

Can Flipped Classroom Increase Students' Learning Independence?

Selvita Eka Eviana Purba¹, Kristiani², Khresna Bayu Sangka³

^{1,2,3}Departement of Magister Economic Education, Universitas Sebelas Maret
purbaselvita@gmail.com

Article History

accepted 31/01/2021

approved 28/02/2021

published 31/03/2021

Abstract

Changes in education due to covid-19 are forcing teachers to use technology in learning. Teachers as facilitators must be able to use technology in innovative learning models so that they can increase learning independence. The purpose of this study is to find out how flipped classroom can increase students' learning independence. The research method used is literature study. Flipped classroom is a model that utilizes technology by reversing traditional teaching methods, where the teacher first provides learning material in the form of videos before going to class, so that classroom activities are used for active learning activities. The results show flipped classroom make teacher-student interactions better, improve learning outcomes, students can study learning materials anywhere and anytime and help students to understand learning before entering class so that students can learn independently without depending on the teacher according to their speed which in turn will increase student learning independence.

Keywords: *Flipped Classroom, Students' Learning Independence, Learning*

Abstrak

Perubahan dalam pendidikan akibat covid-19 memaksa guru untuk memanfaatkan teknologi dalam pembelajaran. Guru sebagai fasilitator harus mampu menggunakan teknologi dalam model pembelajaran yang inovatif sehingga dapat meningkatkan kemandirian belajar. Tujuan penelitian ini untuk mengetahui bagaimana flipped classroom dapat meningkatkan kemandirian belajar siswa. Metode penelitian yang digunakan adalah studi pustaka. Flipped classroom adalah model yang memanfaatkan teknologi dengan cara membalikkan metode pengajaran tradisional, dimana guru terlebih dahulu memberikan materi pembelajaran dalam bentuk video sebelum ke kelas, sehingga kegiatan di kelas digunakan untuk kegiatan pembelajaran aktif. Hasil penelitian menunjukkan bahwa flipped classroom menjadikan interaksi guru-siswa menjadi lebih baik, meningkatkan hasil belajar, siswa dapat mempelajari materi pembelajaran dimanapun dan kapanpun serta membantu siswa untuk memahami pembelajaran sebelum ke kelas sehingga siswa mampu belajar secara mandiri tanpa bergantung kepada guru sesuai dengan kecepatan mereka sendiri yang pada akhirnya akan meningkatkan kemandirian belajar siswa.

Kata kunci: Flipped Classroom, Kemandirian Belajar Siswa, Pembelajaran

Social, Humanities, and Education Studies (SHEs): Conference Series
<https://jurnal.uns.ac.id/shes>

p-ISSN 2620-9284
e-ISSN 2620-9292



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

INTRODUCTION

Changes in the education system due to covid-19 have caused changes in teaching procedures that are usually carried out face-to-face in schools to become online. This is done to break the chain of the spread of covid-19. According to Sofyana & Rozaq (2019) online learning is a learning procedure in which teachers deliver learning materials to students using the internet network. For an educator, online learning will cause a change in traditional learning styles which in the end will also have an impact on work professionals, while for students, online learning is a learning method where students do not have to come to school so that it will help students to form independent learning. Thus, a teacher is required to utilize technology in delivering learning materials. Technological developments provide convenience for students and teachers in the learning process, because students can access learning anywhere without having to come to school. What students need is only a commitment from themselves to access the learning materials provided by the teacher.

An educator must be able to grow the potential of students, which includes cognitive, affective, and psychomotor potential in learning. One of the most important affective competencies in learning is learning independence (Nasution, 2018). According to Novantri, et al., (2020) independent learning is a process of controlling oneself to learn not to depend on others, being able to take decisions and initiatives to solve problems without expecting help from others, and having confidence in carrying out tasks.

In general, student learning independence is influenced by 2 factors, namely internal factors and external factors. Internal factors are factors that come from students, while external factors, factors from the environment, such as family, playmates, teachers, lecturers (Nursaptini, et al., 2020). So the independence of student learning can be influenced by the teacher and from the students themselves. From the teacher's perspective, it could be because the teacher did not change teaching practices, and from the students themselves, they did not realize the importance of independent learning skills. Several factors that can influence teachers not to form student learning independence are learning objectives that do not emphasize the formation of independent learning, materials that do not provide opportunities for students to learn independently, learning models that are less innovative, and learning media.

So a teacher must be able to foster student learning independence as an external factor, because low learning independence will result in dependence on others. In addition, it can cause students to become less confident, less responsible, especially in learning. Lestari, Yusmansyah & Z Rahmayanthi, (2015) say that learning independence is very important in the learning process, problems that can occur from low learning independence that have an impact on student learning outcomes and dependence on others in decision making and in school assignments; and will also have an impact on mental disorders in students after entering college (Ali & Asrori, 2016).

The situation in the future will be more complex and full of challenges, so education has the task of preparing students to become quality human beings (Ali & Asrori, 2016). Therefore, student learning independence must be formed. The formation of student learning independence can be done by habituation of learning patterns that are applied during the teaching and learning process, one of which is by using the flipped classroom learning model.

The flipped classroom learning model is a learning model that exchanges traditional teaching and learning activities and also supports the use of information technology in its application, where what teachers usually do in class is turned into student assignments to do at home, then students do assignments and confirm what they have learned (Fan, 2018). The flipped classroom learning model provides an endless connection between teachers, students, and materials, which can be achieved through the Learning Management System (Basal, 2015). Learning Management System (LMS) is an online system based on site media that is used as an e-learning learning platform. Therefore, this study aims to provide an overview of how flipped classrooms can improve student learning independence.

METHODS

This research was conducted based on a literature study. The data collection method used is literature study. The data collection technique used is by reviewing the literature related to the theories to be solved. The data obtained will be compiled, analyzed by identifying theories relevant to the topic under study, then concluded so as to obtain conclusions regarding the study of literature (Ramdhani, Ramdhani & Amin, 2014).

RESULTS AND DISCUSSIONS

1. Using the Flipped Classroom Model

a. Flipped Classroom Model

Flipped classroom is a learning model that was originally introduced by Jonathan Bergmann and Aaron Sams, American science teachers (Hartyanyi, et al., 2018). The concept is done by recording learning videos for students who are not present in class, but after some time most of the students repeat the learning videos while doing assignments at home (Bergmann, & Sams, 2012; Kozikoğlu, 2019).

According to Béres & Kis (2018); Fan (2018); Musdi, Agustyani & Tasman (2019); Papadakis, Gariou-Papalexiou & Makrodimus (2019) the flipped classroom model is a model that reverses the traditional classroom teaching mode. Teachers provide learning resources, especially in the form of teaching videos. Students watch the video before entering class. Most of the time in class is spent by teachers and students together to carry out learning activities, interactions and other activities. With flipped classroom students can take advantage of class time and pay more attention to learning links. As for the teacher, there is no need to use class time to explain the basic material and students can use pre-class time to learn, so that the teacher can explain more of the knowledge that students need in class. Flipped classroom according to (McCallum, et al., 2015) students are introduced to concepts before class sessions, so that students during learning activities allow students to learn with peers and teachers, so that learning in the classroom shifts from traditional delivery and activities carried out in the classroom such as concept checking, discussion, debate, and activities involving application, analysis, problem solving, experimentation and evaluation.

Farida, et al., (2019) said that the flipped classroom learning model is a model that guides students to learn independently before coming to class, while classroom activities are more focused on discussion and question and answer activities. Furthermore, according to Ayçiçek & Yelken (2018) the flipped classroom learning model is a model that creates an active learning environment

and helps students to assume individual learning responsibilities. Flipped classroom model can create new skills and a change in student learning habits. In addition, Jdaitawi, (2019) also said that the flipped classroom learning model provides students with the opportunity for initial preparation of learning materials in the form of videos or in reading texts, and they can learn them anytime and anywhere.

In the flipped classroom model the teacher designs digital resources, generally using videos and text readings, or short video clips interspersed with readings and quizzes. Students can watch from mobile devices/computers and return to class discussing material with the teacher, so that students have more opportunities for independent study (Munir, et al., 2018).

b. Steps of the Flipped Classroom Model

The steps for the flipped classroom learning model according to Basal (2015) are: 1) the teacher distributes videos to students, 2) students watch the video before learning, 3) In the classroom, it is used to discuss or ask questions with the teacher and fellow students. . According to Enfield (2013) the steps of the flipped classroom are:

1. Before class, students are expected to watch two to three video lessons;
2. In class, students are given a short quiz. Quizzes are created to encourage students to complete the given lessons and to provide daily formative assessments, and
3. After the quiz, students are given class activities to reflect, discuss, and practice what they have learned. These activities are often teacher-led demonstrations. Because students are expected to know the content, instructors can rely on students (by calling individuals) to explain the results of their assignments. Other times, class activities are not teacher-led; instead, students (sometimes in small groups) complete assigned tasks while the instructor provides individual guidance as needed.

According to Cormier & Voisard (2017) there are 3 components of the Flipped Classroom learning model, namely:

1. Pre-class: video. Students are asked to watch the video before going to class. Typically, three to five videos are assigned each week. The videos are of four types: theory, exercises, laboratory techniques, and software use. Most videos are about theory, the educator explains concepts to the camera or each other and notes key concepts or examples on the board; a small number of videos are screencasts of PowerPoint presentations. Students are encouraged to take notes while watching videos, and to note any unresolved questions they have. These notes and questions are then used in class.
2. In class: questions, exercises & portfolio.
In the classroom, the learning flow is as follows:
 - a. The teacher will answer each student's question about the video they watched before class.
 - b. Students work on an exercise sheet called a portfolio exercise. The exercises are a direct application of the topics listed in the video. Students are encouraged to work in pairs and ask educators questions whenever they need them. In this practice, students are asked to work in face-to-face classes to strengthen and apply students' understanding of the learning material.
 - c. In class, the educator assesses the portfolio of exercises by pointing out where the students have made mistakes, but without giving the correct

answers. Portfolio exercises are handed back to students at the start of the next class. Students must then include portfolio exercises in their portfolios (cumulative reports) and outside class hours, students are asked to correct their mistakes.

- d. Formative assessment of portfolio exercises provides students with rapid feedback and a format that allows them to make mistakes without being penalized. Portfolios are seen by students and educators as a learning tool and not as an evaluation tool.
3. Post-class: consolidation exercises. After the class is over, the teacher suggests an exercise in the textbook for students to continue practicing the problems done in class and to consolidate their knowledge. Students are autonomous in this exercise, and completion is not verified during class.

According to Abdullah, et al., (2019) the steps of the flipped classroom model are: 1) the teacher delivers lecture learning videos and instructional guides to provide students with information about assignments and conversational activities in the classroom, or activities outside the classroom based on plans. studies. 2) class time is used for practice, discussion, debate, and interaction. According to Elian & Hamaidi (2018) the steps of the flipped classroom learning model are: 1) the teacher provides new material in the form of videos through technology and educational websites and is distributed to students before learning in class. Then students study the material at home. Teachers can prepare materials and share videos of about 5-10 minutes. Technological tools that can be used are social media websites, educational games, YouTube, TED Talk, iTunes University and other educational websites; 2) after reviewing the learning, students take part in learning in class and are ready to discuss the material they have learned at home. The teacher begins by evaluating the level of students' understanding and revising what students have learned at home, then presenting the learning individually or in groups rather than passively listening to the teacher's explanation.

c. Advantages of the Flipped Classroom Learning Model

There are advantages to the flipped classroom learning model for both students and teachers. According to Ayçiçek & Yelken (2018) the advantages of the flipped classroom learning model for students are: 1) Students can prepare themselves well before learning in class; 2) make learning fun and productive; 3) Students can provide guidance and teamwork to teachers, 4) can motivate students by creating a competitive atmosphere in the classroom; 5) because the flipped classroom learning model uses technology, so it supports students to study independently which helps students to increase success in learning, 6) makes students more active in class, because students carry out activities in class with teacher guidance then the teacher gives feedback back to students.

Enfield (2013) emphasizes that the advantages of the flipped classroom are: 1) providing as many video lessons that students can watch as needed greatly reducing the need for repetitive teaching; 2) administratively, videos provide a good resource for directing students when they are absent from class; 3) students become challenged in learning, and also increase student learning independence; 4) learning activities in the classroom become interesting, 5) helping students effectively to understand learning materials from video content and in engaging during class demonstrations; 6) students become confident. This is because students learn new technologies without taking formal courses.

According to Dong (2016) the advantages of the flipped classroom are: 1) for teachers: they can fully use their time well, utilize classroom resources, and improve teaching efficiency in the classroom; 2) for students: can increase student interest in learning and increase student learning independence. Musdi, et al., (2019) also said that the advantages of applying the flipped classroom learning model are: 1) it helps students to prepare before learning in class, so they must study independently first; 2) provide space for students to manage their own study time; 3) encourage students to explore ideas; 4) students can repeat learning anytime and anywhere.

Enfield (2013) said that the flipped classroom model provides an interesting learning experience, is effective in helping students to understand learning materials, and increasing student learning independence. This is supported by research conducted by Aşıksoy & Özdamlı (2016); Farida, et al., (2019); Mirlanda, Nindiasari & Syamsuri, (2019) which showed that the flipped classroom learning model had an effect on learning independence. This is because in the flipped classroom learning model, each student is required to have a high learning initiative to learn about the material provided by the teacher before going to class. High learning initiatives will foster student confidence and responsibility in doing the tasks given by the teacher, then will make students have the awareness to continue to study independently at home so that student learning independence will increase. In addition, the material presented is also incomplete, so students are required to look for complete material from various sources (Bergmann & Sams, 2012).

Flipped classroom according to McCallum, et al., (2015) students are introduced to concepts before class sessions, so that during learning activities it allows students to learn with peers and teachers. Some of the advantages that will be obtained in learning if you apply the flipped classroom, including students can prepare themselves well before learning in class (Almodaires, et al., 2018; Ayçiçek & Yelken, 2018; Danker, 2015; Musdi, et al., 2019); make learning fun and productive (Kozikoğlu, 2019); teachers can provide guidance and teamwork to students (Nwosisi, et al., 2016); can motivate students by creating a competitive atmosphere in the classroom (Bergmann & Sams, 2012; Su & Chen, 2018); because the flipped classroom learning model uses technology, thus supporting students to learn independently (Dong, 2016; Shyr & Chen, 2018).

d. The Impact of the Flipped Classroom Model

Based on the explanation about the flipped classroom above, there are several impacts of the flipped classroom learning model in learning, namely:

1. Can improve learning outcomes. Bansal, et al., (2020); Cheng, Ritzhaupt & Antonenko, (2019); Koo, et al., (2016) said that the flipped classroom learning model is better than the traditional learning model, it can be seen from the increase in student learning outcomes which is higher than the traditional learning model. Cormier & Voisard (2017) said the concept in flipped classroom learning, students are given learning before in class, so that students become more aware of learning materials that have a positive influence on student learning outcomes.
2. Learning becomes active. The flipped classroom model facilitates students to be active in the classroom (Ansori & Nafi', 2019; Foldnes, 2016) because students carry out activities in class with the teacher then the teacher gives feedback to students Ayçiçek & Yelken (2018). This is because in class the time

is used more to apply the knowledge that has been obtained before entering the classroom (Béres & Kis, 2018).

3. Improve collaboration. Using the flipped classroom model helps students learn more (Foldnes, 2016), thus creating good student collaboration in learning (Koh, 2019). According to Ansori & Nafi' (2019); Bergmann & Sams (2012); Fan (2018); Nguyen (2017); Nwosisi, et al., (2016) flipped classroom model also increases teacher-student interaction, student-student interaction. In addition, it also has a positive influence on student engagement (Su & Chen, 2018).
4. Increase student learning independence. In the flipped classroom learning model that utilizes technology in learning (Bhagat, Chang & Chang, 2016) so that they can train and grow independent learning according to their speed (Aşıksoy & Özdamlı, 2016). This is because in the flipped classroom learning model, each student is required to have a high learning initiative to learn about the material provided by the teacher before going to class. High learning initiatives will foster student confidence and responsibility in doing the tasks given by the teacher, then will make students have the awareness to continue to study independently at home so that student learning independence will increase. In addition, the material presented is also incomplete, so students are required to look for complete material from various sources (Bergmann & Sams, 2012).

2. Students' Learning Independence

Independent learning is a must and becomes a guide in education. The level of student learning independence can be determined based on how much initiative and responsibility students play an active role in learning (Fahrادina, Ansari & Saiman, 2014; Mirlanda, et al., 2019). The greater the active role of students in learning activities, indicating that the higher the level of student learning independence. In independent learning, students have responsibility in the learning process and try to succeed in learning in order to obtain satisfactory and proud learning outcomes (Thoken, Asrori & Purwanto, 2017).

Someone who has independent learning, namely: able to plan goals, be responsible, not dependent on others, have the initiative (Aliyyah, Puteri & Kurniawati, 2017; Fauzi & Widjajanti, 2018); disciplined and able to manage time to learn (Nilson, 2013); have an attitude of self-control and self-confidence (Sanjayanti, Sulistiono & Budiretnani, 2015).

Students' learning independence is influenced by 2 factors: 1) internal factors. Internal factors are genetic factors, meaning that there are genes (genotype traits) that have the potential to be expressed through transcription and translation; 2) External factors, factors from the environment, include all elements from outside that interact with students. These elements are family, playmates, teachers, lecturers (Nursaptini, et al., 2020). According to Aisah, Kurniasih & Fitriani (2018); Dembo & Seli (2016) external factors consist of the school environment, family environment, learning facilities and teacher professional competence. The independence of student learning can be influenced by the teacher and from the students. From the teacher's point of view, it is possible to change teaching practice by utilizing technology in the learning model, because according Dewi, Zahrowi & Sulistyawati (2020) the use of technology can help students to access any knowledge without continuing to depend on teachers in the classroom, thus helping students to learn independently.

CONCLUSION

Based on the results of the above explanation about the flipped classroom, the advantages and factors that influence learning independence, it can be concluded that by applying the flipped classroom model, it provides an initial opportunity for students to get to know the concept of the material before going to class and because it is supported by the use of technology in its application students can access the material. lessons wherever and whenever so that it helps students to be able to learn the material according to their speed without depending on the teacher which in the end can increase student learning independence, because students can manage their own learning without relying on others thanks to the learning videos given by the teacher before going to class.

REFERENCES

- Abdullah, M.Y., Hussin, S., Hammad, Z.M., & Ismail, K. (2019). Exploring the Effects of Flipped Classroom Model Implementation on EFL Learners' Self-confidence in English Speaking Performance. *Studies in Systems, Decision and Control*, *SSDC*, 295(1), 223–241. https://doi.org/10.1007/978-3-030-47411-9_13
- Aisah, S., Kurniasih, D., & Fitriani. (2018). Analisis Kemandirian Belajar Siswa pada Mata Pelajaran Kimia di Kelas X SMA Negeri 3 Sintang. *Ar-Razi Jurnal Ilmiah*, 6(2), 76–86.
- Ali, M. & Asrori, M. (2016). *Psikologi Remaja: Perkembangan Peserta Didik*. Jakarta: PT Bumi Aksara.
- Aliyyah, R. R., Puteri, F. A. & Kurniawati, A. (2017). Pengaruh Kemandirian Belajar Terhadap Hasil Belajar. *Jurnal Sosial Humaniora*, 8(2), 126–143.
- Almodaires, A.A., Alayyar, G.M., Almsaud, T.O., & Almutairi, F. M. (2018). The Effectiveness of Flipped Learning: A Quasi-Experimental Study of the Perceptions of Kuwaiti Pre-Service Teachers. *International Education Studies*, 12(1), 10–23. <https://doi.org/10.5539/ies.v12n1p10>
- Ansori, M. & Nafi', N. N. (2019). English Teachers' Perceived Benefits and Challenges of Flipped Classroom Implementation. *Journal of English Education and Linguistics Studies*, 5(2), 211–228. <https://doi.org/10.30762/jeels.v5i2.820>
- Aşıksoy, G. & Özdamlı, F. (2016). Flipped Classroom adapted to the ARCS Model of Motivation and applied to a Physics Course. *Eurasia Journal of Mathematics, Science and Technology Education*, 12(6), 1589–1603. <https://doi.org/10.12973/eurasia.2016.1251a>
- Ayçiçek, B., & Yelken, T. Y. (2018). The Effect of Flipped Classroom Model on Students' Classroom Engagement in Teaching English. *International Journal of Instruction*, 11(2), 385–398. <https://doi.org/10.12973/iji.2018.11226a>
- Bansal, S., Bansal, M., Ahmad, K.A., & Pandey, J. (2020). Effects of a flipped classroom approach on learning outcomes of higher and lower performing medical students: A new insight. *Advances in Educational Research and Evaluation*, 1(1), 24–31. <https://doi.org/10.25082/aere.2020.01.005>
- Basal, A. (2015). The Implementation Of A Flipped Classroom In Foreign Language Teaching. *Turkish Online Journal of Distance Education*, 16(4), 28–37. <https://doi.org/10.17718/tojde.72185>
- Béres, I., & Kis, M. (2018). Flipped Classroom Method Combined with Project Based Group Work. *Advances in Intelligent Systems and Computing*, 715(1), 553–562. https://doi.org/10.1007/978-3-319-73210-7_65
- Bergmann, J., & Sams, A. (2012). *Flip Your Classroom: Reach Every Student in Every Class Every Day*. Washington DC: International Society for Technology in Education.
- Bhagat, K.K. Chang, C. N. & Chang, C. Y. (2016). The Impact of the Flipped Classroom on Mathematics Concept Learning in High School. *Educational*

- Technology & Society*, 19(3), 134–142.
- Cheng, L., Ritzhaupt, A.D., & Antonenko, P. (2019). Effects of the flipped classroom instructional strategy on students' learning outcomes: a meta-analysis. *Educational Technology Research and Development*, 67(4), 793–824. <https://doi.org/10.1007/s11423-018-9633-7>
- Cormier, C. & Voisard, B. (2017). Flipped Classroom in Organic Chemistry Has Significant Effect on Students' Grades. *Frontiers in ICT*, 4(JAN), 1–15. <https://doi.org/10.3389/fict.2017.00030>
- Danker, B. (2015). Using Flipped Classroom Approach to Explore Deep Learning in Large Classrooms. *IAFOR Journal of Education*, 3(1), 171–186. <https://doi.org/10.22492/ije.3.1.10>
- Dembo, M.H., & Seli, H. (2016). *Motivation and Learning Strategies For College Success: A Focus on Self-Regulated Learning 5th Edition*. New York: Routledge.
- Dewi, N., Zahrowi, E., & Sulistyawati, M. E. (2020). The Implementation Of Google Classroom in Improving Student's Reading Comprehension at MAN 4 Jakarta. *Lingual*, 9(1), 1–6.
- Dong, X. (2016). Application of Flipped Classroom in College English Teaching. *Creative Education*, 07(09), 1335–1339. <https://doi.org/10.4236/ce.2016.79138>
- Elian, S. A., & Hamaidi, D. A. (2018). The Effect of Using Flipped Classroom Strategy on the Academic Achievement of Fourth Grade Students in Jordan. *International Journal of Emerging Technologies in Learning (IJET)*, 13(2), 110–125. <https://doi.org/10.3991/ijet.v13i02.7816>
- Enfield, J. (2013). Looking at the Impact of the Flipped Classroom Model of Instruction on Undergraduate Multimedia Students at CSUN. *TechTrends*, 57(6), 14–27. <https://doi.org/10.1007/s11528-013-0698-1>
- Fahradina, N., Ansari, B. I., & Saiman. (2014). Peningkatan Kemampuan Komunikasi Matematis dan Kemandirian Belajar Siswa SMP dengan Menggunakan Model Invenstigasi Kelompok. *Jurnal Didaktik Matematik*, 1(1), 54–64.
- Fan, X. (2018). Research on Oral English Flipped Classroom Project-based Teaching Model Based on Cooperative Learning in China. *Kuram ve Uygulamada Egitim Bilimleri*, 18(5), 1988–1998. <https://doi.org/10.12738/estp.2018.5.098>
- Farida, R., Alba, A., Kurniawan, R., & Zainuddin, Z. (2019). Pengembangan Model Pembelajaran Flipped Classroom Dengan Taksonomi Bloom Pada Mata Kuliah Sistem Politik Indonesia. *Jurnal Teknologi Pendidikan*, 7(2), 104–122.
- Fauzi, A. & Widjajanti, D. B. (2018). Self-regulated learning: the effect on student's mathematics achievement. *Journal of Physics: Conference Series*, 1097(2018), 1–7.
- Foldnes, N. (2016). The Flipped Classroom and Cooperative Learning: Evidence from a randomised experiment. *Active Learning in Higher Education*, 17(1), 39–49.
- Hartayani, M., Balassa, S., Babocsy, C., Teringer, A., Ekert, A., Coakley, D., et al. (2018). *Innovating Vocational Education: Flipped Classroom in Practice*. Eramus.
- Jdaitawi, M. (2019). The Effect of Flipped Classroom Strategy on Students Learning Outcomes. *International Journal of Instruction*, 12(3), 665–680. <https://doi.org/10.29333/iji.2019.12340a>
- Koh, J. H. L. (2019). Four Pedagogical Dimensions Understanding Flipped Classroom Practices in Higher Education: A Systematic Review. *Educational Sciences: Theory & Practice*, 19(4), 14–33.
- Koo, C.L., Demps, E.L., Farris, C., & Bowman, J.D., Panahi, L., & Boyle, P. (2016). Impact of Flipped Classroom Design on Student Performance and Perceptions in a Pharmacotherapy Course. *American Journal Of Pharmaceutical Education*, 80(2), 1–9. <https://doi.org/10.5688/ajpe80233>
- Kozikoğlu, I. (2019). Analysis of the Studies Concerning Flipped Learning Model: A Comparative Meta-Synthesis Study. *International Journal of Instruction*, 12(1),

- 851–868. <https://doi.org/10.29333/iji.2019.12155a>
- Lestari, Y.Y., Yusransyah & Z Rahmayanthi, R. (2015). Peningkatan Kemandirian Belajar Dengan Layanan Bimbingan Kelompok. *Jurnal Bimbingan Konseling*, 4(1), 1–13. <http://jurnal.fkip.unila.ac.id/index.php/ALIB/article/view/9822/6519>
- McCallum, S., Schultz, J. Sellke, K., & Spartz, J. (2015). An Examination of the Flipped Classroom Approach on College Student Academic Involvement. *International Journal of Teaching and Learning in Higher Education*, 27(1), 42–55.
- Mirlanda, E. P., Nindiasari, H., & Syamsuri. (2019). Pengaruh Pembelajaran Flipped Classroom Terhadap Kemandirian Belajar Siswa Ditinjau dari Gaya Kognitif Siswa. *Symmetry: Pasundan Journal of Research in Mathematics Learning and Education*, 4(1), 38–49. <https://doi.org/http://dx.doi.org/10.23969/symmetry.v4i1.1637>
- Munir, M.T., Baurotlan, S., Young, B.R., & Carter, S. (2018). Flipped classroom with cooperative learning as a cornerstone. *Education for Chemical Engineers*, 23(4), 25–33. <https://doi.org/10.1016/j.ece.2018.05.001>
- Musdi, E., Agustyani, A.R.D., & Tasman, F. (2019). Students' perception toward flipped classroom learning. *Journal of Physics: Conference Series*, 1317(2019), 1–6. <https://doi.org/10.1088/1742-6596/1317/1/012132>
- Nasution, T. (2018). Membangun Kemandirian Siswa Melalui Pendidikan Karakter. *IJTIMAIYAH: Jurnal Ilmu Sosial Dan Budaya*, 2(1), 1–18.
- Nguyen, T. T. K. (2017). Flipped Classroom Teaching Methods: A Survey. *International Journal OF Engineering Sciences & Management Research*, 4(4), 62–67.
- Nilson, L. B. (2013). *Creating Self-Regulated Learners: Strategies to Strengthen Students' Self-Awareness and Learning Skill* (S. S. Publishing. (ed.)).
- Novantri, W., Maison., Muslim., & Afriyati, L. W. (2020). Are Discovery Learning and Independent Learning Affective in Improve Students's Cognitive Skills? *Indonesian Journal of Science and Mathematics Education*, 3(2), 144–152.
- Nursaptini, N., Syahzali, M., Sobri, M., Sutisna, D & Widodo, A. (2020). Profil Kemandirian Belajar Mahasiswa dan Analisis Faktor Yang Mempengaruhinya: Komunikasi Orang Tua dan Kepercayaan Diri. *Jurnal Pendidikan Edutama*, 7(1), 85–94.
- Nwosisi, C., Ferreira, A., Rosenberg, W., & Walsh, K. (2016). A Study of the Flipped Classroom and Its Effectiveness in Flipping Thirty Percent of the Course Content. *International Journal of Information and Education Technology*, 6(5), 348–351. <https://doi.org/10.7763/ijiet.2016.v6.712>
- Papadakis, S., Gariou-Papalexiou, A., & Makrodimus, N. (2019). How to Design and Implement a Flipped Classroom Lesson: A Bottom up Procedure for More Effective Lessons. *Journal for Educational Research*, 3(2), 53–66. <https://doi.org/10.32591/coas.ojer.0302.02053p>
- Ramdhani, A., Ramdhani, M.A., & Amin, A. S. (2014). Writing a Literature Review Research Paper: A step-by-step approach. *International Journal of Basic and Applied Science*, 3(1), 47–56.
- Sanjayanti, A., Sulistiono. & Budiretnani, D. A. (2015). Tingkat Kemandirian Belajar Siswa SMAN 1 Kediri Kelas XI MIA-5 pada Model PBL Materi Sistem Reproduksi Manusia. *Seminar Nasional XII Pendidikan Biologi*, 361–363.
- Shyr, W.J., & Chen, C. H. (2018). Designing A Technology-Enhanced Flipped Learning System To Facilitate Students' Self-Regulation And Performance. *Journal Of Computer Assited Learning*, 34(1), 53–62. <https://doi.org/10.1111/jcal.12213>
- Sofyana, L., & Rozaq, A. (2019). Pembelajaran Daring Kombinasi Berbasis Whatsapp Pada Kelas Karyawan Prodi Teknik Informatika Universitas PGRI Madiun. *Jurnal Nasional Pendidikan Teknik Informatika*, 8(1), 81–86. <https://doi.org/10.23887/janapati.v8i1.17204>
- Su, C.Y., & Chen, C. H. (2018). Investigating the Effects of Flipped Learning, Student

Question Generation, and Instant Response Technologies on Students' Learning Motivation, Attitudes, and Engagement: A Structural Equation Modeling. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(6), 2453–2466. <https://doi.org/10.29333/ejmste/89938>

Thoken, F., Asrori., & Purwanti. P. (2017). Analisis Kemandirian Belajar pada Siswa Kelas X SMA Kemala Bhayangkari Sungai Raya. *Jurnal Pendidikan Dan Pembelajaran Untan*, 6(12), 1–7.