Educators' Motivation and Intention within the UTAUT Model to Adopt the Flipped Classroom: A Scoping Review

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Abstract. There is a growing concern for educational institutions to transform and innovate their teaching and learning pedagogy to meet today's demands. This phenomenon is reflected in the rise of the flipped or inverted classroom. However, the motivation and intention of educators to transform from conventional teaching to flipped classrooms is poorly understood. Therefore, a scoping review of the literature was undertaken to identify important determinants in educators' motivation and intention within the UTAUT model to use the flipped classroom. Databases searched included the Web of Science, Scopus, and ERIC databases. Arksey and O'Malley's five-stage framework was utilized as the method for the scoping review process. The findings reveal four main themes and twelve sub-themes regarding educators' motivation and intention to implement the flipped classroom, of which social factors are the most dominant determinants. By examining the crucial determinants that influence the motivation and intention of adopting flipped classrooms, this study might assist educators in successfully making the change.

Keywords: scoping review; flipped classroom; UTAUT model; intention; motivation; educators

1. Introduction
The pedagogy of learning and education is experiencing substantial transformation owing to Industrial Revolution 4.0. Technological advancement demands educational institutions embrace technology in the curriculum, in

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learning, and in lifelong learning (Surianti, 2020). Thus, many educators have attempted to shift from the conventional lecture approach to using technology to improve students' learning motivation (Basri et al., 2021). Adopting innovative educational strategies, such as the flipped classroom, is unavoidable (Abdekhoda et al., 2019) and has received much attention from educators worldwide (Kiang & Yunus, 2021; Zheng et al., 2020). More importantly, the flipped classroom can help students learn more effectively and prepare them for the challenges of 21st-century career demands (Al-Shabibi & Al-Ayasra, 2019).

The flipped classroom emphasizes active learning through technology as a bridge between teaching and learning (Tune et al., 2013). Numerous flipped models have been suggested and successfully implemented. For instance, Bergmann and Sams (2012) suggest the traditional flipped classroom, which focused on content delivery. On the other hand, Tune et al. (2013) propose a more advanced model that divides modified flipped classes into several phases. First, students receive lecture notes and watch recorded lectures before class. Then, quizzes administered at the start of class are given to students, followed by class discussions about issues or concerns about the course content. Finally, the lesson is reinforced by assigning homework or practising tasks based on class discussions. Eventually, the instructor's function effectively shifts from material delivery to facilitation and assistance (Tune et al., 2013). As a result, students participate more actively than teachers in classroom activities. The teacher serves as a facilitator, guiding and providing feedback on students' performance (Bergmann & Sams, 2012) rather than the traditional lecture-based approach.

The flipped classroom has a favourable effect on students' understanding, expertise, and participation (Fuchs, 2021), and it improves learning performance (Akçayır & Akçayır, 2018). The approach promotes active learning, student learning responsibility, and peer cooperation (Ghufron & Nurdianingsih, 2021); it supports efficient communication and engagement among students, and enhances their pragmatic ability (Hazaymeh & Altakhaineh 2019). Other reported benefits of the flipped classroom are improvements in students' self-regulation methods, such as independent study before class (Blau & Shamir Inbal, 2017; Green & Schlairet 2017). As a result, students gain opportunities for discussion and interaction both inside and outside the classroom, ultimately improving their performance (Tune et al., 2013).

1.1 Measuring Motivation and Intention of Teachers in Using Flipped Classroom in Teaching within Unified Theory of Acceptance and Use of Technology (UTAUT)

Today, many schools and institutions accept the use of technology, mainly information and communication technologies (ICTs), both inside and outside the classroom, to enhance teaching and learning pedagogy. As this study intended to determine the motivation and intention of educators in adopting a flipped classroom, the UTAUT model was utilized to explore the individual acceptance of this new technology (Ventakesh et al., 2003). It is evident in the previous literature that technology acceptance models, specifically the UTAUT model, have been employed in studies related to e-learning and flipped classrooms (e.g., Abd Rahman et al., 2021; Bakheet & Gravell, 2020; Gunasinghe & Nanayakkara, 2021;

Long et al., 2018; Radovan & Kristl, 2017). Hence, this model best underpins the motivation and intention to use the new pedagogy concerning technology usage. In this model, the four key determinants of technological choice and utilization are: performance expectancy, effort expectancy, social influence, and facilitating condition. Performance expectancy is a person's belief that using the system would boost work output. Effort expectancy is the ease of using the system. Social influence is how others think they should use a new strategy. The last determinant, facilitating condition, refers to the belief that an organizational and technological infrastructure exists to support system use (Ventakesh et al., 2003).

Research on the flipped classroom model has recently gained widespread popularity (AlJarrah et al., 2018) owing to its benefits. Previous research has demonstrated that flipped classrooms have a positive effect on student satisfaction and acceptance (Zain et al., 2019), on critical thinking skills (Bani-Hamad & Alzubaidi, 2021), motivation (Sergis et al., 2018), engagement (Elmaadaway, 2017), learning achievement (Lento, 2016; Tune et al., 2013; Thai et al., 2017), and self-efficacy (Lento, 2016; Tune et al., 2013; Thai et al., 2017). Nevertheless, the research on flipped classrooms published in high impact journals such as the Web of Science (WoS), Scopus, and ERIC databases focuses more on students' perceptions of a flipped classroom (such as Chan et al., 2020; Zainudin & Attaran, 2016) than on educators' intention and motivation to adopt flipped classrooms, which is relatively scarce (Chellapan et al., 2018).

Most of the studies are limited to the conceptual model of the flipped classroom (Abdekhoda et al., 2019; Lee et al., 2017), the application of flipped classrooms (Elmaadaway, 2017; Pattanaphanchai, 2019), students' experiences (Green & Schlairet, 2017; Sergis et al., 2018), and attitudes and perceptions of flipped classroom learning (Chan et al., 2020; Zainudin & Attaran, 2016). Long et al. (2018) indicated that further research on the determinant variables influencing educators' adoption of the flipped classroom is desirable. Since incorporating technology into teaching and learning is critical, it is crucial to explore prominent elements that impact educators' decisions to adopt the flipped classroom approach. To that end, this study will produce a complete map of themes related to educators' motivation and intention to adopt flipped classrooms within the UTATU model. Understanding the motivation and intention that drive the educators to choose flipped classrooms might assist professionals in better supporting these innovations and improving educators' adoption of technology.

2. Materials and Method

A scoping review frequently includes literature, conceptual, and policy mapping (Anderson, Allen, Peckham & Goodwin, 2008). It is widely used, especially in less rigorous evidence, and incorporates literature from various study designs (O'Flaherty & Phillips, 2015). A scoping review can also identify gaps in the evidence base, summarise and convey conclusions, and determine the necessity for a systematic review or not (Peterson, Pearce, Ferguson & Langford, 2016). In contrast, a systematic review answers specific questions with defined methodologies (O'Brien, Wilkins, Zack & Solomon, 2010; Ramdan, Abdullah, Mat Isa & Hanafiah, 2021). Based on Arksey and O'Malley's (2005) five-stage framework, there are five stages in conducting scoping reviews, as follows:

Stage 1: *Identifying a research question*. Our review focused on exploring critical determinants of the educators' intention and motivation to adopt the flipped classroom in the context of the UTAUT model. We presented the following research questions to ensure that a broad spectrum of literature was gathered: Research question 1: What are the determining factors in educators' motivation and intention to adopt the flipped classroom? Research question 2: What is the dominant factor that influences educators to adopt a flipped classroom?

Stage 2: *Identifying relevant studies*. Key terms in search queries were employed to get "broad coverage" of existing literature. Content linked to educators' intentions and motivations to embrace the flipped classroom in the context of the UTAUT model was collected using key themes and search terms (for details of scoping review search terms, see Table 1). Several search and retrieval attempts were conducted across three multidisciplinary academic databases to update key terms: Web of Science, Scopus, and ERIC (Education Resources Information Center).

Stage 3: *Screening to remove redundant articles*. We established specific inclusion/exclusion criteria for the articles considered for analysis. In the initial screening process, only research articles were chosen. Therefore, conference proceedings, book series, books, and book chapters were excluded due to the fact that they do not meet inclusion criteria. Only English-language articles written between 2017 and 2021 were included in terms of language and year of publication. As this scoping review aimed to find the determinants of motivation and intention of educators in adopting a flipped classroom, articles that focused on students were excluded. Articles from computer science, decision sciences, engineering, psychology, energy, and medicine were also excluded to avoid irrelevant articles,.

Stage 4: *Data charting and collation*. Data on author, year, study design, location, objective, variables or constructs, significant findings, and theme suggestions were charted. All the relevant data collected were keyed in Microsoft Excel software to facilitate the thematic and comparative analysis.

Stage 5: *Summarising and reporting findings*. Finally, we compiled common themes and results from the articles to identify the determinants of the educators' motivation and intention to adopt the flipped classroom within the UTAUT model, and the breadth of new issues investigated in this field.

Table 1: Search strings for WoS, Scopus and ERIC

Database	search string
WoS	All Fields (("Flipped classroom" OR "flipped learning" OR "inverted classroom" OR "blended learning") AND ("Unified Theory of Acceptance and Use of Technology" OR "technology adoption" OR "technology acceptance" OR "technology use"))
Scopus	TITLE-ABS-KEY (("Flipped classroom" OR "flipped learning" OR "inverted classroom" OR "blended learning") AND ("Unified Theory of Acceptance and Use of Technology" OR "technology adoption" OR "technology acceptance" OR "technology use"))

ERIC	(("Flipped classroom" OR "flipped learning" OR "inverted classroom" OR "blended learning") AND ("Unified Theory of Acceptance and Use of Technology" OR "technology adoption" OR "technology acceptance" OR "technology use"))

3. Findings

The database search yielded 428 papers for this scoping review. Thirty-four redundant items were removed from the original hit. Based on the title and abstract, 271 publications were removed because they were not empirical research articles, but focused on systematic review, meta-analysis, etc. After a thorough analysis of the remaining 123 papers, 109 were deemed irrelevant to the scoping study's goal. Finally, based on suggested reporting items for systemic reviews, only 14 publications were deemed to be relevant and to satisfy the study's goal (PRISMA; Moher et al., 2015; see Figure 1).
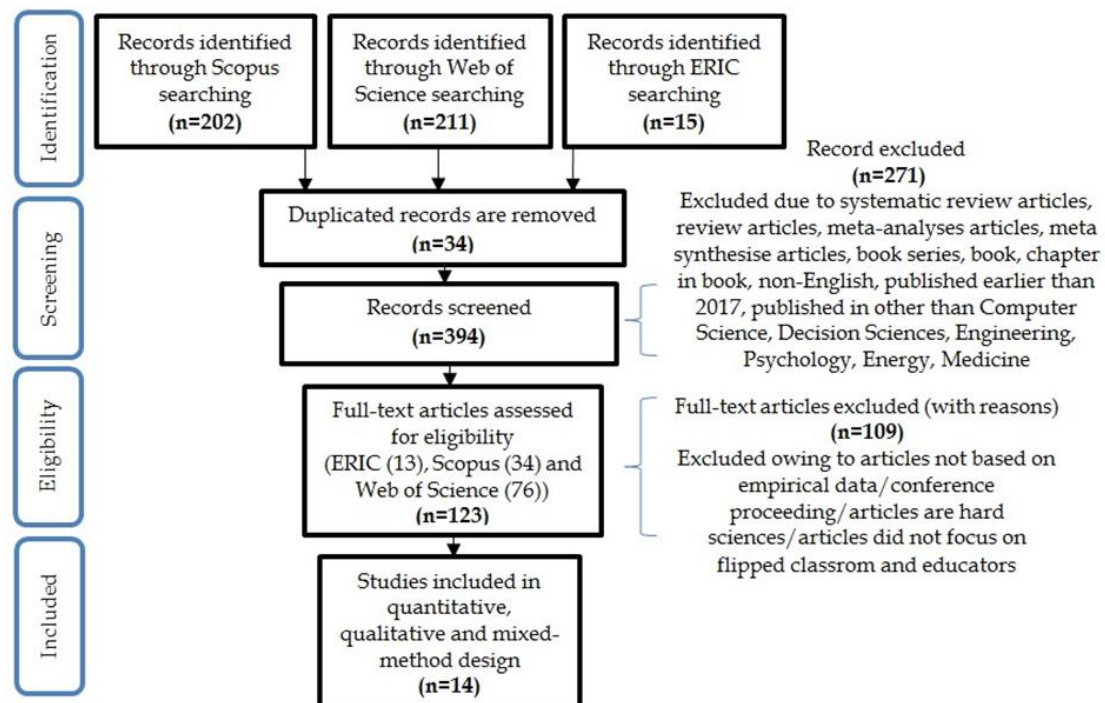
Figure 1: Flow diagram of the study selection process using the Preferred Reporting Items for Systematic Reviews (PRISMA) (adapted from Moher et al., 2015)

In sum, the selection of articles for the scoping review process was based on specific important criteria to make this scoping review rigorous. First, the choice of journal articles was limited to quantitative, qualitative, and mixed empirical research methods written in English and published between 2017 and 2021. Owing to a lack of systematization and openness, conventional evaluations excluded conference proceedings (Hodgkinson & Ford, 2014). Second, a study on a specific topic that had continued for at least five years demonstrated the subject's maturity (Kraus et al., 2020). Thus, this study chose high-quality publications for scoping review within five years.

3.1 Main Findings

Table 2 shows the fourteen studies which were chosen, based on the selection criteria: seven quantitative studies (Abd Rahman, Md Yunus & Hashim, 2021; Dakduk, Santalla-Banderali & van der Woude, 2018; Durak, 2019; Gómez-Carrasco, Monteagudo-Fernández, Moreno-Vera & Sainz-Gómez, 2020; Gunasinghe & Nanayakkara, 2021; Long, Cummins & Waugh, 2019; Radovan & Kristl, 2017), six qualitative studies (Arpaci & Basol, 2020; Cevikbas & Kaiser, 2020; Dogusoy, 2020; Khan & Abdou, 2021; Killian, Woods, Graber & Templin, 2020; Sun & Gao, 2019), and one mixed-method study (Sánchez-Gómez, Martín-García & Mena, 2020). Most of the studies (n=4) were conducted in Turkey (Arpaci & Basol, 2020; Cevikbas & Kaiser, 2020; Dogusoy, 2020; Durak, 2019), followed by Spain (n=2) (Gómez-Carrasco et al., 2020; Sánchez-Gómez et al., 2020) and the United States (n=2) (Killian et al., 2020; Long et al., 2019). One study on the flipped classroom within the UTAUT model had been conducted in each of the following countries: India (Gunasinghe & Nanayakkara, 2021), Malaysia (Abd Rahman et al., 2021), Bangladesh (Khan & Abdou, 2021), China (Sun & Gao, 2019), Colombia (Dakduk et al., 2018) and Slovenia (Radovan & Kristl, 2017).

The scoping identified four major themes regarding motivation and intention to adopt flipped learning classrooms. The major headings were: educator intention, online learning, educator satisfaction and teaching method. First, educator intention is a behavioral intention that will be impacted by "attitude" and "subjective norms" directly affecting an educator's behavioral intention in using flipped classrooms (Abd Rahman et al., 2021; Ajzen & Fishbein, 1980). Many technology acceptance studies use the intention to study as a variable that impacts the future adoption of a particular technology (Kim, 2021). Second, online learning is in high demand nowadays owing to technological advancement, the new generation who are IT savvy, and innovation in teaching and learning pedagogy. Online learning allows students to study at their own pace and to focus on what they want to know (Tang et al., 2020). It also provides various benefits, including flexibility in time while performing tasks, especially for educators (Keengwe & Kidd, 2010). Third, educator satisfaction is synonymous with job satisfaction to describe the positive emotional reaction to a position that emerges from assessing whether the role fulfils or satsifies the worker's organizational ideals (Escobedo, Cjuno & Hernández, 2020). An organizational factor that is thought to affect educators' satisfaction with instructional programmes is the degree of control educators have over the place of learning and the design and implementation of these processes, which is heavily influenced by how resources for these programmes are allocated to the area of knowledge (Nir & Bogler, 2008). Finally, the teaching method has characterized direct teaching as a strategy in which an educator talks, exhibits, models, and illustrates the learning abilities (Kassop, 2003). The crucial aspect of this strategy is the educators. The educators oversee the learning scenario and steer the path (Mohammadjani & Tonkaboni, 2015).

Table 2: Analysis of Literature Reviewed

Publication, Study Design and Location	Aim	Variables/ Construct	Key findings	Theme
Gunasinghe and Nanayakkara (2021)\n\nQuantitative study\n\n*India*	Assess the significance of technology anxiety within the Unified Theory of Acceptance and Use of Technology (UTAUT) paradigm by assessing Sri Lankan university lecturers' VLE (Virtual Learning Environments) adoption intentions.	Independent: performance expectancy, effort expectancy, social influence, facilitating conditions. Mediating: technology anxiety. Moderating: age, gender. Dependent: VLE adoption intention.	Performance expectations and facilitating conditions correlated positively with VLE adoption intention, but technological fear had a substantial adverse effect. Technology anxiety positively impacted performance and effort expectancy, but only performance expectancy showed a mediating effect. Finally, the lecturer's age and gender moderated all hypothesized correlations.	Performance expectancy and facilitating conditions influenced educator intention.
Abd Rahman et al. (2021)\n\nQuantitative study\n\n*Malaysia*	Examine the unified technology adoption and usage theory concerning ESL instructors' intentions to employ flipped learning.	Independent: performance expectancy, effort expectancy, social factors, facilitating conditions. Dependent: ESL intention to use the flipped learning approach.	Social influence predicted ESL instructors' propensity to employ flipped learning. Performance expectations, effort expectations, and enabling environments, on the other hand, had a negative influence on ESLs' willingness to employ the flipped learning technique.	Social factors influence educator intention.
Khan and Abdou (2021)\n\nQualitative study\n\n*Bangladesh*	To explore the available open-source (free) technologies that could be used and to examine the suitability of flipped classroom. method during the COVID-19 pandemic.	Case study: An experienced teacher conducted an online class (modified flipped classroom) as an experiment at the beginning of lockdown.	The study proposed a modified flipped classroom technique. The first part (online learning space): Gmail group, Google drive, and Facebook group. The second part (online classes): Zoom platform.	Flipped classroom approach to online learning.
Arpaci and Basol (2020)\n\nQuantitative study\n\n*Turkey*	To grasp the ramifications of technology integration in education.	Independent: self-efficacy, perceived anxiety, self-regulation, perceived ease of use, perceived usefulness. Mediating: self-efficacy. Dependent: perceived ease of use, continuous intention.	Self-regulation and self-efficacy significantly affect perceived ease of use. Perceived anxiety negatively influences perceived ease of use and self-efficacy. Conversely, self-efficacy mediates the relationship between perceived anxiety and perceived ease of use. The results also showed that perceived ease of use positively influences perceived usefulness. Perceived usefulness and ease of use positively	Perceived ease of use influences educator intention.

			influence the desire to utilize flipped classrooms.	
Dogusoy (2020) Qualitative study *Turkey*	Investigate the flipped classroom experiences of prospective pre-school teachers while collectively producing digital stories.	Regarding prospective teachers' self-efficacy to utilize technology, frequency of usage, Internet access tools, and interest in new technologies.	The flipped classroom was a unique and demanding approach; prospective instructors expressed high satisfaction. Even though they struggled with creating digital stories, the flipped classroom design may have improved their learning experience. They also had great experiences with technology in this pre-school age.	Technological tools enhance educator satisfaction.
Cevikbas and Kaiser (2020) Qualitative study *Turkey*	Examine one mathematics teacher's transformation of teaching through the use of flipped classroom (FC) methodologies. Identify numerous critical features of FC design and obstacles and possibilities presented by teaching mathematics in FCs.	Question: (1) environment, (2) interaction, (3) feedback and scaffolding and, (4) assessment.	The tasks set by the instructor, the applied discourse, teacher feedback and scaffolding, and the teaching-learning environment were adjusted in FCs, showing the strengths of conventional teaching methodologies.	Integration of traditional approach into the flipped classroom as a teaching method.
Gómez-Carrasco et al. (2020) Quantitative study *Spain*	Analyze the impact of a flipped classroom and gamification training programme on trainee teachers' learning views and results.	Independent: Trainee teachers' perception of the training programme tactics and approaches; how future teachers think they learned in the training programme, and how well they think they can write teaching proposals.	A positive evaluation of the training program's learning outcomes and methodologies. The learning outcomes were good but not as good as expected.	Training program on educator satisfaction.
Sánchez-Gómez et al. (2020) Mixed-method design *Spain*	The views, expectations, and attitudes of university faculty toward blended learning (BL).	Quantitative: The Technology Acceptance Model (TAM). Qualitative: advantages and disadvantages of BL.	The variable intention largely determined the lecturers' acceptance of the use of BL. Furthermore, the implementation of BL is linked to various viewpoints (benefits and drawbacks) and the main demands of these lecturers. Practice-based cases, improved digital skills, peer learning, and increased interactions were all positive	Attitudes on educator intention.

			aspects. The disadvantages were time and effort, a lack of coordination among teachers, higher classroom ratios, and difficulties tracking assignment submissions.	
Killian et al. (2020) Qualitative study *United States*	Examine the factors that influence high school Physical Education (PE) instructors' use of an additional online educational system.	<u>Transcript texts:</u> perceived programmatic, instructional, and inclusivity improvements.	Four main categories were created: perceived programmatic, instructional, and inclusiveness gains; little personal and student usage effort; school and curriculum provider supported facilitated use; and administrators mandate long-term use.	Social factors influence educator intention.
Sun and Gao (2019) Qualitative study *China*	To understand the responsibilities of school leaders and teachers in an ICT-based instructional transformation and how these roles interact.	<u>Document analysis:</u> - school policy, regulations, and timetables; - reflecting teaching and learning <u>Interview:</u> an executive Vice-principal who had initiated and overseen the instructional reform, related school administrators and 13 subject teachers. <u>Observations:</u> monitored everyday school work, including lessons and meetings.	Lesson improvement requires school leadership. Aside from the executive Vice-principal, the school's leadership was spread and stretched thin. As a result, the school developed pedagogical and organizational structures to help instructors become learners, facilitators of student-centred learning, collaborators, and researchers.	Social factor and technology tools influence educator intention.
Long et al. (2019) Quantitative study *United States*	Examining the elements that influence a higher education instructor's decision to use a flipped classroom.	<u>Independent:</u> performance expectancy, technology self-efficacy, facilitation conditions. <u>Dependent:</u> adoption decision.	Facilitation condition was significantly correlated with instructors' adoption decisions, but performance expectancy and technology self-efficacy were not significant.	Facilitation condition on educator intention.
Durak (2019) Quantitative study *Turkey*	Study the acceptance and use of Social Network Sites (SNSs) by pre-service teachers, based on the UTAUT model.	<u>Independent:</u> performance expectancy, effort expectancy, social influence. <u>Moderating:</u> Gender, branch, SNS use, technological literacy, satisfaction, academic self-efficacy, self-	Social effect, performance expectation, and effort expectation influence the acceptance of SNSs for educational purposes. Self-efficacy, self-directed learning and motivation are a significant predictor.	Social effect, performance expectation, and effort expectation influence educator intention.

|		directed learning, and motivation Dependent: behavioral intention, usage.		
Dakduk et al. (2018) Quantitative study *Colombia*	Investigate the elements that influence the acceptability of Blended Learning (BL) in executive education using the Extended Unified Theory of Acceptance and Use of Technology (UTAUT2)	Independent: performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, habits. Moderating: age, gender, experience. Dependent: behavioral intention.	Performance expectancy, effort expectancy and hedonic motivation have a significant effect on behavioral intention. However, social influence and habits have no significant impact on behavioral intention. The results also show that age and gender can be a moderator to the relationship between hedonic motivation and behavioral intention, and experience can be a moderator to the relationship between habit and behavioral intention.	Performance expectancy, effort expectancy and hedonic motivation influence educator intention.
Radovan and Kristl (2017) Quantitative study *Slovenia*	Examines higher education instructors' adoption and use of learning management systems (LMS) and the relationship between their use of such systems and their teaching styles in the context of online learning.	Independent: performance expectancy, effort expectancy, social influence, facilitating conditions. Dependent: behavioral intention, planning and organization of learning, guidance and facilitating discussions, social presence, cognitive presence.	Social influence significantly affects performance expectancy, effort expectancy and facilitating conditions. Social influence and facilitating conditions significantly affect behavioral intention. Behavioral intention has a significant effect on use behavior. Use behavior and performance expectancy significantly effect planning and organization of learning. Planning and organization of learning significantly impact guidance and facilitating discussions. Guidance and facilitating discussions have a significant effect on social presence and cognitive presence.	Social factors influence educator intention.

4. Discussion

This scoping study provides an overview of educators' motivations and intentions for adopting the flipped classroom within the scope of the UTAUT model and makes specific recommendations for future educational research development. Previous research (e.g., Carlsson, Carlsson, Hyvonen, Puhakainen & Walden, 2006; Cheng, Liu, Song & Qian, 2008) demonstrated that the social factor was a significant predictor of behavioral intention. In line with this, Abd Rahman et al. (2021) suggest that the social factor is the most important motivational factor in educators adopting flipped classroom practice as a new pedagogy in teaching and learning. A study conducted by Durak (2019) concluded that social effects were

the most significant objectives that motivate educators to use technology in education. He found that peers and friends influence educators' intentions to adopt and use technology for educational purposes. Other social factors, such as parent-school involvement (Agyie & Razi, 2021), colleagues, administrators and the existing environment also influence the intention of educators to adopt a flipped classroom in their teaching and learning processes (Maldonado et al., 2009; Venkatesh & Davis, 2000; Weimer, 2002). The findings further suggest that the Ministry of Education provide flipped classroom training to create an ambience to encourage educators, particularly new educators (Seaboyer, 2013).

Furthermore, the findings revealed that online learning, educator satisfaction, and teaching methods were essential themes that should be considered since these determinants influence flipped classroom adoption among educators. According to Tang et al. (2020), most colleges and universities use online learning to satisfy their students' demands. Since many schools have switched to an online teaching style, flipped classrooms are becoming more appealing and being adopted by educators from schools to colleges (Hoshang et al., 2021; Tang et al., 2020). The extensive use of online resources and merging online education with flipped classrooms may create a new blended learning paradigm (Valiathan, 2002). Apart from the demand for online learning, educators' satisfaction with their prior experience and knowledge in social networks and technologies determines their behavioral intention to use technology in the future (Durak, 2019). Similarly, Unal and Unal (2017) asserted that most teachers who were satisfied with flipped classrooms experience felt more motivated to adopt it again because it was more fun than teaching using the traditional method.

However, the process of flipping the classrooms may be complex as this innovative teaching method increases teacher workload (Cevikbas & Kaiser, 2020). The challenges of flipping are also tied to out-of-class activities, such as the often reported lack of proper student preparation before class (Akçayır & Akçayır, 2018). There were concerns about increasing student workload, ambiguities around desired learning results, and an initial barrier to participation (Fuchs, 2021). Hence, educators found it challenging to employ the flipped classroom in certain subjects and preferred the traditional teaching method instead (Cevikbas & Kaiser, 2020). Even though some educators think conventional teaching methods are preferable for a specific topic, Bakheet and Gravell (2020) discovered that they still preferred and intended to use flipped classroom approaches to create a better teaching method. For example, through the flipped classroom approach, educators or teachers can play their roles in assisting students' work and help them find their own solutions rather than mandating one. This approach is aligned with social constructivist theory, which posits that active participation from individuals in a dyad relationship helps create their knowledge (Schreiber & Valle, 2013). Based on the discussion of the findings, our study proposed a framework of the determinants of educators' motivation and intentions to implement the flipped classroom (see Figure 2).
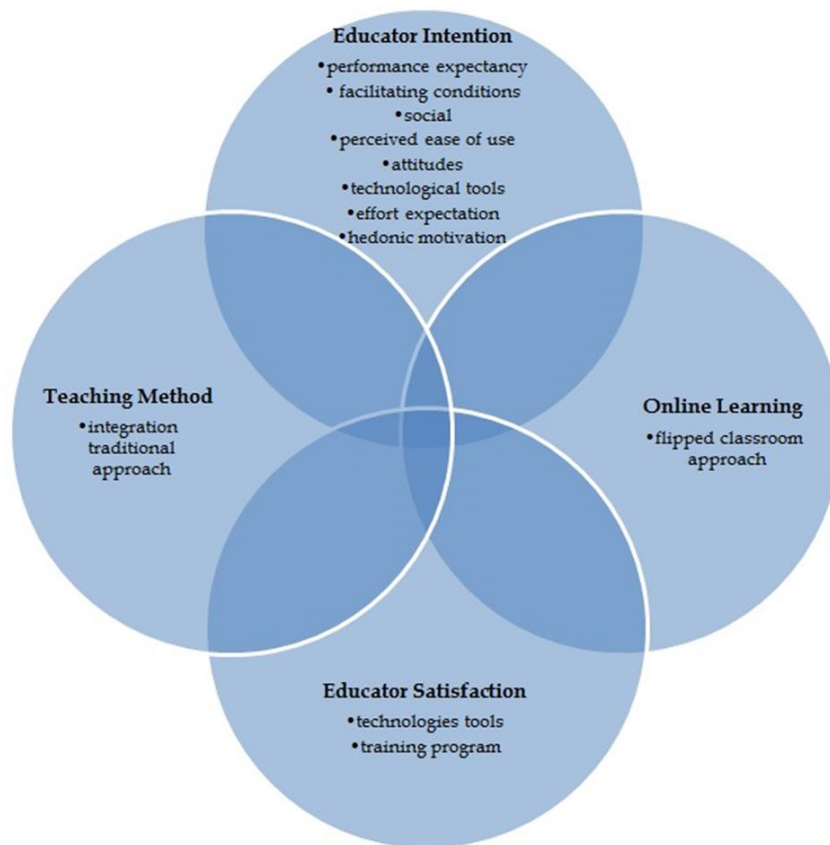
Figure 2: Framework on themes regarding educators' motivation and intentions to implement the flipped classroom within the UTAUT model

A few implications were derived from the results. First, in terms of theoretical implications, social factors were shown to be potent determinants of educators' motivation and intention to adopt the flipped classroom within the UTAUT model. This study was based on motivation and intention within the UTAUT model, and empirical data was collected for methodological implications. Second, the study on flipped classrooms emphasized that the transformation in teaching and learning pedagogy should incorporate technology to make the education more flexible and allow for the participation of both educators and students in co-creating knowledge. These findings extend social constructivist theory by incorporating information technology to assist the co-creation of learning through social technology. Finally, in terms of practical implications, educators may modify or enhance certain aspects of the flipped classroom by finding strong predictors within the UTAUT model, notably in managing technology, that all educators had to embrace when the COVID-19 epidemic struck the world.

5. Limitation and Recommendations

This analysis examined only a selection of papers from WoS, Scopus, and ERIC databases. Nonetheless, the trend hinted at a potential increase in publications. In addition, the topic of educators' intentions and motivation to adopt the flipped classroom within the UTAUT model has lately drawn much attention and concern among scholars. Existing studies from various geographic locations indicate that the problem is extensive and immediate, and further research is needed to assist

educators in implementing flipped classrooms. Utilizing databases like ProQuest and Springer would enable the collection of more comprehensive data and systematic evaluations of the literature. A systematic review finds, integrates, and assesses all relevant data in quantitative and qualitative techniques to produce an observationally determined answer to a committed research inquiry (Petrosino et al., 2001). As a result, future research initiatives may benefit from more database resources in conducting a more in-depth examination of educators' motivations and intentions within the UTAUT model for adopting the flipped classroom.

For practical purposes, all educational institutions, including universities, colleges, and schools, should adopt the flipped classroom approach as a new pedagogy in teaching and learning to produce more successful students in academic and co-curricular areas in the future. Policymakers should explore the motivation and intention of adopting flipped learning within the UTAUT model to motivate and influence educators' intention to utilize new technology such as a flipped classroom. They should also create a conducive environment when incorporating technology into education.

6. Conclusion

It is becoming clear that, although educational institutions perceive efficiencies in the flipped classroom when cost-cutting measures are increasing, educators view this as a chance to refresh the curriculum and build a more student-centred approach. The flipped classroom allows educators to promote critical and independent thinking in their students, creating lifelong learning and preparing future students with more critical and creative thinking. However, there is a concern that educators who are transforming their curriculum may not fully grasp the methodology necessary to convert a classroom to a flipped classroom owing to a lack of motivation or intention to adopt new technology. According to this scoping research, several factors motivate educators to adopt a flipped classroom within the UTAUT model. Our results showed that social factors, represented by the educators' intention, played an essential role in influencing the educators' decision to adopt flipped classrooms. The discussion also showed that online learning, educator satisfaction, and teaching methods were the critical factors in educators adopting flipped classrooms. Social factors predicted educators' behavioral intention and willingness within the UTAUT model to adopt the flipped classroom in terms of theoretical implications. In terms of practical implications, educators might discover significant predictors within the UTAUT model, particularly in managing technology, that all educators had to accept when the COVID-19 pandemic hit.

7. Acknowledgements

8. References
Abd Rahman, S. F., Md Yunus, M., & Hashim, H. (2021). Applying UTAUT in Predicting ESL Lecturers Intention to Use Flipped Learning. *Sustainability, 13*(15), 1–13. https://doi.org/10.3390/su13158571

Abdekhoda, M., Maserat, E., & Ranjbaran, F. (2019). A conceptual model of flipped classroom adoption in medical higher education. *Interactive Technology and Smart Education, 17*(4), 393–401. https://doi.org/10.1108/ITSE-09-2019-0058

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Ciffs: NJ: Prentice Hall.

Akçayır, G., & Akçayır, M. (2018). The flipped classroom: A review of its advantages and challenges. *Computers & Education*, *126*(2018), 334–345. https://doi.org/10.1016/j.compedu.2018.07.021

Aljarrah, A., Thomas, M.K., & Shehab, M. (2018). Investigating temporal access in a flipped classroom: procrastination persists. *International Journal of Educational Technology in Higher Education, 15*(1), 1–18. https://doi.org/10.1186/s41239-017-0083-9

Al-Shabibi, T.S., & Al-Ayasra, M.A.K. (2019). Effectiveness of the flipped classroom strategy in learning outcomes (Bibliometric Study). *International Journal of Learning, Teaching and Educational Research, 18*(3), 96–127. https://doi.org/10.26803/ijlter.18.3.6

Anderson, S., Allen, P., Peckham, S., & Goodwin, N. (2008). Asking the right questions: scoping studies in the commissioning of research on the organization and delivery of health services. *Health Research Policy and Systems, 6*(1), 1–12. https://doi.org/10.1186/1478-4505-6-7

Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology, 8*(1), 19–32. https://doi.org/10.1080/1364557032000119616

Arpaci, I., & Basol, G. (2020). The impact of pre-service teachers' cognitive and technological perceptions on their continuous intention to use flipped classroom. *Education and Information Technologies, 25*(2020), 1–12. https://doi.org/10.1007/s10639-020-10104-8

Bakheet, E., & Gravell, A. (2020). Investigating factors based on an extended UTAUT Model to confirm Computer Science instructors' behavioural intention to adopt the flipped classroom. *International Journal of Information and Education Technology, 10*(10), 736–743. https://doi.org/10.18178/ijiet.2020.10.10.1451

Bani-Hamad, A.M.H., Alzubaidi, R.S.M. (2021). The effectiveness of fermi problem solving with flipped learning techniques in teaching Physics on improving critical thinking skills among Emirati secondary students. *Review of International Geographical Education(RIGEO), 11*(8), 2730–2743. https://doi.org/10.48047/rigeo.11.08.254

Basri M., Sumargono, & Fadli F, F. (2021). The Effect of Using the Powtoon Application on Student Learning Motivation. *Review of International Geographical Education (RIGEO)*, *11*(5), 4018–4024. https://doi.org/10.48047/rigeo.11.05.283

Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. Washington, DC: Internal Society for Technology in Education.

Blau, I., & Shamir-Inbal, T. (2017). Re-designed flipped learning model in an academic course: The role of co-creation and co-regulation. *Computer and Education, 115*(2017), 69–81. https://doi.org/10.1016/j.compedu.2017.07.014

Carlsson, C., Carlsson, J., Hyvonen, K., Puhakainen, J., & Walden, P. (2006, 4 January). *Adoption of mobile devices/services-searching for answers with the UTAUT.* Paper presented at the Proceedings of the 39th annual Hawaii international conference on system sciences (HICSS'06), Washington, DC, USA.

Cevikbas, M., & Kaiser, G. (2020). Flipped classroom as a reform-oriented approach to teaching mathematics. *ZDM, 52*(7), 1291–1305. https://doi.org/10.1007/s11858-020-01191-5

Chan, S.Y., Lam, Y.K., & Ng T.F. (2020). Students' perception on initial experience of flipped classroom in pharmacy education: Are we ready? *Innovations in Education and Teaching International, 57*(1), 62–73. https://doi.org/10.1080/14703297.2018.1541189

Chellapan, L., van der Meer, J., Pratt, K., & Wass, R. (2018). To flip or not to flip, that's the question: Findings from an exploratory study into factors that may influence tertiary teachers to consider a flipped classroom model. *Journal of Open, Flexible and Distance Learning, 22*(1), 6–21.

Cheng, D., Liu, G., Song, Y.-F., & Qian, C. (2008, 12–14 October). *Adoption of internet banking: an integrated model.* Paper presented at the 2008 4th International Conference on Wireless Communications, Networking and Mobile Computing, Dalian, China. https://doi.org/10.1007/s11423-018-9633-7

Dakduk, S., Santalla-Banderali, Z., & van der Woude, D. (2018). Acceptance of blended learning in executive education. *Sage Open, 8*(3), 1–16. https://doi.org/10.1177/2158244018800647

Dogusoy, B. (2020). Learning to Create Educational Digital Stories: Pre-School Prospective Teachers' Flipped Classroom Experiences. *Cukurova University Faculty of Education Journal, 49*(2), 969-994. https://doi.org/10.14812/cufej.673092

Durak, H.Y. (2019). Examining the acceptance and use of online social networks by preservice teachers within the context of unified theory of acceptance and use of technology model. *Journal of Computing in Higher Education, 31*(1), 173–209. https://doi.org/10.1007/s12528-018-9200-6

Elmaadaway, M.A. (2017).The effect of flipped classroom approach on class engagement and skill performance in a blackboard course. *British Journal of Educational Technology, 49*(3), 479–491. https://doi.org/10.1111/bjet.12553

Escobedo, F., Cjuno, J., & Hernández, R.M. (2020). Organizational climate and teacher satisfaction in the MyPes of the tumbes education sector. *PalArch's Journal of Archaeology of Egypt/Egyptology, 17*(6), 582–589.

Fuchs, K. (2021). Innovative Teaching: A Qualitative Review of Flipped Classrooms. *International Journal of Learning, Teaching and Educational Research*, *20*(3), 18–32. https://doi.org/10.26803/ijlter.20.3.2

Ghufron, M.A., & Nurdianingsih, F. (2021). Flipped classroom method with Computer-Assisted Language Learning (CALL) in EFL writing class. *International Journal of Learning, Teaching and Educational Research, 20*(1), 120–141. https://doi.org/10.26803/ijlter.20.1.7

Gómez-Carrasco, C. J., Monteagudo-Fernández, J., Moreno-Vera, J. R., & Sainz-Gómez, M. (2020). Evaluation of a gamification and flipped-classroom program used in teacher training: Perception of learning and outcome. *PloS One, 15*(7), 1–19. https://doi.org/10.1371/journal.

Green, R.D., & Schlairat, M.C. (2017). Moving toward heutagogical learning: illuminating undergraduate nursing student experiences in a flipped classroom. *Nurse Education Today, 49*(2017), 122–128. https://doi.org/10.1016/j.nedt.2016.11.016

Gunasinghe, A., & Nanayakkara, S. (2021). Role of technology anxiety within UTAUT in understanding non-user adoption intentions to virtual learning environments: the state university lecturers' perspective. *International Journal of Technology Enhanced Learning, 13*(3), 284–308. https://doi.org/10.1504/IJTEL.2021.10036681

Hazaymeh, W.A., & Altakhaineh, A.R., (2019). the effect of flipped classroom instruction on developing Emirati EFL learners' pragmatic competence. *International Journal of Learning, Teaching and Educational Research, 18(*10), 89–111. https://doi.org/10.26803/ijlter.18.10.6

Hodgkinson, G.P., & Ford, J. K. (2014). Narrative, meta-analytic, and systematic reviews: What are the differences and why do they matter? *Journal of Organizational Behavior, 35*(S1), S1–S5. https://doi.org/10.1002/job.1918

Hoshang, S., Hilal, T.A., & Hilal, H. A. (2021). Investigating the acceptance of flipped classroom and suggested recommendations. *Procedia Computer Science, 184*(2021), 411–418. https://doi.org/10.1016/j.procs.2021.03.052

Kassop, M. (2003). Ten ways online education matches, or surpasses, face-to-face learning. http://technologysource.org/article/ten_ways_online_education_matches_or_s urpasses_facetoface_learning/%20.

Keengwe, J., & Kidd, T.T. (2010). Towards best practices in online learning and teaching in higher education. *MERLOT Journal of Online Learning and Teaching, 6*(2), 533–541.

Khan, M.S.H., & Abdou, B.O. (2021). Flipped classroom: How higher education institutions (HEIs) of Bangladesh could move forward during COVID-19 pandemic. *Social Sciences & Humanities Open, 4*(1), 1–8. https://doi.org/10.1016/j.ssaho.2021.100187

Kiang, N.H., & Yunus, M.M. (2021). What do Malaysian ESL Teachers Think About Flipped Classroom?. *International Journal of Learning, Teaching and Educational Research, 20*(3), 117–131. https://doi.org/10.26803/ijlter.20.3.10

Killian, C.M., Woods, A.M., Graber, K.C., & Templin, T.J. (2020). Factors associated with high school physical education teachers' adoption of a supplemental online instructional system (iPE). *Journal of Teaching in Physical Education, 40*(1), 136–145. https://doi.org/10.1123/jtpe.2019-0188

Kim E.J. (2021). The effect of social presence, loyalty, and group polarisation on online learning motivation in Moodle-based online learning. *Review of International Geographical Education (RIGEO)*, *11*(8), 566–580. https://doi.org/10.48047/rigeo.11.08.52

Kim, N.H., So, H.-J., & Joo, Y.J. (2021). Flipped learning design fidelity, self-regulated learning, satisfaction, and continuance intention in a university flipped learning course. *Australasian Journal of Educational Technology, 37*(4), 1–19. https://doi.org/10.14742/ajet.6046

Kraus, S., Breier, M., & Dasí-Rodríguez, S. (2020). The art of crafting a systematic literature review in entrepreneurship research. *International Entrepreneurship and Management Journal, 16*(3), 1023–1042. https://doi.org/10.1007/s11365-020-00635-4

Lee, J., Lim, C., & Kim, H. (2017). Development of an instructional design model for flipped learning in higher education. *Education Tech Research Dev, 65*(2017), 427–453. https://doi.org/10.1007/s11423-016-9502-1

Lento, C. (2016). Promoting active learning in introductory financial accounting through the flipped class design. *Journal of Applied Research in Higher Education, 8*(1), 72–87. https://doi.org/10.1108/JARHE-01-2015-0005

Long, T., Cummins, J., & Waugh, M. (2019). Investigating the factors that influence higher education instructors' decisions to adopt a flipped classroom instructional model. *British Journal of Educational Technology, 50*(4), 2028–2039. https://doi.org/10.1111/bjet.12703

Maldonado, U.P.T., Khan, G.F., Moon, J., & Rho, J.J. (2009, 24-26 November). *E-learning motivation, students' acceptance/use of educational portal in developing countries: a case study of Peru.* Paper presented at the 2009 Fourth International Conference on Computer Sciences and Convergence Information Technology, Seoul, Korea (South).

Mohammadjani, F., & Tonkaboni, F. (2015). A Comparison between the Effect of Cooperative Learning Teaching Method and Lecture Teaching Method on Students' Learning and Satisfaction Level. *International Education Studies, 8*(9), 107–112. http://dx.doi.org/10.5539/ies.v8n9p107

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., . . . Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews, 4*(1), 1–9. https://doi.org/10.1186/2046-4053-4-1

Nir, A.E., & Bogler, R. (2008). The antecedents of teacher satisfaction with professional development programs. *Teaching and Teacher Education, 24*(2), 377–386. https://doi.org/10.1016/j.tate.2007.03.002

O'Brien, K., Wilkins, A., Zack, E., & Solomon, P. (2010). Scoping the field: identifying key research priorities in HIV and rehabilitation. *AIDS and Behavior, 14*(2), 448–458. https://doi.org/10.1007/s10461-009-9528-z

O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The Internet and Higher Education, 25*(2015), 85–95. https://doi.org/10.1016/j.iheduc.2015.02.002

Peterson, J., Pearce, P.F., Ferguson, L.A., & Langford, C.A. (2016). Understanding scoping reviews: Definition, purpose, and process. *Journal of the American Association of Nurse Practitioners, 29*(1), 12–16. https://doi.org/10.1002/2327-6924.12380

Petrosino, A., Boruch, R.F., Soydan, H., Duggan, L., & Sanchez-Meca, J. (2001). Meeting the challenges of evidence-based policy: The Campbell Collaboration. *The ANNALS of The American Academy of Political and Social Science, 578*(1), 14–34. https://doi.org/10.1177/000271620157800102

Radovan, M., & Kristl, N. (2017). Acceptance of Technology and Its Impact on Teachers' Activities in Virtual Classroom: Integrating UTAUT and CoI into a Combined Model. *Turkish Online Journal of Educational Technology-TOJET, 16*(3), 11–22.

Ramdan M.R., Abdullah N.L., Mat Isa R., & Hanafiah M.H. 2021. Organizational ambidexterity within supply chain management: a scoping review. *LogForum, 17* (4), 531–546. http://doi.org/10.17270/J.LOG.2021.618

Sánchez-Gómez, M.C., Martín-García, A.V., & Mena, J. (2020). Blended learning in tertiary education: teachers' beliefs according to the technology acceptance model. *International Journal of Learning Technology, 15*(4), 341–359. https://doi.org/10.1504/IJLT.2020.113883

Schreiber, L.M., & Valle, B.E. (2013). Social constructivist teaching strategies in the small group classroom. *Small Group Research, 44*(4), 395–411. https://doi.org/10.1177/1046496413488422

Seaboyer, J. (2013, 28–30 October). *The role of technology-assisted assessment in fostering critical reading in undergraduate literary studies.* Paper presented at the International Computer Assisted Assessment Conference, Southampton, UK.

Sergis, S., Sampson, D.G., & Pelliccione, L. (2018). Investigating the impact of flipped classroom on students learning experiences: a self-determination theory approach. *Computers in Human Behaviour, 7*(2018), 368–378. https://doi.org/10.1016/j.chb.2017.08.011

Sun, Y., & Gao, F. (2019). Exploring the roles of school leaders and teachers in a school-wide adoption of flipped classroom: School dynamics and institutional cultures. *British Journal of Educational Technology, 50*(3), 1241–1259. https://doi.org/10.1111/bjet.12769

Surianti, M. (2020). Development of Accounting curriculum model based on industrial revolution approach. *Research Journal of Finance and Accounting, 11*(2), 116–123. https://doi.org/10.7176/RJFA/11-2-12

Tang, T., Abuhmaid, A.M., Olaimat, M., Oudat, D.M., Aldhaeebi, M., & Bamanger, E. (2020). Efficiency of flipped classroom with online-based teaching under COVID-19. *Interactive Learning Environments, 1*(2020), 1–12. https://doi.org/10.1080/10494820.2020.1817761

Thai, N. T., Wever, B. D., Valcke, M. (2017). The impact of flipped classroom design on learning performance in higher education: looking for the best' blend' of lectures and guiding questions with feedback. *Computers and Education, 107*(2017), 113–126. https://doi.org/10.1016/j.compedu.2017.01.003

Tune, J. D., Sturek, M., & Basile, D. P. (2013). Flipped classroom model improves graduate students performance in cardiovascular, respiratory, and renal physiology. *Advances in Physiology Education, 37*(2013), 316–320. https://doi.org/10.1152/advan.00091.2013.

Valiathan, P. (2002). Blended learning models. *Learning Circuits, 3*(8), 50–59.

Venkatesh, V., & Davis, F.D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186–204. https://doi.org/10.1287/mnsc.46.2.186.11926

Venkatesh, V., Morris, M.G., Davis, G.B., & Davis, F.D. (2003). User acceptance of information technology:Toward a unified view. *MIS Quarterly*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Weimer, M. (2002). *Learner-centered teaching: Five key changes to practice*. United States: John Wiley & Sons.

Zain, F. M., Hanafi, E., Don, Y., Yaakob, M. F. M., & Sailin, S.N. (2019). Investigating student's acceptance of an EDMODO content management system. *International Journal of Instruction*, *12*(4), 1–16. https://doi.org/10.29333/iji.2019.1241a

Zainuddin, Z., & Attaran, M. (2016). Malaysian students' perception of flipped classroom: a case study. *Innovations in Education and Teaching International, 53*(6), 660–670. https://doi: 10.1080/14703297.2015.1102079

Zheng, L., Bhagat, K. K., Zhen, Y., & Zhang, X. (2020). The Effectiveness of the flipped classroom on students' learning achievement and learning motivation: A Meta-Analysis. *Educational Technology & Society, 23* (1), 1–15.