



Flipped Classroom: A Digital Revolution Learning Strategy for Curriculum 2013

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Abstract

This study aims to analyze the suitability of flipped classrooms, a 21st-century learning method, with the curriculum implemented in Indonesia in 2013. The methodology used in this research is qualitative, using a literature study as the data collection method. Data collection was conducted with the main object of surveying relevant literature. Data analysis in this research is descriptive qualitative. The results of this study show that flipped classroom learning follows the principles of learning in the 2013 curriculum. Evidenced by the implementation process, which is more student-centered. In addition, activities such as observing, questioning, gathering information, associating, analyzing, and communicating can be implemented in a technology-enhanced classroom to develop skills appropriate for the 21st century.

Keywords: *flipped classroom, K13, digital era*

Abstrak

Tujuan dari penelitian ini adalah untuk menganalisis kesesuaian flipped classroom, sebuah metode pembelajaran abad ke-21, dengan kurikulum yang diterapkan di Indonesia pada tahun 2013. Metodologi yang digunakan dalam penelitian ini adalah kualitatif, dengan menggunakan studi literatur sebagai metode pengumpulan data. Pengumpulan data dilakukan dengan objek utama survei literatur yang relevan. Analisis data dalam penelitian ini bersifat deskriptif kualitatif. Hasil penelitian ini menunjukkan bahwa pembelajaran flipped classroom sudah sesuai dengan prinsip-prinsip pembelajaran pada kurikulum 2013. Hal ini dibuktikan dengan proses pelaksanaannya yang lebih berpusat pada siswa. Selain itu, kegiatan seperti mengamati, menanya, mengumpulkan informasi, mengasosiasi, menganalisis, dan mengomunikasikan dapat diimplementasikan di ruang kelas yang disempurnakan dengan teknologi untuk mengembangkan keterampilan yang sesuai untuk abad ke-21.

Kata Kunci: Flipped classroom, K13, era digital

Introduction

21st-century learning prepares the 21st-century generation where advances in Information and Communication

Technology (ICT) rapidly influence learning activities (Dakhi et al., 2020). The influence of ICT on learning requires students and teachers to master the

technology so that they have skills in using technology (Dakhi et al., 2022; Fikri, Hendrik, Masril, 2021). Technology has a role in society and the classroom, and technology can be used as a tool in deep learning activities. The characteristics of the 21st century are easy access to information, the use of computing, easy access to work, and accessible communication. Efforts to develop 21st-century skills can be made by changing learning activities to student-centered learning. 21st-century learning activities are learning based on the real world, authentic through projects and problems, inquiry, discovery, and invention in the practice of the knowledge century.

The concept of 21st Century education is fundamental to develop because, if seen from the map of the increasingly fierce competition in the world of work, more is needed if students are only equipped with cognitive abilities (Masril et al., 2021; Zagoto, Yarni & Dakhi, 2019). 21st-century learning itself contains critical thinking and problem-solving skills, creativity and innovation, collaboration, and communication that students must have in order to be able to face future challenges. 21st-century skills are needed in learning so that students can solve various problems in the future by thinking creatively and having various ideas from various sources with technology.

In addition to critical thinking and problem-solving skills, creativity and innovation, collaboration, and communication, students and educators must also have skills in technology, as we know that in the current era, all have incorporated technology in various aspects. The implications for learning in schools in Indonesia require all education stakeholders to master ICT literacy skills (Dakhi, 2022; Masril et al., 2020; Novalinda et al., 2020). Teachers, students, and parents must be literate in technology and communication media to communicate effectively, think critically, solve problems and collaborate. 21st-century skills are digital skills that

fully utilize Information and Communication Technology (ICT) to meet job demands.

The impact of the rapid use of technology is expected to achieve learning outcomes following 21st-century education. Students' learning outcomes in 21st-century learning are learning and innovation skills, information, media, technology skills, life and career skills, social and cross-cultural skills, and leadership and responsibility. Achieving learning outcomes as expected in 21st-century learning, of course, cannot be separated from the role of a teacher. A teacher can make efforts to apply learning methods that follow 21st-century learning that can create an effective classroom learning atmosphere. 21st-century learning is different from previous learning that tends to be teacher-centered.

Learning today must make the student the leading role. The teacher is only a facilitator (Hendrik et al., 2019; Masril et al., 2021; Zagoto, 2022). According to the applicable curriculum in Indonesia, students are directed to carry out scientific learning to develop critical thinking and problem-solving skills, creativity and innovation, collaboration, and communication according to 21st-century skills. However, it is still found that the implementation of learning activities is teacher-centered. Students are required to listen and memorize the subject matter provided by the teacher. Learning like this causes students to be unable to compile their knowledge and skills, making them still need to gain skills according to the 21st century. Students are placed as learning subjects who actively develop their interests and potential. So they try to construct their knowledge and skills, according to their capacity and level of thinking development, directed to contribute to solving real problems that occur in society (Zebua & Harefa, 2022). There are many choices of learning models that can be applied. The flipped classroom learning model is one of the efforts to provide solutions to problems that can be applied in the face of 21st

eternal education. The flipped classroom is a learning model where students obtain material through videos delivered outside the classroom and then conduct discussions, problem-solving and even debates on the material in class. The flipped classroom learning model utilizes learning media that can be accessed online by students who can support their learning materials. The application of flipped classrooms in learning activities follows the 2013 curriculum, where learning activities are more student-centered so that students can develop 4C skills. Student-centered learning will cause differences of opinion, making students stronger in finding solutions, increasing participation in solving problems, and improving social skills, speaking, listening, and logical problem-solving skills.

Method

The method used in this research is qualitative with literature data collection techniques. The data sources used for data collection include scientific journals and research results relevant to the themes discussed in this article. The data analysis technique used is descriptive qualitative so that the data obtained from the literature review results will be analyzed, summarized, and described related to the problem under study.

Result And Discussion

The rapid development of technology has impacted the world of education with the emergence of 21st-century learning. Teachers are essential in 21st-century learning because students will have 21st-century skills (Karabulut-Ilgu, Jaramillo & Jahren, 2018). These "real-world skills" include communication, collaboration, and critical thinking, which are crucial for people from different contexts, countries, and cultures to interact in an orderless, networked and globalized world.

Things that must be considered in developing 21st-century learning (Rahmadani et al., 2022), are, (a) Teachers

as good learning planners must compile as detailed a learning design as possible contained in the lesson plan. In preparing lesson plans, teachers combine the targets achieved in the national curriculum, the development of 21st-century skills or national character, and the use of technology in the classroom; (b) In learning activities must include elements of critical thinking. For example, in giving assignments at the application, analysis, evaluation, and creation levels, in order to encourage students to think critically and check the truth of the information obtained first before completing the task from the teacher so that they do not only act as information collectors; (c) Apply diverse learning approaches and models. Several learning approaches, such as project-based learning, can be applied in learning activities to add to students' learning experiences. Inquiry-Based Learning as well as cross-learning (jigsaw) and flipped classroom models; (d) In the current era of technology, teachers and students should always involve technology in learning activities.

One way to realize 21st-century learning is by implementing varied learning (Dakhi et al., 2020). The learning process applied in Indonesia is regulated in the education process standards, concerning Process Standards for Primary and Secondary Education which states that the learning process in academic units is organized interactively, inspiring, fun, challenging, motivating students to participate actively, and providing sufficient space for the initiative, creativity, and independence according to the talents interests, and physical and psychological development of students. Learning activities are adjusted to the applicable curriculum in Indonesia (Zagoto & Dakhi, 2018). The 2013 curriculum learning activities include observing, questioning, gathering information, associating, analyzing, and communicating activities integrated into student-centered learning.

Student-centered learning must have 4C characters (Zou et al., 2020), namely, (1) Communication, where students are required to create effective communication in this character. Learners are allowed to use their ability to convey their ideas, both when discussing with their friends and when solving problems from their educators; (2) Collaboration, in this character, students show the ability to work together, leadership skills, adapt to various roles and responsibilities, work productively with others, put empathy in place, respect different perspectives; (3) Critical thinking and Problem Solving, where students try to provide rational reasoning in understanding and making complex choices, understanding the interconnection between systems. Students also use their abilities to try to solve the problems they face independently, and students also can compile and express, analyze, and solve problems; (4) Creativity and Innovation, where students can develop, implement, and convey new ideas to others, be open and responsive to new and different perspectives.

Looking at the 4 characteristics that must be possessed in current learning activities, the flipped classroom is one of the appropriate learning models to improve 21st-century skills (Brewer, & Movahedazarhouli, 2018). The flipped classroom is a learning model that reverses the traditional learning model. Usually, students get material in class, and when at home, students work on assignments that can be obtained from the school, but in the flipped classroom learning model, this kind of learning activity is reversed. The basic concept of a flipped classroom is that what is done in class is now done at home and what is done as homework is now done in class.

The flipped classroom learning model applies technology as media in learning. The principle of using media is effective and efficient, helps shorten the time of delivering teaching materials, and can stimulate the imagination of educators

when getting factual information through the media. In accordance with the characteristics of 21st-century learning, students and teachers must be able to use technology. The application of technology in question is using videos or other media as learning content for students to study at home before conducting face-to-face activities in the classroom. For example, students in flipped classroom learning will prepare materials before implementing classroom learning by watching video lectures. The flipped classroom encourages students to learn independently through the subject matter links that teachers have built on the web in the form of online videos before coming to class. While using the flipped classroom, the teacher designs digital content, a combination of recorded videos and online lectures.

The flipped classroom learning model can be designed and implemented by combining several other learning activities. Some studies combine flipped classrooms with other learning approaches, methods, and models, such as combining flipped classrooms with cooperative learning, course review, peer instruction, problem-based learning, collaborative learning, and experiential learning.

The steps of flipped classroom learning are that students are asked to watch learning videos or other media at home as preparation before participating in learning activities in class. Then students come to class to conduct learning activities by working on tasks related to teaching materials that have been studied previously. When in class, students apply their skills in projects or other simulations. The last activity measures students' understanding of the material that has been taught.

Judging from the steps of implementing the flipped classroom model, this model is a model that follows the steps in the 2013 curriculum learning principles. The observing stage occurs when students observe the content of the learning video watched at home before the learning activities in the classroom take place. After

watching the video, students will have questions about the material to be learned. So they will gather information related to the learning topic as material to prepare learning activities in class. When students conduct learning in class, students can associate or analyze problems or problems given by the teacher and then communicate them through a class discussion. This learning involves students in every process. So that students become active following the study results that the experimental class, which was given treatment through a flipped classroom, was more active than the control class which was given traditional learning treatment.

By correctly paying attention to the essential components and steps of flipped classroom learning, teachers will experience success when implementing this learning model. The successful implementation of the flipped classroom will cause students to achieve maximum learning outcomes so that they have 21st-century skills. The increase in learning outcomes is due to several factors, especially the quality of teaching and the student learning environment. The use of the flipped classroom model led to increased classroom activity, which was characterized by most students actively expressing their opinions in class discussion activities (Tomas et al., 2019). The learning environment in the flipped classroom approach tends to satisfy students' needs for competence, autonomy, and relatedness to increase intrinsic and extrinsic motivation, thus influencing student engagement in the flipped classroom learning environment. The components of flipped classroom learning affect satisfaction and student engagement in classroom activities so that they can add to the learning experience.

Besides improving learning outcomes and activities in the classroom environment, the flipped classroom can also improve students' critical thinking skills. Implementing a flipped classroom causes creative thinking and communication skills to be higher than other skills (Birgili,

Seggie, & Oğuz, 2021). The flipped classroom can foster students' information literacy and critical thinking skills. The flipped classroom allows for teacher-student interaction to promote creativity and enables new ways of critical thinking and problem-solving.

The benefits of implementing the flipped classroom learning model are that learners have a full opportunity to understand the directions and explanations from the teacher independently or collaboratively inside or outside the classroom online, and teachers can ensure that each learner has understood the materials taught outside or outside the classroom. Learners can increase their learning capacity independently. In addition, there is active communication between learners and teachers outside or inside the classroom during learning.

Although there are many benefits of implementing the flipped classroom model, there are still disadvantages; namely, not all school stakeholders have adequate access to the information technology devices needed, such as laptops, computers, and internet access. For teachers, this model requires time because teachers have to prepare materials in the form of videos, especially those who have yet to become accustomed to making learning videos.

In addition to the weaknesses experienced by teachers, students also experience several obstacles in applying this model; namely, some students feel uncomfortable learning using a computer or laptop, while the main requirement for implementing a flipped classroom learning model requires students to access material through these devices and low student motivation to study independently at home on material that the teacher has not delivered. Therefore, although this flipped classroom learning model follows the 2013 curriculum and 21st-century learning, teachers must also consider these weaknesses in choosing this learning model so that it can run optimally when applied.

Conclusion

The conclusion obtained from the results of this study is that flipped classroom is a learning model where students learn the material at home through videos or online than when in class, students will work on assignments. This learning model follows the 2013 curriculum learning principles because learning activities involve students and teachers only as facilitators in the flipped classroom model. So it can be said that this learning approach is student-centered learning. In addition, observing, questioning, gathering information, associating and analyzing, and communicating can be implemented in flipped classroom learning. The flipped classroom is proven to improve student learning outcomes. In addition to learning outcomes, the flipped classroom can also improve critical thinking and communication skills so that this model can be used as one of the ways for students to have 21st-century skills.

Bibliography

- Birgili, B., Seggie, F. N., & Oğuz, E. (2021). The trends and outcomes of flipped learning research between 2012 and 2018: A descriptive content analysis. *Journal of Computers in Education*, 8, 365-394.
- Brewer, R., & Movahedazarhouli, S. (2018). Successful stories and conflicts: A literature review on the effectiveness of flipped learning in higher education. *Journal of Computer Assisted Learning*, 34(4), 409-416.
- Dakhi, O., Irfan, D., Jama, J., Ambiyar, A., Simatupang, W., Sukardi, S., & Zagoto, M. M. (2022). Blended Learning And Its Implications For Learning Outcomes Computer And Basic Networks For Vocational High School Students In The Era Of COVID-19 Pandemic. *International Journal of Health Sciences*, 6(S4).
<https://doi.org/10.53730/ijhs.v6nS4.10976>
- Dakhi, O. (2022). Implementasi Model Pembelajaran Cooperative Problem Solving Untuk Meningkatkan Kreativitas Dan Prestasi Belajar. *Educativo: Jurnal Pendidikan*, 1(1), 8-15.
- Dakhi, O., Jama, J., & Iran, D. (2020). Blended learning: a 21st century learning model at college. *International Journal Of Multi Science*, 1(08), 50-65.
- Fikri, H. T., Hendrik, B., & Masril, M. (2021). Pengaruh Konseptual Achievement Emotion dan Lingkungan Belajar Peserta Didik Terhadap Achievement Goal. *EDUKATIF: JURNAL ILMU PENDIDIKAN*, 3(4), 2185-2191.
- Hendrik, B., Ali, N. M., Sulaiman, R., Masril, M., & Fikri, H. T. (2019, August). Relationship between intellectual intelligence, Figural Creativity, and Innovation. In *2nd International Conference on Intervention and Applied Psychology (ICIAP 2018)* (pp. 545-555). Atlantis Press.
- Karabulut-Ilgü, A., Jaramillo, C. N., & Jahren, C. T. (2018). A systematic review of research on the flipped learning method in engineering education. *British Journal of Educational Technology*, 49(3), 398-411.
- Masril, M., Hendrik, B., Fikri, H. T., Firdaus, F., & Awal, H. (2021). Implementasi Media Pembelajaran Berbasis Teknologi Informasi Dan Komunikasi. *Edumaspul: Jurnal Pendidikan*, 5(2), 912-917.
- Masril, M., Jalinus, N., Jama, J., & Dakhi, O. (2020). Implementasi Pembelajaran Berbasis Masalah Pada Kurikulum 2013 Di SMK Negeri 2 Padang. *Konstruktivisme: Jurnal Pendidikan Dan Pembelajaran*, 12(1), 12-25.
- Masril, M., Dakhi, O., Nasution, T., & Ambiyar, A. (2020). Analisis gender dan intellectual intelligence terhadap

- kreativitas. *Edukasi: Jurnal Pendidikan*, 18(2), 182-191.
- Masril, M., Hendrik, B., Theozard Fikri, H., Hazidar, A. H., Priambodo, B., Naf'an, E., ... & Kudr Nseaf, A. (2019). The Effect of Lego Mindstorms as an Innovative Educational Tool to Develop Students' Creativity Skills for a Creative Society. In *Journal of Physics: Conference Series* (Vol. 1339, No. 1, p. 012082). IOP Publishing.
- Novalinda, R., Dakhi, O., Fajra, M., Azman, A., Masril, M., Ambiyar., Verawadina, U. (2020). Learning Model Team Assisted Individualization Assisted Module to Improve Social Interaction and Student Learning Achievement. *Universal Journal of Educational Research*, 8(12A), 7974 -7980. <https://doi.org/10.13189/ujer.2020.082585>
- Rahmadani, L., Fadilah, M., Darussyamsu, R., Fitri, R., & Farma, S. A. (2022). Analisis Penerapan Flipped Learning dalam Pembelajaran. *Journal on Teacher Education*, 3(3), 381-387.
- Tomas, L., Evans, N. S., Doyle, T., & Skamp, K. (2019). Are first year students ready for a flipped classroom? A case for a flipped learning continuum. *International Journal of Educational Technology in Higher Education*, 16(1), 1-22.
- Zagoto, M. M. (2022). Peningkatan Hasil Belajar Mahasiswa Melalui Implementasi Model Pembelajaran Kooperatif Word Square. *Educativo: Jurnal Pendidikan*, 1(1), 1-7. <https://doi.org/10.56248/educativo.v1i1.1>
- Zagoto, M. M. & Dakhi, O (2018). Pengembangan Perangkat Pembelajaran Matematika Peminatan Berbasis Pendekatan Saintifik Untuk Siswa Kelas XI Sekolah Menengah Atas. *Jurnal Review Pendidikan dan Pengajaran*, 1(1), 157-170.
- Zagoto, M. M., Yarni, N., & Dakhi, O. (2019). Perbedaan individu dari gaya belajarnya serta implikasinya dalam pembelajaran. *Jurnal Review Pendidikan dan Pengajaran (JRPP)*, 2(2), 259-265.
- Zebua, E., & Harefa, A. T. (2022). Penerapan Model Pembelajaran Blended learning Dalam Meningkatkan Minat Belajar Siswa. *Educativo: Jurnal Pendidikan*, 1(1), 251-262. <https://doi.org/10.56248/educativo.v1i1.35>
- Zou, D., Xie, H., Wang, F. L., & Kwan, R. (2020). Flipped learning with Wikipedia in higher education. *Studies in Higher Education*, 45(5), 1026-1045.