

Educators' Self-efficacy in Implementing Flipped Learning Approach: A Literature Review

Nur Hanisah Abdullah^{1*}, Rusliza Yahaya², Khalizul Khalid³

¹Faculty of Management and Economics, Sultan Idris Education University, 35900 Tanjong Malim Perak, Malaysia.

Email: umithaqif83@gmail.com

²Faculty of Management and Economics, Sultan Idris Education University, 35900 Tanjong Malim Perak, Malaysia.

Email: rusliza@fpe.upsi.edu.my

³Faculty of Management and Economics, Sultan Idris Education University, 35900 Tanjong Malim Perak, Malaysia.

Email: khalizul@fpe.upsi.edu.my

ABSTRACT

This paper discusses the educators' self-efficacy in adopting the Flipped Learning approach in teaching and learning. This paper provides insight into educators' self-efficacy in implementing Flipped Learning, the importance of self-efficacy, factors influencing self-efficacy and efforts that can be made to increase educators' self-efficacy in implementing the Flipped Learning approach. The main methodology of this study is a literature review which found several aspects relevant to educators' efficacy. The study observed that educators' intention to adopt Flipped Learning is based on the need to ensure the teaching and learning process optimally affect students' achievement.

CORRESPONDING

AUTHOR (*):

Nur Hanisah Abdullah
(umithaqif83@gmail.com)

KEYWORDS:

Educators' self-efficacy
Flipped Learning
Self-efficacy

CITATION:

Nur Hanisah Abdullah, Rusliza Yahaya, & Khalizul Khalid. (2023). Educators' Self-efficacy in Implementing Flipped Learning Approach: A Literature Review. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 8(9), e002518.
<https://doi.org/10.47405/mjssh.v8i9.2518>

Contribution/Originality: This study raised the element of educator' self-efficacy as a benchmark that needs to be paid attention to in implementing Flipped Learning as a quality teaching alternative and optimally affect students' achievement.

1. Introduction

The rapid development of educational technology today has created a paradigm shift for educators. In this regard, technology is the best alternative platform for implementing the teaching and learning process. The explosion of technology in the education system has garnered educators' interest and excitement in integrating technological elements into teaching (Mafenya, 2021). Lecturers are becoming more focused on instructional strategies geared towards incorporating technological elements in teaching and learning, in line with 21st-century educational needs. The Flipped Learning approach has become a phenomenon in today's educational world and is increasingly practised by educators and widely studied by researchers (Vitta & Al- Hoorie, 2020). This approach also can serve as

an alternative to offering quality education (Chung, 2023). The Flipped Learning approach presents a novel methodology that integrates technological elements into the teaching and learning process. According to Bergmann and Sams (2009), this approach facilitates self-learning among students before the face-to-face teaching and learning session. In this regard, the students are provided with teaching materials such as videos, PowerPoint slide notes or reference materials from other resources. Educators would first provide the class materials before the session, and during the class, the educators would discuss these materials and conduct problem-solving activities with the students.

Educators' self-efficacy one of factor that can influence educators using Flipped Learning approach. Educators' self-efficacy is referred to as the educators' perception of a positive or negative attitude regarding one's ability to accept and use the Flipped Learning approach as a teaching and learning medium. The review of the literature shows that there are extensive studies on the element of self-efficacy and its influence on one's positive intentions to accept and use the Flipped Learning approach (Abusham, 2018; Balkaya & Akkucuk, 2021; Kadioglu & Oskay, 2023; Mahmood et al., 2021; John, 2013; Teo & Zhou, 2014). The literature has shown the positive relationship between one's and individuals' use of technology. This positive relationship has been well recognised in studies like Balkaya and Akkucuk (2021), De Veer et al. (2015). Based on previous studies, this paper examines educators' self-efficacy in using the Flipped Learning approach. In addition, this study highlights the importance of self-efficacy in ensuring meaningful learning can be established. Lastly, this article provides suggestions to improve educators' self-efficacy, especially in accepting and using the Flipped Learning approach.

2. Literature Review

This section presents a comprehensive literature review relating to definition of self-efficacy, Flipped Learning approach, educators' self-efficacy in using technology, educators' self-efficacy and their intention to adopt Flipped Learning and effort to improve educators' self-efficacy.

2.1. Definition of Self-efficacy

According to Bandura (1997)'s Social Cognitive Theory, self-efficacy refers to an individual's belief in his ability to complete an assignment or perform a job well. Bandura (1997) emphasised that self-efficacy is closely related to a person's belief that they can complete a job or a task well. A study by Compeau et al. (1999) asserted that self-efficacy refers to the individual's confidence in their ability to perform a task, which is believed to affect work performance. In addition, Ozturk et al. (2016) defined self-efficacy as individuals' belief that they possess the skills and abilities to perform tasks using technology. Studies have also found that both external factors, like the environment, and internal factors, like cognition and behaviour, affect individuals' self-efficacy.

High self-efficacy can influence individuals' thinking, behaviour, motivation and ability to perform a job or task well. In this light, compared to individuals with low self-efficacy, those with high self-efficacy strive to achieve more challenging and committed objectives (Bandura, 1994). Bandura (1997) also explained that the outcome expectation differs from self-expectation. Outcome expectations are the predicted behaviours that will produce certain results, while the self-efficacy expectation is the belief that a person can produce behaviours to produce the desired result.

Self-efficacy is a factor that can influence a person's intention to accept and use technology (Venkatesh et al., 2003). It is a very important aspect because it determines the individual's thinking towards the degree of persistence, level of motivation and affective state about the task and, ultimately, the performance of the individual (Hatlevik, 2017). Studies have found a strong association between efficacy, perseverance, passion, work commitment, and behaviour (Tschannen-Moran & Hoy, 2001). This indicates that each individual's performance is influenced by his level of efficacy (Bandura, 1994). This theory has become an underlying theory of research in various fields to determine one's confidence towards her ability. In this sense, lecturers with high self-efficacy tend to be more successful in their careers (Abusham, 2018; Mahmood et al., 2021). Hence, in this study's context, a lecturer with a high level of self-efficacy will have a positive attitude toward using the Flipped Learning approach.

Self-efficacy is an important variable in effective teaching (Huang et al., 2023). Hence, studies on self-efficacy have gained attention and emerged as an important topic in education (Hardianto et al., 2023). Educator's self-efficacy is often associated with educator behaviour in the classroom, such as in-class management and strategy, as well as student performance, specifically their self-efficacy, motivation, and achievement (Tschannen-Moran & McMaster, 2009).

An educator's capabilities and abilities lie in their self-efficacy based on three components: teaching strategy, classroom management and student engagement (Cansoy & Parlar, 2018; Choi & Lee, 2018). Teaching strategy refers to the ability of teachers to carry out teaching activities using various strategies and approaches according to students' varying acceptance and changes in the education system. In the meantime, classroom management refers to teachers' ability to manage classroom conditions to ensure the teaching and learning process can be carried out efficiently and effectively without any unwanted interference. Lastly, students' engagement is measured by teachers' behaviour and emotions to encourage students to participate actively in the teaching and learning process.

Past researchers have identified the elements of self-efficacy among educators. In this light, it refers to the extent to which educators believe they influence the student's academic achievement (Tschannen-Moran & McMaster, 2009). Studies have asserted that educators' beliefs and confidence in their capabilities and efficacy can determine their performance (Ma et al., 2021; Pressley, 2021).

Shah and Bhattarai (2023) identified four (4) factors contributing to educators' self-efficacy, efficacy in student engagement, efficacy in instructional preparation, efficacy in behavioural competence and efficacy in teaching skills. These four factors can influence educators' strategies to perform teaching more optimally. This finding is in line with the Hardianto et al. (2023) study, which proves that external and internal factors can affect the efficacy of educators. The high efficacy among educators can help improve students' learning and achievement (Shah & Bhattarai, 2023).

Many past studies have investigated the link between educators' self-efficacy and teaching effectiveness (Corry & Stella, 2018; Ma et al., 2021; Pressley, 2021). However, limited studies still examined the relationship between self-efficacy elements and lecturers' intentions in using the *Flipped* Learning approach. According to Baroudi and Shaya (2022), some studies have shown that self-efficacy greatly influences students'

teaching effectiveness and academic achievement. However, the amount of studies on this topic is still limited.

2.2. Flipped Learning Approach

The flipped learning approach is one of the latest teaching and learning approaches. This approach refers to a teaching and learning approach that brings elements of technology into the learning environment. This concept was sparked when [Bergmann and Sams \(2009\)](#) made an online video for students who did not attend class. In this way, absent students can do self-learning at home. When they attend school, they can act actively during the teaching and learning process taking place in the class ([Smith, 2013](#)). According to [Bergmann and Sams \(2009\)](#), this approach is a reverse approach from the conventional approach. This approach is becoming more popular among millennial educators because this approach is more effective in ensuring that students are more active in teaching and learning class sessions ([Kang et al., 2023](#)).

Previous research has demonstrated that the Flipped Learning Approach is an effective teaching strategy for delivering the best results to students and educators ([Chung, 2023](#); [Abd Rahman et al., 2021](#); [Dakduk et al., 2018](#); [Norah, 2020](#); [Hoshang et al., 2021](#)). In this regard, to achieve its intention goal, educators need to strategise their teaching approach and accurately translate the Flipped Learning approach into the teaching and learning process. Studies have found a link between educators' self-efficacy and the effectiveness of flipped learning approach. Self-efficacy measures an educator's ability to perform their duties ([Ma et al., 2021](#); [Corry & Stella, 2018](#)). In recent years, educators' self-efficacy has become a popular dimension for research in education ([Abusham, 2018](#); [Mahmood et al., 2021](#); [Ma et al., 2021](#); [Horvitz et al., 2014](#); [Corry & Stella, 2018](#); [Pressley, 2021](#)). The term self-efficacy was first introduced by [Bandura \(1997\)](#). The element of self-efficacy has been used as a theoretical framework to explain and predict individuals' perceptions and confidence levels.

2.3. Educators' self-efficacy in using technology

Educators' self-efficacy greatly impacts teaching and learning ([Yilmaz & Turan, 2020](#)). As educators with high self-efficacy could deliver their lessons effectively, self-efficacy is important in creating a positive educational environment. A study by [Coban dan Atasoy \(2019\)](#) found a significant link between educators' self-efficacy and attitudes towards using digital technology in teaching. Educators with high efficacy are more inclined to show a positive attitude and have higher readiness to use digital technology to motivate students to engage in learning. In this study, lecturers' self-efficacy will be evident in their trust and confidence in teaching strategies, classroom management and student engagement through digital technology during the teaching and learning process.

[Ong and Faridah \(2022\)](#) showed a positive relationship between educators' self-efficacy and the use of technology. This study found that educators are highly confident in using digital technology; specifically, they are capable and confident in using it in teaching and learning and assessing students. These findings align with the studies of [Choo and Tuan Mastura \(2020\)](#), [Ong and Faridah \(2022\)](#) which proved that educators' self-efficacy is high. In this regard, educators with high efficacy can plan lessons, use varied strategies and engage students in the teaching and learning sessions, thus, ensuring excellent work performance. In other words, high-efficacy educators are more confident, positive and ready to use digital technology in teaching and learning. A recent article by [Doo et al.](#)

(2023) described the significant relationship between educators' self-efficacy and their use of technology-integrated teaching strategies. The study concluded that high self-efficacy greatly influences educators' intention to use technology in teaching.

2.4. Educators' Self-efficacy and their intention to adopt Flipped Learning

Educators are the main agent in ensuring that the implementation of teaching and learning can achieve its objectives. Thus, educators' must possess high confidence and the capability to conduct the teaching and learning process efficiently to ensure the achievement of the learning objectives. Educators' should use strategies that fulfil the objectives of the chosen teaching approach to ensure the teaching and learning sessions could positively impact students' achievement. Therefore, understanding the relationship between self-efficacy elements and educators' intention to accept and use the Flipped Learning approach is very important.

Educators' self-efficacy is an important factor in learning because it shapes their belief in their ability and ability to carry out the lesson and fulfil their assigned responsibilities (Tseeke, 2021). Furthermore, self-efficacy can showcase educators' ability and confidence to achieve teaching goals. In education, self-efficacy is a belief that educators' can enhance students' learning outcomes through their commitment and persistence in implementing suitable teaching strategies. Educators' with positive self-efficacy will often have better professional capabilities (Dupuis et al., 2020). This statement is supported by Akdogan (2021), who linked educators' ability to enhance their professionalism with high self-efficacy. In addition, higher self-efficacy among educators' can enhance their critical thinking (Aydin Gurler, 2021), helping produce educators' capable of innovation in teaching.

One instructional strategy emphasised in Flipped learning is mentoring, where educators' mentor students during teaching and learning sessions. The lecturer would first provide the learning materials, and students would engage in self-learning before the teaching and lesson. In this regard, educators' self-efficacy in using the Flipped Learning approach should be studied in detail to ensure that educators' have high confidence and the ability to accept and use this approach. Compeau et al. (1999) further asserted that self-efficacy significantly affects the acceptance and use of technology.

A study by Andreou et al. (2022) and Kang et al. (2023) found that the lecturer's self-efficacy toward the Flipped Learning approach is high, and they are highly satisfied when using this approach. This positive relationship shows that lecturers are confident in using the Flipped Learning approach to achieve teaching goals with optimal results. Educators' high confidence in using the Flipped Learning approach is attributed to their high self-efficacy, which mobilises their intentions to use this approach. The findings of Lianjiang Jiang et al. (2022) are aligned with the results of a study by Algarni and Lortier Forgues (2022).

A study by Agyei and Razi (2021) also found a positive relationship between educators' self-efficacy and their acceptance and use of Flipped learning. These findings align with a study by Kang et al. (2023) that found that self-efficacy positively affects implementing the Flipped Learning approach. Other studies also proved that lecturers with high self-efficacy are more enthusiastic to try new instructional strategies to optimise their teaching outcomes. Studies that examined the link between educators' self-efficacy and their intention to accept and adopt the Flipped Learning approach include Bakheet and

Gravell (2022), Chao, 2019; Doo et al., 2023; Lianjiang Jiang et al., 2022 and Oktay Kizkapan (2023).

Yokoyama (2019) also mentioned that self-efficacy greatly influences educators' educational psychology to improve students' academic performance. Educators' who use Flipped learning as their teaching strategies can make it a learning platform to help educators' to deliver lessons effectively and help students to develop a deep understanding of the topic taught.

2.5. Efforts to improve educators' self-efficacy

Seeing the importance of educators' self-efficacy in realising the goals of *flipped* learning, it is certainly important to improve educators' self-efficacy to align with the goals of using this instructional strategy. Efforts must be made to ensure that it aligns with the aim of implementing the Flipped Learning approach. As Dos Santos (2020) stated, self-efficacy is influenced by internal and external factors. Internal factors come from within the educator, including their intentions and behaviour, while external factors influence the educators from the outside.

Among the internal factors that can influence educators' self-efficacy is their teaching experience. Studies have found that teaching experience is one of the determining factors for technological self-efficacy (Akdogan, 2021; Can & Daloglu, 2021; Choi & Lee, 2020; Infurna et al., 2018; Tseeke, 2021). It can be deduced that the more experienced the educator, the higher his self-efficacy. Senior lecturers could deliver lessons more effectively than junior lecturers as they better understand various teaching situations. In addition, the extensive experience of lecturers will lead to higher confidence in conducting and facilitating teaching and learning activities (Hardianto et al., 2023).

Educators' attitude toward the profession is another internal factor influencing self-efficacy. According to Alemayehu and Genene (2019), attitude towards the profession is linked to educators' self-efficacy. This attitude can be translated into how a lecturer performs his assigned tasks, feels content working in the workplace, is satisfied with the work done and has a strong desire to succeed in his career and profession (Baroudi & Shaya, 2022; Bruce et al., 2010). When educators are positive about their profession, their self-efficacy will increase and vice versa. If they perceive their career as educators negatively, they will have a negative attitude toward it, causing them to be less enthusiastic about performing their duty, affecting their self-efficacy.

3. Conclusion

Self-efficacy is important in determining educators' effective implementation of Flipped Learning strategies. Furthermore, educators with high self-efficacy can demonstrate a positive attitude towards the work or tasks entrusted to them. The findings from this scholarly writing are significant in demonstrating the importance of high self-efficacy among educators. Educators with high self-efficacy can make the Flipped Learning environment more effective, engaging, meaningful and, most importantly, able to achieve teaching objectives.

Acknowledgement

This paper is a part of the master's degree thesis written by Nur Hanisah Abdullah under the supervision of Dr. Rusliza Yahaya and the co-supervision of Dr. Khalizul Khalid, from the Faculty of Management and Economics, Sultan Idris Education University, Perak.

Funding

This study received no funding.

Conflict of Interest

The authors report no conflicts of interest regarding the research, authorship or publication of this study.

References

- Abusham, J. (2018). Do Something That Scares You Each Day: The Role of Self-Efficacy in Preparing School Leaders. *Educational Leadership and Administration: Teaching and Program Development*, 29(1), 64–75.
- Abd Rahman, S. F., Md Yunus, M., & Hashim, H. (2021). Applying utaut in predicting esl lecturers intention to use flipped learning. *Sustainability (Switzerland)*, 13(15). <https://doi.org/10.3390/su13158571>
- Ageyi, C & Razi, O. (2021). The effect of extended UTAUT model on EFLs' adaptation to flipped classroom. *Education and Information Technologies*, 27, 10.1007/s10639-021-10657-2.
- Akdogan, A. (2021). The Predictive Power of Emotional Intelligence on Self-Efficacy: A Case of Primary School Teachers. *International Journal of Curriculum and Instruction*, 13(2), 1742–1755.
- Alemayehu, M. H., & Genene, A. (2019). Teacher Self-efficacy and Its Antecedents among Post Graduate Diploma in Teaching Trainees of Dilla University: Implications for Ethiopian Secondary School Teacher Education. *Journal of Education, Society and Behavioural Science*, 11(2), 1–18. <https://doi.org/10.9734/jesbs/2019/v31i430157>
- Algarni B. & Lortie-Forgues H. (2022). An evaluation of the impact of flipped-classroom teaching on mathematics proficiency and self-efficacy in Saudi Arabia. *British Journal of Educational Technology*, 1–22. 10.1111/bjet.13250
- Andreou, E., Roussi, C., Tsermentseli, S., Menabò, L., & Guarini, A. (2022). Teachers' Self-Efficacy during the COVID-19 Pandemic in Greece: *The Role of Risk Perception and Teachers' Relationship with Technology*. *Educ. Sci.*, 12, 600. <https://doi.org/10.3390/educsci12090600>
- Aydin Gürler, S. (2021). State of Prediction of The Critical Thinking Dispositions of Primary School Teacher Candidates Through Their Self-Efficacy for STEM Practices. *Participatory Educational Research*, 9(3), 61–81. <https://doi.org/10.17275/per.22.54.9.3>
- Bakheet, E. M., & Gravell, A. M. (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>

- Balkaya, S. & Ulas Akkucuk. (2021). Adoption and use of learning management systems in education: The role of playfulness and self-management. *Sustainability* 13: 1127
- Bandura, A. (1994). Self-efficacy. In V.S. Ramachaudran (Ed.), *Encyclopaedia of human behaviour* (Vol. 4, pp 71-81). Academic Press
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman. <https://psycnet.apa.org/record/1997-08589-000>
- Baroudi, S., & Shaya, N. (2022). Exploring predictors of teachers' self-efficacy for online teaching in the Arab world amid COVID-19. *Education and Information Technologies*, 27(6), 8093–8110. <https://doi.org/10.1007/s10639-022-10946-4>
- Bergmann, J. & Sams, A. (2009). Remixing chemistry class: Two Colorado teachers make vodcasts of their lectures to free up class time for hand-on activities. *Learning & Leading with Technology*, 36(4), 22-27.
- Bruce, C. D., Esmonde, I., Ross, J., Dookie, L., & Beatty, R. (2010). The effects of sustained classroom-embedded teacher professional learning on teacher efficacy and related student achievement. *Teaching and Teacher Education*, 26(8), 1598-1608. <http://dx.doi.org/10.1016/j.tate.2010.06.011>
- Can, S., & Daloglu, A. (2021). University Prep School Instructors' Self-Efficacy Perceptions. *Journal of Language and Linguistic Studies*, 17(1), 493–516. <https://doi.org/10.17263/jlls.903485>
- Cansoy, R., & Parlar, H. (2018). Examining the relationship between school principals' instructional leadership behaviors, teacher self-efficacy, and collective teacher efficacy. *International Journal of Educational Management*, 32(4), 550–567. <https://doi.org/10.1108/IJEM-04-2017-0089>
- Chao C-M (2019). Factors Determining the Behavioral Intention to Use Mobile Learning : An Application and Extension of the UTAUT Model. *Front. Psychol.*, 10, 1652. doi: 10.3389/fpsyg.2019.01652
- Choi, E., & Lee, J. (2018). EFL teachers' self-efficacy and teaching practices. *ELT Journal*, 72(2), 175–186. <https://doi.org/10.1093/elt/ccx046>
- Choi, S., & Lee, S. W. (2020). Enhancing Teacher Self-Efficacy in Multicultural Classrooms and School Climate: The Role of Professional Development in Multicultural Education in the United States and South Korea. *AERA Open*, 6(4), 233285842097357. <https://doi.org/10.1177/2332858420973574>
- Chung, K. L. (2023) Strategies for enhancing online flipped learning: a systematic review of empirical studies during the COVID-19 pandemic. *Interactive Learning Environments*, DOI: 10.1080/10494820.2023.2184392
- Choo, Y. C. & Tuan Mastura Tuan Soh. (2020). Efikasi sendiri dan amalan pelaksanaan KBAT dalam kalangan guru Sains sekolah rendah. *Seminar Pendidikan Sains 2019*, 104-117.
- Coban, O. & Atasoy, R. (2019). An examination of relationship between teachers' self-efficacy perception on ICT and their attitude towards ICT usage in the classroom. *Cypriot Journal of Educational Sciences*, 14(1), 136–145.
- Compeau, D., Higgins, C. A., & Huff, S. (1999). Social Cognitive Theory and Individual Reactions to Computing Technology: A Longitudinal Study. *MIS Quarterly*, 23(2), 145–158. <https://doi.org/10.2307/249749>
- Corry, M., & Stella, J. (2018). Teacher self-efcacy in online education: a review of the literature. *Research in Learning Technology*, 26, 1–12
- Dakduk, S., Santalla-Banderali, Z., & van der Woude, D. (2018). Acceptance of Blended Learning in Executive Education. *SAGE Open*, 8(3). <https://doi.org/10.1177/2158244018800647>
- de Veer, A. J., Peeters, J. M., Brabers, A. E., Schellevis, F. G., Rademakers, J. J., & Francke, A. L. (2015). Determinants of the intention to use e-Health by community dwelling

- older people. *BMC health services research*, 15, 103. <https://doi.org/10.1186/s12913-015-0765-8>
- Doo, M.Y., Bonk, C.J. & Heo, H. (2023) Examinations of the relationships between self-efficacy, self-regulation, teaching, cognitive presences, and learning engagement during COVID-19. *Education Tech Research Dev.*, 71, 481–504 (2023). <https://doi.org/10.1007/s11423-023-10187-3>
- Dos Santos, L. M. (2020). Self-Efficacy and Career Decision of Pre-Service Secondary School Teachers: A Phenomenological Analysis. *International Journal of Instruction*, 14(1), 521–536. <https://doi.org/10.29333/IJI.2021.14131A>
- Dupuis, J., Savick, S., & Fenster, M. (2020). Relationship Between Self-Efficacy Measured by the TSES Scale and Teacher Participation in PDS Activity. *Professional Educator*, 43(1), 47–58.
- Hardianto, Sari, V.P. & Hidayat, (2023). Optimizing Teacher Self-Efficacy in Facing the New Normal: A Literature Review. *Al-Ishlah: Jurnal Pendidikan*, 15, 15-24 <https://doi.org/10.35445/alishlah.v15i1.2835>
- Hatlevik, O.E. (2017). Examining the relationship between teachers' self-efficacy, their digital competence, strategies to evaluate information, and use of ICT at school. *Scand. J. Educ. Res.*, 61, 555-567. Doi: 117250110.1080/00313831.2016
- Horvitz, B. S., Beach, A. L., Anderson, M. L., & Xia, J. (2014). Examination of Faculty Self-efficacy Related to Online Teaching. *Innovative Higher Education*, 40(4), 305–316
- Hoshang, S., Hilal, T. A., & Hilal, H. A. (2021). Investigating the acceptance of flipped classroom and suggested recommendations. *Procedia Computer Science*, 184, 411–418. <https://doi.org/10.1016/j.procs.2021.03.052>
- Huang Y-M, Chan H-Y, Wang Y-H, et al. (2023). Effects of a blended multimedia teaching approach on self-efficacy and skills in over-the-counter medication counselling versus a lecture-based approach: protocol for a prospective cohort study of undergraduate students from a pharmacy school in Taiwan. *BMJ Open*, 13, e068738. doi:10.1136/bmjopen-2022-068738
- Infurna, C. J., Riter, D., & Schultz, S. (2018). *Factors That Determine Preschool Teacher Self-Efficacy in An Urban School District*. *International Electronic Journal of Elementary Education*, 11(1), 1–7. <https://doi.org/10.26822/IEJEE.2018143929>
- John, S. P. (2013). Influence of Computer Self-Efficacy On Information Technology Adoption. *International Journal of Information Technology*, 19 (1), 1–13.
- Kang Ma, Junhua Zhang, Muhammad Chutiyami, Luyao Liang & Jingjing Dong (2023). Effectiveness of blended teaching in preservice teacher education: A meta-analysis, *Distance Education*, 44(3). DOI: 10.1080/01587919.2022.2155617
- Kadioglu, N., & Oskay, O. O. (2023). The Effect of Preparing Lesson Plans in Online Flipped Learning Model on Pre-Service Teachers' Self-Efficacy Levels of TPACK. *MIER Journal of Educational Studies Trends and Practices*, 13(1), 147–169. <https://doi.org/10.52634/mier/2023/v13/i1/2408>
- Lianjiang Jiang, Ning Zang, Nan Zhou & Hongjian Cao (2022) English teachers' intention to use flipped teaching: interrelationships with needs satisfaction, motivation, self-efficacy, belief, and support. *Computer Assisted Language Learning*, 35(8), 1890–1919, DOI: 10.1080/09588221.2020.1846566
- Ma, K., Chutiyami, M., Zhang, Y., & Nicoll, S. (2021). Online teaching self-efcacy during COVID-19: Changes, its associated factors and moderators. *Education and Information Technologies*, 1–2
- Mafenya, N.P. (2021). Exploring technology as enabler for sustainable teaching and learning during the Covid-19 pandemic at a university in South Africa. *Perspectives in Education*, 40(3), 212-223. <https://dx.doi.org/10.18820/2519593X/pie.v40.i3.14>

- Mahmood, S., Mohamed, O., Mustafa, S. M. S., & Noor, Z. M. (2021). The Influence of Demographic Factors on Teacher-Written Feedback Self-Efficacy in Malaysian Secondary School Teachers. *Journal of Language and Linguistic Studies*, 17(4), 2111–2122. <https://doi.org/10.52462/jlls.152>
- Norah Fahad Albadran (2020). *Flipped Classroom Model Based Technology Acceptance and Adoption Among Faculty Members in Saudi Universities*. [Doctoral dissertation, Saudi Arabia University]. ProQuest Dissertations Publishing.
- Oktaý Kızıkan (2023) Student science teachers' research self-efficacy: does it develop in a flipped course and predict achievement?. *Interactive Learning Environments*, DOI: 10.1080/10494820.2022.2163262
- Ong, E. L. & Faridah Mydin Kuty. (2022). Peranan Efikasi Kendiri dan Kemahiran Teknologi Digital Guru Sekolah Rendah dalam Memotivasikan Pembelajaran Murid. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 7(3), e001374. <https://doi.org/10.47405/mjssh.v7i3.1374>
- Ozturk, A.B., Bilgihan, A., Nusair, K. and Okumus, F. (2016). What Keeps the Mobile Hotel Booking Users Loyal? Investigating the Roles of Self-Efficacy, Compatibility, Perceived Ease of Use, and Perceived Convenience. *International Journal of Information Management*, 36, 1350-1359. <https://doi.org/10.1016/j.ijinfomgt.2016.04.005>
- Pressley, T. (2021). Returning to teaching during COVID-19: An empirical study on elementary teachers' self-efficacy. *Psychology Schools*, 58, 1611–1623
- Shah, D.B.; Bhattarai, P.C (2023). Factors Contributing to Teachers' Self-Efficacy: A Case of Nepal. *Educ. Sci.*, 13, 91. <https://doi.org/10.3390/educsci1301009>
- Smith, J.D. (2013). Student attitudes towards flipping the general chemistry classroom. *Chem. Edu. Re. Pract*, 14(4), 607-611. <https://doi.org/10.1039/C3RP00083D>
- Teo, T., & Zhou, M. (2014). Explaining the intention to use technology among university students: a structural equation modeling approach. *Journal of Computing in Higher Education*, 26(2), 124–142
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher Efficacy: Capturing an Elusive Construct. *Teaching and Teacher Education*, 17(7), 783–805
- Tschannen-Moran, M., & McMaster, P. (2009). Sources of self-efficacy: Four professional development formats and their relationship to self-efficacy and implementation of a new teaching strategy. *The Elementary School Journal*, 110(2), 228e245. <https://doi.org/10.1086/605771>
- Tseeke, M. (2021). Teachers' Perceived Self-Efficacy in Responding to The Needs of Learners With Visual Impairment in Lesotho. *South African Journal of Education*, 41(2), 1–12. <https://doi.org/10.15700/saje.v41ns2a1920>
- 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.
- Vitta, J. P., & Al-Hoorie, A. H. (2020). The flipped classroom in second language learning: A meta-analysis. *Language Teaching Research*, 1-25.
- Yilmaz, D., & Turan, H. (2020). Self-Efficacy Beliefs of Pre-Service Teachers in Teaching First Reading and Writing and Mathematics. *Participatory Educational Research*, 7(1), 257–270. <https://doi.org/10.17275/per.20.15.7.1>
- Yokoyama S (2019). Academic Self-Efficacy and Academic Performance in Online Learning: A Mini Review. *Front. Psychol.*, 9, 2794. doi: 10.3389/fpsyg.2018.02794