model classroom, the teacher moderates and regulates the flow of information and knowledge, expecting the students to develop their understanding after the lesson through assignments and homework. Under the conventional/traditional teaching model, the student's primary resource is the face-to-face classes with the teacher. According to Kansızoğlu and Cömert (2021), in the conventional education approach, lessons are taught in the classroom, and homework is given to the students to help them understand the learning content.

Over the years, teaching and learning have evolved dramatically, as there have been visible changes in teaching style. There has been a reform in education that provides an entirely different angle of teaching and learning, with the "new learner" or "student-centred" approaches or models of teaching replacing with old teacher-centred strategies, giving rise to modern and interactive instructional models. And the advent of technology has made it possible to implement current instructional teaching models. Kenna (2014) also made a similar observation, stating that teachers have begun using more novel approaches to reach students with the advancement of online technology. In line with Lage, Platt and Treglia's (2000) opinion that with the use of new learning technologies, it is possible to move traditional lectures within the four walls of the classroom to outside the school. Hence, when learning activities occur outside the school, the teacher guides the learners.

A flipped classroom model is a pedagogical approach that interchanges classroom activities and homework (Tucker, 2012); it is an active, student-centred approach

developed to increase the quality of the period within the classroom (Ozdamli and Asiksoy, 2016). It is a modern instructional model where the teacher creates teaching presentations or materials for the students to review before coming face-to-face in the classroom. Face-to-face time is for discussing concepts actively and collaborating activities to improve students' mastery of the materials (Mehring and Leis, 2018). Students watch videos related to the course content during the pre-class stage in preparation for lessons with the flipped model. They engage in practical and collaborative activities and receive feedback from peers or teachers during the classroom rather than factual explanations. Lastly, students would spend time reflecting and evaluating their learning outcomes. The challenges of the traditional teaching method, such as time wastage, is overcome with the flipped approach. As a result, students have time to learn more effectively (Kansızoğlu and Cömert, 2021). In Yeo's (2018) opinion, students take responsibility for their learning and would be more confident when coming to class, ready to do further activities to explore the content. Abeysekera and Dawson (2015) proposed that the flipped classroom model intentionally shifts instruction to a student-centred approach. Students use classroom time to explore topics and develop relevant learning opportunities while new course contents are introduced outside the classroom. This model of instruction has become appropriate for the current education system that values a student-centred approach. A teacher engages in personalised and less didactic interaction with students in a flipped classroom.

Consequently, the students actively acquire and construct knowledge as they participate in and evaluate their learning process (Alvarez, 2011; Abeysekera and Dawson, 2015; Vitta, Al-Hoorie, and Ali, 2020). Abeysekera and Dawson maintain that content delivery in a flipped classroom may take various forms. For example, the teacher or third parties often prepare video lessons to deliver course content to students.

With interest in internet-based technologies within education, online collaborative discussions, digital research, and text readings may be used. For example, in Williams's (2002), opinion increasing, flipped classrooms have evolved into a technology-based instructional approach. In the same vein, Mehring and Leis (2018) further stated that technology adaptation to teaching and learning has made it possible to implement flipped classrooms to be more innovative and interactive.

Research has shown that flipped classroom is applicable at different levels of education, middle and high school (or junior and senior secondary school), and in higher institutions, various disciplines (education, sciences, arts, social sciences, among others). In developed countries like the U.S., flipped teaching was explored at the high school level. In 2007, Woodland Park High School chemistry teachers Jonathan Bergmann and Aaron Sams introduced flipped teaching style at the secondary school level. They documented their teachings and posted them online to accommodate students who missed their classes (Bergmann and Sams, 2012). According to Rosenberg (2013), in 2011, educators in Michigan's Clintondale high school flipped every classroom. Principal Greg Green in a bid to change the narrative of Clintondale led an effort to help teachers develop

plans for flipped classrooms. He worked with a social studies teacher to run two classes with identical material and assignments; one flipped and one conventional. As a result, the flipped class had several students with multiple failure reports. At the end of twenty weeks, the students with numerous failure reports outperformed students in the traditional classrooms.

However, the students in the traditional classroom showed no change. Teachers used flipped model in the 9th grade (that is, junior secondary school three), and the failure rates in English, math, science and social studies dropped significantly. Also, professors at the University of Graz conducted a survey in which lectures were video recorded in a manner in which students could have access to them throughout the semester of a lecture-based course on educational psychology (Luttenberger et al., 2018). In all these scenarios, the results were positive. In Kenna's (2014) proposition, instructional approaches have evolved through the past decades. With the advancement of online technology, there is a change in how students learn. The flipped classroom model is one of the ways teachers bring advanced technology into the learning environment to support students' self-directed learning. With flipped classroom model of instruction, there is a change in how students learn, thus leading to teaching effectiveness. Kenna maintains that the widely accepted constructivist theorists Bruner (1966) and Piaget (1970) say that students construct their learning by doing problems with minimal initial help from the teacher in a flipped classroom. Constructivism suggests that students build their knowledge base through inquiry learning and experience when they acquire new information, not from lectures (Lotter et al., 2011; Rusche and Jason, 2011).

Statement of the Problem

Flipped classroom model is a modern approach to teaching and learning that is student-centred, with track records, which are proofs of its instructional effectiveness. This model is turning the traditional classroom on its head. Many educators or teachers in many countries worldwide are experimenting with the idea of a flipped classroom model. In the Nigerian education system, the question arises as to whether the school system has started exploring and using flipped classroom models, seeing how student-centred and effective it is. Are teachers informed about this model? And to what extent, if yes, are they knowledgeable about the influence of flipped classroom model on instructional effectiveness? Are teachers with different academic qualifications and teaching experience, both male and female, aware of the flipped classroom model?

"Knowledge is power", thus, implying that the knowledge an individual possesses empowers them. Even though acquiring knowledge is not enough, we must apply or put knowledge to use, for therein lies the power of knowledge. Then again, a teacher cannot practice or apply some knowledge they do not possess because when one knows better, they can do better. This present study was motivated by this premise. Given the preceding, the study was devoted to evaluating teachers' knowledge of the influence of flipped classroom model on instructional effectiveness.

Purpose of the Study

1. The primary purpose of this study is to evaluate teachers' knowledge of the influence of flipped classroom model on instructional effectiveness.
2. Examine whether gender impacts teachers' knowledge of the influence of flipped classroom models on instructional effectiveness.
3. Determine whether academic qualification impacts teachers' knowledge of the flipped classroom model's influence on instructional effectiveness.
4. Ascertain whether years of teaching experience impact teachers' knowledge of the flipped classroom model's influence on instructional effectiveness.
5. Ascertain the extent to which teachers are knowledgeable about the influence of flipped classroom model on instructional effectiveness.

Research Hypotheses

The researcher formulated the following hypotheses to guide the study: -

1. There is no significant difference due to gender in teachers' knowledge of the influence of flipped classroom model on instructional effectiveness.
2. There is no significant difference due to academic qualification in teachers' knowledge of the influence of flipped classroom model on instructional effectiveness.
3. There is no significant difference due to years of teaching experience in teachers' knowledge of the influence of flipped classroom model on instructional effectiveness.
4. There is no significant difference in how teachers are knowledgeable about the influence of flipped classroom model on instructional effectiveness.

Methodology

The study adopted the descriptive survey research design, a non-experimental research design. The survey method collected existing data without manipulation. According to Nworgu (1991), the survey research design considers a group of people or items for the study. Then it collects data and analyses from only a few people who are representative (sample) of the entire group (population). The study took place in public or government-owned schools in education district six (VI) of Lagos State. The target population for this study comprised all junior and senior secondary school teachers in government-owned schools in education district six (VI) of Lagos state. The sample of this study included 200 respondents, who are all junior and senior secondary school teachers. The respondents were randomly and purposely selected from the education district six (VI) out of six education districts in Lagos state. Furthermore, the Ikeja Local Government area was chosen purposely out of the four local government areas in education district six (VI). Finally, a simple random sampling technique was used to select six schools, from where 200 respondents, including both junior and senior secondary school teachers, were randomly selected.

The questionnaire titled "Teachers' Knowledge of Flipped Classroom Model on Instructional Effectiveness Questionnaire (TKFCMIEQ)" helped obtain the data for the study. The instrument had two sections, A and B. Section A consists of the respondents'

bio-data such as gender, academic qualification and years of teaching experience. In contrast, section B consists of 24 items of statements designed to evaluate teachers' knowledge of the influence of flipped classroom model on instructional effectiveness. Each participant had the opportunity of choosing one out of four options to either: Strongly Agree (S.A.), Agree (A), Disagree (D) or Strongly Disagree (S.D.) with a statement. Responses to the questionnaire were scored on the four-point Likert-type rating scale.

The face and content validity ascertained the instrument's validity. A sample of the study instrument was given to the research supervisors for vetting. The necessary adjustments were made before the pilot study was conducted. Internal consistency was determined using Cronbach's Alpha reliability. Thirty teachers for the pilot study were selected from an education district different from the sample used in the research study, and a reliability coefficient of 0.72 was established.

The researcher administered the questionnaire to teachers in the selected schools after getting approval from the schools' principals. Then, the researcher guided the respondents in filling out the questionnaires, and they were collected at the spot to ensure a 100% return rate. The data instruments were analysed with descriptive statistics such as the percentage and frequency counts for the respondents' bio-data. Additionally, Independent samples t-test and one-way analysis of variance (ANOVA) were adopted in analysing the formulated hypotheses at a 0.05 level of significance.

Results

Table 1: Demographic information of the respondents' Variables

Gender	Frequency (N)	Percentage (%)
Male	85	42
Female	115	58
Total	200	100
Academic qualification		
Bachelor's degree	140	70
Master's degree	60	30
Total	200	100
Years of teaching experience		
Below 1-5 years	59	29
6-10 years	16	8
11-15 years	40	20
Above 15 years	85	43
Total	200	100

Table 1 above shows the demographic information of respondents. The percentage of the respondents was 42% male and 58% female. In addition, 70% had a bachelor's degree for

academic qualification, while 30% had a master's degree. Regarding years of teaching experience, below 1-5 years constituted 29%, 6-10 years constituted 8%, 20% were within 11-15 years, while 43% were above 15 years.

Hypothesis 1: It states that there is no significant difference due to gender in teachers' knowledge of the influence of flipped classroom model on instructional effectiveness. This hypothesis was tested using independent samples t-test statistics. The result of the analysis is presented in table 2.

Table 2: Independent samples t-test of the effect of gender on teachers' knowledge of flipped classroom model on instructional effectiveness

Gender	N	Mean	SD	df	t-cal	t-crit	Decision
Male	85	61.88	8.28	198	1.47	1.96	Accept Ho
Female	115	60.17	8.12				

Evidence from table 2 above shows that a calculated t- a value of 1.47 resulted in the influence of gender on teachers' knowledge of flipped classroom model on instructional effectiveness. This calculated t-value of 1.47 is "not significant" since it is less than the critical t-value of 1.96 given 198 degrees of freedom at a 0.05 level of significance. Consequently, the null hypothesis was accepted.

Hypothesis 2: It states that there is no significant difference due to academic qualification in teachers' knowledge of the influence of flipped classroom model on instructional effectiveness. This hypothesis was tested using independent samples t-test statistics. The result of the analysis is presented in table 3.

Table 3: Independent samples t-test of academic qualification impact on teachers' knowledge of flipped classroom model on instructional effectiveness

Academic qualification	N	Mean	SD	df	t-cal	t-crit	Decision
Bachelor's	140	60.06	8.51	198	2.15	1.96	Reject Ho
Master's	60	62.77	7.34				

Table 3 indicated that a calculated t-value of 2.15 resulted in the influence of academic qualification on teachers' knowledge of flipped classroom model on instructional effectiveness. This calculated t-value of 2.15 is significant since it is greater than the critical t-value of 1.96, given 198 degrees of freedom at a 0.05 level of significance. This means that teachers who possess a Master's Degree with higher mean scores of 62.77 "significantly" performed better than the teachers who have a Bachelor's Degree with a mean score of 60.06. Consequently, the null hypothesis was rejected.

Hypothesis 3: It states that there is no significant difference due to years of teaching experience in teachers' knowledge of the influence of flipped classroom model on

instructional effectiveness. This hypothesis was tested using a one-way analysis of variance statistics. The result of the study is presented in table 4.

Table 4: One-way analysis of variance of the effect of years of teaching experience on teachers' knowledge of flipped classroom model on instructional effectiveness

Years of teaching experience	N	Mean	SD
Below 1-5 years	59	59.54	10.08
6-10 years	16	60.69	6.53
11-15 years	40	60.40	6.19
Above 15 years	85	62.05	7.94

Source of variation	Sum of sq.	D/F	Mean of sq.	F-ratio
Between groups	231.127	3	77.042	1.13
Within groups	13329.493	196	68.008	
Total	13560.620	199		

*Significant at 0.05, df = 3 and 196, critical F = 2.65

From table 4, it could be observed that a calculated F-value of 1.13 resulted in the influence of years of teaching experience on teachers' knowledge of flipped classroom models on instructional effectiveness. However, this calculated F-value of 1.13 is "not significant" since it is less than the critical F-value of 2.65, given 3 and 196 degrees of freedom at 0.05 level of significance. Consequently, the null hypothesis was accepted.

Hypothesis 4: It states that there is no significant difference in the extent to which teachers are knowledgeable about the influence of flipped classroom model on instructional effectiveness. This hypothesis was tested using a one-way analysis of variance statistics. The result of the study is presented in table 5.

Table 5: One-way analysis of variance on the extent of teachers' knowledge of flipped classroom model on instructional effectiveness

The extent of knowledge	N	Mean	SD
High	25	74.56	1.45
Moderate	163	60.03	5.69
Low	12	44.25	3.08

Source of variation	Sum of sq.	D.F.	Mean of sq.	F-ratio
Between groups	8114.743	2	4057.372	148.204
Within groups	5393.257	197	27.377	
Total	13508.000	199		

*Significant at 0.05, df = 2 and 197, critical F = 3.04

The result in table 5 revealed that a calculated F-value of 148.204 influenced the extent of teachers' understanding of flipped classroom model on teaching effectiveness. This calculated t-value of 148.204 is significant since it is greater than the critical t- a value of 3.04, given 2 and 197 degrees of freedom at a 0.05 level of significance. Consequently, the null hypothesis was rejected.

Further or post hoc analysis was done using Fisher's least square difference (LSD) method based on the significant F-value obtained. It involves pair-wise comparison of group means to determine which group differs from each other on the extent of knowledge of flipped classroom model on instructional effectiveness and the trend of the difference. The result of the pair-wise comparison is presented in table 6.

Table 6: Pair-wise comparison on the extent of teachers' knowledge of flipped classroom model on instructional effectiveness

Categories	High	Moderate	Low
High	-	-2.47*	3.16*
Moderate	-2.47*	-	1.93
Low	-3.16*	-1.93	-

* t value is significant at 0.05

The analysis in Table 6 shows that teachers under the high category significantly manifest greater knowledge on flipped classroom models than those who have moderate knowledge on flipped classroom models ($t = 2.46$; $df=186$; critical $t = 1.96$, $p < 0.05$). Similarly, teachers under the high category significantly manifest greater knowledge on flipped classroom models than those who have insufficient knowledge on flipped classroom models ($t = 3.16$; $df = 35$; critical $t = 2.04$, $p < 0.05$). However, teachers under the low category did not differ significantly in extent of knowledge on flipped classroom model from those in moderate category ($t = 1.93$; $df = 173$; critical $t = 1.96$, $p > 0.05$).

Discussion of Findings

The first hypothesis revealed no significant difference due to gender in teachers' knowledge of the influence of flipped classroom model on instructional effectiveness. Instead, it could result from the fact that both male and female teachers seek to improve their knowledge and effectiveness in teaching. This finding agrees with Islahi and Nasreen (2013), who observed that gender had no significant influence on instructional effectiveness.

The second hypothesis found that academic qualification significantly impacts teachers' knowledge of the influence of flipped classroom model on instructional effectiveness. Teachers who possess Master's Degree performed "significantly" better than the teachers who have Bachelor's Degree. This could be because teachers who decide to pursue further studies to get a higher academic qualification do so to increase their (or gain more) knowledge that improves their effectiveness in teaching. The finding aligns with

Ololube's (2006), research findings, revealing that teachers with higher academic qualifications are more effective than teachers with lower educational qualifications. Also, Eleri (2013), observed that the capabilities of teachers play an essential role in effective teaching. Finally, according to the third hypothesis, years of teaching experience do not significantly impact teachers' knowledge of the influence of flipped classroom model on instructional effectiveness. This could be because as more experienced teachers continue to make an effort to gain valuable new understanding to improve instruction (through training, workshops and professional development), new teachers are already exposed to innovative and effective teaching approaches. This finding agrees with Graham et al.'s (2020) finding that beginning teachers are doing as good as teachers with more years of experience.

The fourth hypothesis revealed a significant difference in how teachers are knowledgeable about the influence of flipped classroom model on instructional effectiveness. For example, during the covid'19 pandemic that resulted in a lockdown, innovative or modern approaches were implemented to enable students to continue learning, such as hybrid learning or instructional practice, online teaching and learning, among others. Teachers' exposure to these modern instructional approaches (which flipped classroom approach) may be why the extent to which teachers are knowledgeable about the influence of flipped classroom models on instructional effectiveness is high compared to the moderate and low categories. This finding agrees with Inan, Balakrishnan and Refeque's (2019) findings which suggested that the flipped classroom model is an effective and unconventional teaching method that builds up students' learning and boosts the skills of both teachers and students.

Conclusion

The following conclusions were drawn from the findings of this study:

1. Teachers' gender does not significantly influence their knowledge of flipped classroom models' instructional effectiveness.
2. The academic qualification of teachers significantly impacts their knowledge of the influence of flipped classroom model on instructional effectiveness
3. Years of teaching experience did not significantly impact teachers' knowledge of the influence of flipped classroom model on instructional effectiveness.
4. There was a significant difference in the extent to which teachers are knowledgeable about the influence of flipped classroom model on instructional effectiveness.

Recommendations

The following recommendations were made based on the conclusion of the study;

1. Owing to the knowledge of the influence of the flipped classroom model amongst both male and female teachers, workshops, seminars, professional development training should be organised by the ministry of education, teaching service commission (TESCOM), various teachers' associations, and also by the school management in different public schools to train and equip male and female

- teachers with the technological know-how of flipped classroom model and on the use of the approach for effective instruction.
2. The flipped classroom model has been effective in teaching and learning. Therefore, this model should be implemented in public or government-owned secondary schools. Teachers should seek the necessary approval from the school management to implement the flipped classroom model.
 3. The flipped classroom model is technology-based, hence the need for the government to provide or make available the needed media technologies needed in schools for teachers to implement the flipped classroom model successfully. Hence the need for a well-equipped computer laboratory in all public secondary schools.
 4. Owing to the instructional effectiveness of the flipped classroom model, pre-service teachers in higher institutions of learning should be exposed to the knowledge and usage of the model to prepare the ground for their service in the teaching profession.

References

- Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: definition, rationale and a call for research, *Higher Education Research & Development*, 34(1),1-14.
- Alvarez, B. (2011). Flipping the classroom: Homework in class, lessons at home, *Education Digest: Essential Readings Condensed for Quick Review*, 77(8), 18–21.
- Bergmann, J., & Sams, A. (2012). *Flip your classroom: reach every student in every class every day*, Washington, DC: International Society for Technology in Education.
- Bruner, J. S. (1966). *Toward a Theory of Instruction*. Cambridge, Massachusetts: Harvard University Press
- Eleri, N. O. E. (2013). Teaching effectiveness in elements of special education in NCE-awarding institutions in Nigerian: Influence of teacher qualification and experience, *Journal of Research & Method in Education*, 2(2), 7-16.
- Graham, L. J., White, S. L J., Cologon K., & Pianta, R. C. (2020). *Do teachers' years of experience make a difference in the quality of teaching?* Teaching and Teacher Education, 96, 1-10.
- Inan, N. K., Balakrishnan, K., & Refeque, M. (2019). Flipping perceptions, engagements, and realities: A case study, *Turkish Online Journal of Distance Education*, 20(1 322), 208–222.
- Islahi, F., & Nasreen (2013). Who make effective teachers, men or women? An Indian Perspective, *Universal Journal of Educational Research* 1(4), 285-293.

- Kansizoğlu, H. B. & Cömert, O. B. (2021). The effect of teaching writing based on flipped classroom model on metacognitive writing awareness and writing achievements of middle School students, *Education and Science*, 46(205), 279-302.
- Kenna, D. C. (2014). *A study of the effect of the flipped classroom model on student self-efficacy*, Published M.Sc. Thesis, North Dakota State University of Agriculture and Applied Science.
- Lage, M. L., Platt, G. J., & Treglia, M. (2000). *Inverting the Classroom: A gateway to creating an inclusive learning environment*,
- Lotter, C., Marshall, J. C., Sirbu, C., & Smart, J. (2011). Comparative analysis of two inquiry observational protocols: Striving to better understand the quality of teacher-facilitated inquiry-based instruction, *School Science and Mathematics*, 111(6), 306-315.
- Luttenberger, S., Macher, D., Maidl, V., Rominger, C., Aydin, N., & Paechter, M. (2018). Different patterns of university students' integration of lecture podcasts, learning materials, and lecture attendance in a psychology course. *Education and Information Technologies*, 23(1), 165-178.
- Mehring, J., & Leis, A. (2018). *The flipped classroom*. In J. Mehring & A. Leis (Eds.), *Innovations in flipping the language classroom: Theories and practices*, Singapore: Springer Nature.
- Nworgu, B. G. (1991). *Educational research: Basic issues & methodology*, Ibadan: Wisdom Publishers Limited.
- Ololube, N. P. (2006). *Teacher education, school effectiveness and improvement: A study of academic and professional qualification on teachers' job effectiveness in Nigerian Secondary Schools*, Published Doctoral Dissertation, University of Helsinki, Finland.
- Ozdamli, F. & Asiksoy, G. (2016). Flipped classroom approach, 330 *World Journal on Educational Technology: Current Issues*, 8(2), 98-105.
- Piaget, J. (1970). *Science of education and psychology of the child*, New York: Orion Press.
- Rosenberg, T. (2013). *Turning education upside down*.
- Rusche, S. N., & Jason, K. (2011). *You have to absorb yourself in It: Using inquiry and reflection to promote student learning and self-knowledge*.
- Ryback, D., & Sanders, J. (1980). Humanistic versus traditional teaching styles and student satisfaction, *Journal of Humanistic Psychology*, 20 (87), 87-90.

- Strauss, V. (2012). *The flip: Turning a classroom upside down*,
- Tucker, B. (2012). *The flipped classroom in second language learning: A meta-analysis*. *Language Teaching Research*, Advance Online Publication.
- Williams, C. (2002). Learning On-line: A review of recent literature in a rapidly expanding field. *Journal of Further and Higher Education*, 26(3), 263-272.
- Yeo, M. (2018). *Flipping or flopping: Lessons learnt from flipping a course for ASEAN teachers of English*. In Mehring, J., & Leis, A. (Eds.), *Innovations in flipping the language classroom: Theories and practices*. 336 Singapore: Springer Nature.