



Blended Learning with the Flipped Classroom Method: A Post-Pandemic Solution and Future Trend

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Abstract: Technological advancements have significantly impacted various aspects of life, particularly education. The Covid-19 pandemic, which lasted for over two years, further disrupted the education sector, necessitating a shift in teaching and learning practices. New policies, often referred to as the "new normal," have brought changes that allow educational activities to resume as they were before the pandemic. This study explores learning solutions during the new normal and investigates future trends focusing on blended learning integrated with the flipped classroom method. The research was conducted at FTK Raden Intan Lampung using a case study methodology with a single-case design. Data were collected through observations, documentation, and interviews centered on the implementation of the blended learning model combined with the flipped classroom approach. The findings indicate that this model encourages students to engage in active, independent learning, enhances learning satisfaction, and holds potential as a future learning trend. In conclusion, the blended learning model utilizing the flipped classroom method emerges as an effective post-pandemic learning alternative. It offers convenience, fosters enthusiasm for learning, and enhances students' problem-solving abilities throughout the learning process.

INTRODUCTION

The current era is characterized by rapid technological advancements and significant progress in information science (Hasanah et al., 2022), allowing for the development of tools that support the advancement of information technology, ranging from information systems to communication tools. Technological growth is inevitable in modern life. Breakthroughs in technology have been applied across various fields, including education, financial management, music streaming, film

viewing, and gaming (Abeysekera & Dawson, 2015). Information is now accessed through various channels, including print media, radio, television, and the internet, a modern tool for information retrieval.

Technological advancements have transformed various aspects of life, including education. The Covid-19 pandemic further accelerated these changes, leading to the replacement of traditional classroom learning with online learning (Khasanah et al., 2020). The pandemic, which has persisted for over

two years, has forced significant adjustments in the education sector, once again disrupting the traditional educational landscape. As educators and students adapted to online learning during the Covid-19 pandemic, they now face the challenge of transitioning back to face-to-face instruction. This shift will undoubtedly impact the current higher education landscape, particularly through the continued use of technological advancements. The rapid development of technology and the expansion of online education resources have driven a global trend toward increased technology integration in educational practices and learning approaches (Harahap et al., 2019). The focus of the learning process has shifted from a teacher-centered model, where knowledge was primarily delivered by the teacher, to a student-centered approach in the twenty-first century (Kintu et al., 2017). The invention and development of information technology have led to the creation of advanced tools and information systems that support the learning process. The integration of these technologies enables educational institutions to implement more interactive and dynamic learning methodologies. A well-designed online learning system is expected to maintain, or even enhance, the quality of education by leveraging technological advancements.

Digital transformation and technological advancements significantly enhance pedagogical quality. Modern education must be learner-centered to meet the diverse needs of students. Pedagogical innovation offers a practical solution for improving the quality of education (Naz & Murad, 2017). Educational policies, course objectives, and content play a crucial role in shaping pedagogical innovation. Elements such as pedagogy, learning styles, teaching strategies, classroom culture, and communication loops can be transformed to foster innovation in teaching practices.

Many recent studies, including those highlighted by Basar et al. (2021) and Ramli et al. (2020), demonstrate that pedagogical quality in online classes was compromised during the pandemic. The primary reason is that teachers often translated traditional face-to-face programs, which require more intellectual engagement, directly into online formats without necessary adjustments.

According to Lytras, Sarirete, and Damiani, the current paradigm shift requires teachers to transition from content deliverers to co-partners in facilitating meaningful knowledge transfer. To meet this demand, several innovative classroom models are being introduced. Blended learning, which combines traditional and online methods, is not entirely new but remains an effective teaching approach, making it well-suited to address these challenges (Lytras et al., 2020). Blended learning combines face-to-face and online education methods to enhance classroom engagement. Two key factors crucial to online pedagogy are accessibility and flexibility (Dhawan, 2020).

The flipped classroom is a blended learning strategy that allows students to study educational content online before class. In-class time is then dedicated to practice-oriented activities, reinforcing what they have learned (Ping et al., 2020). Sams introduced the concept of flipped learning in 2008 while teaching chemistry at Woodland Park High School in Colorado, in response to challenges they faced in finding time to re-teach students who needed to catch up (Bergmann & Sams, 2012). They began recording their lessons and posting them online, soon realizing that students were using these videos to review class sessions. This insight led them to develop the flipped learning strategy, which is now widely adopted in higher education. Like peer instruction, flipped learning aims to shift instruction outside of the classroom, allowing in-class time to focus on active

learning (Nerantzi, 2020). Flipped learning was designed to move instruction outside the traditional classroom setting. It is equally effective in both integrated and fully online environments, as well as in live or synchronous sessions. Asynchronous activities, conducted before and after live sessions, provide the necessary structure for this approach.

According to Apaydin and Kaya, Generation Z and Generation Alpha prefer quick and focused messaging, which may explain the effectiveness of the flipped classroom as a modern pedagogy. Generation Alpha tends to display more show-off behavior compared to Generation Z. While their learning curve is fast, they also become bored easily (Apaydin & Kaya, 2020). Similarly, Hashim and Shaari note that flipped classroom pedagogy aligns with the learning behaviors of millennials and Generation Z, as it provides instant responses and feedback during the learning process (Hashim & Shaari, 2020). The post-pandemic period has brought about many social changes. Social distancing has reduced the effectiveness of learning and diminished the pedagogical quality of online education.

There has been research on blended learning with the flipped classroom method, such as by Utamingtyas & Evitasari (2021), which states that when blended learning is used, students are more motivated to learn and more flexible in reviewing learning materials. A study by Sudarman (2015) stated that blended learning is far superior to face-to-face learning. This is reinforced by the results of research by Nuryadin et al. (2023) and Singh et al. (2021) showing that with the application of the blended learning model students can prepare themselves better before coming to class. Apart from that, the use of the flipped classroom method is a practical learning approach that increases student engagement and performance in class (Asad et al., 2022).

However, previous research has not thoroughly explored blended learning practices based on the flipped classroom model in higher education. Therefore, this study aims to investigate learning solutions during the new normal and examine future trends through the implementation of blended learning with the flipped classroom method.

METHOD

This study explores various aspects of the blended learning model, specifically using the flipped classroom method, as part of post-pandemic education solutions and future trends. Since the focus is on a particular case within a specific subject or context, the findings may not be applicable to other subjects or contexts. Therefore, this research is classified as a case study with a single-case design (Creswell, 2016). Since this study focuses on a specific case within a particular subject or context, the findings may not be generalizable to other subjects or contexts. Therefore, this research is classified as a case study with a single-case design (Creswell, 2016). This case study implements a blended learning model using the flipped classroom method as part of the post-pandemic education solutions and future trends at the Tarbiyah and Teacher Training Faculty of UIN Raden Intan Lampung.

Data was collected through observations, documentation, and interviews focusing on the blended learning model with the flipped classroom method. The research subjects were lecturers and students from the Faculty of Tarbiyah and Teacher Training (FTK) at UIN Raden Intan Lampung, with the objects of study being the implementation of blended learning assisted by the flipped classroom method as an innovative learning model and post-pandemic educational solution. The collected data was analyzed using the Miles and Huberman analysis technique, which

includes data collection, data reduction, data display, and conclusion drawing/verification (Miles et al., 2019).

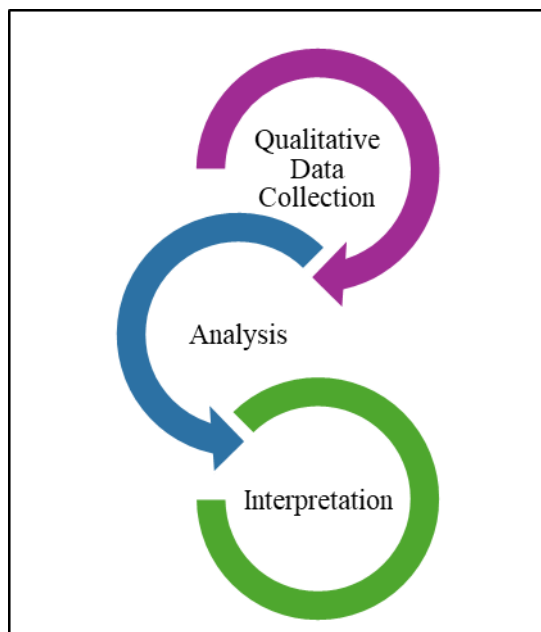


Figure 1. Qualitative Research Design by Milles and Huberman.

RESULT AND DISCUSSION

Blended Learning Based on the Flipped Classroom: An Innovative Learning Model

The adoption of information technology in education and learning, especially as an alternative post-pandemic, has undoubtedly transformed teaching activities, shifting from traditional face-to-face methods to digital or online-based learning. However, online learning presents several challenges, including the lack of immediate feedback between teachers and students during the delivery of material (Diasti, 2021). As a result, a solution is needed to address the shortcomings of online learning, specifically by combining face-to-face classroom instruction with online learning.

Blended learning is an innovative approach that allows learning materials to be delivered both online and in the classroom (Husamah, 2014). According to Staker, blended learning is a formal education program that allows students to

learn in two ways: online with structured information and instructions, and offline, where they have control over the time, place, and pace of their learning (Widiara, 2018).

It can be concluded that, according to experts, blended learning is a learning approach that combines classroom-based or face-to-face learning with technology and information-based online learning.

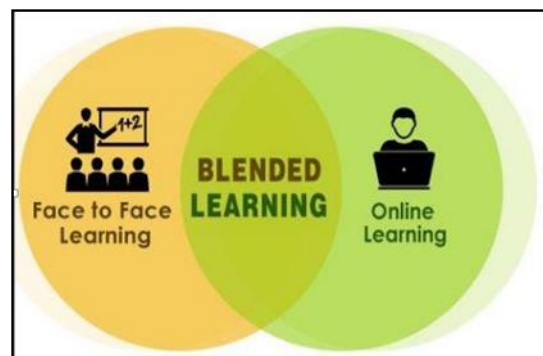


Figure 2. Blended Learning Illustration (Nugroho, 2020).

Blended learning can be conceptualized in three primary ways: (1) the integration of traditional face-to-face learning with online, web-based approaches; (2) the combination of various media and tools, such as textbooks and digital resources, in an e-learning environment; and (3) the amalgamation of diverse teaching-learning strategies, irrespective of the technology employed (Sukarno, 2011). Chaeruman (2017) highlights that blended learning combines the advantages of two distinct learning environments: classroom-based learning and e-learning.

Online learning, as a core component of blended learning, can be categorized into two types: synchronous and asynchronous. Synchronous learning occurs in real-time, where participants interact simultaneously via computers or mobile devices. Examples include text chats and video conferences. Asynchronous learning, on the other hand, allows learners to engage with educational materials at their own pace,

resembling self-study, often supported by online tools for engagement (Diasti, 2021). Combining these two modalities within an online framework creates an engaging and dynamic learning experience. This perspective aligns with research by Dziuban et al. (2018) and Kalantarrashidi et al. (2015), who argue that blended learning not only enhances the richness of the learning experience but also improves learning outcomes and increases student satisfaction.

According to Driscoll (2002), blended learning can be understood through four key concepts: (1) the integration of web-based technologies into learning processes; (2) the incorporation of diverse theoretical frameworks, including behaviorism, constructivism, and cognitivism; (3) the combination of multiple technologies, such as videos, multimedia, and CD-ROMs, with traditional face-to-face learning; and (4) the merging of learning technologies with practical assignments to positively impact learning outcomes.

The success of blended learning also relies on balanced roles between educators and parents. Educators act as facilitators, guiding learners through structured material delivery and program utilization, while parents provide necessary support for the learning process (Utaminingsyas & Evitasari, 2021). A notable model within blended learning is the flipped classroom, which enables students to prepare for lessons before attending in-person sessions. This approach encourages deeper discussions and active participation during face-to-face sessions, as students engage with pre-uploaded materials online before class. During in-person interactions, lecturers lead discussions and collaborative group activities, fostering both independent and collaborative learning. Pierce and Fox (2012) argue that the flipped classroom model effectively introduces key concepts, sparks curiosity,

and prepares students for in-class learning activities.

Research conducted at the Faculty of Tarbiyah and Teacher Training, UIN Raden Intan Lampung, found that lecturers prefer the flipped classroom-based blended learning model due to its potential to foster relational learning among students. As the university transitions to an online learning ecosystem, it emphasizes infrastructure development, strategic decision-making, staff capacity-building, and curriculum improvements to support this shift. In this evolving educational landscape, intelligence and creativity have become critical attributes. Schools and universities are seeking solutions that allow for flexible on-campus and off-campus study, with the flipped classroom-based blended learning model emerging as a key approach. This model ensures continuity in learning, offering flexibility while maintaining student engagement.

In conclusion, the flipped classroom-based blended learning model addresses many limitations of purely online learning, offering a robust and innovative alternative, particularly in the post-pandemic era. By integrating online and offline learning environments, this approach encourages independent and collaborative learning, ensuring a more flexible and enriched educational experience.

Implementing Flipped Classroom-Based Blended Learning as an Educational Solution

The flipped classroom-based blended learning model utilizes a class rotation system, enabling students to alternate between in-class and online learning environments (Utaminingsyas & Evitasari, 2021). The implementation process includes the following steps:

1. Preparation: Lecturers prepare learning materials via the Learning Management System (LMS) and hold an initial meeting (face-to-face or

- virtual) to present the learning objectives and establish the learning contract.
2. **Group Division:** Students may be divided into two or more groups for effective engagement.
 3. **Material Access:** Learning resources, such as videos and e-books, are uploaded to the LMS for students to access independently.
 4. **Integrated Discussions:** Lecturers facilitate discussions to ensure students understand the material.
 5. **Review Sessions:** During face-to-face or virtual meetings, lecturers review unclear material and provide reinforcement.
 6. **In-Class Assignments:** Students work on problem-solving tasks collaboratively.
 7. **Assessment:** Quizzes or exercises are conducted to assess understanding.
 8. **Feedback and Reinforcement:** Lecturers provide corrections, clarifications, and reinforcement based on student responses.

At the Faculty of Tarbiyah and Teacher Training (FTK), UIN Raden Intan Lampung, the lecture policy incorporates a 60% face-to-face and 40% online format. Learning resources and instruments are uploaded to the campus's e-learning platform, allowing students to access materials anytime and anywhere, even before formal learning begins. Face-to-face sessions are used for discussions, material reviews, corrections, and reinforcement. Practical activities and student performances are also facilitated during these sessions.

Basyah (2018) successfully implemented the flipped classroom model for multimedia technopreneurship materials, combining exercises such as quizzes and Q&A sessions, which lecturers can conduct either online or in-person. Offline sessions provide students

with greater autonomy in independent learning (Wicaksono & Rachmadyanti, 2016), as lecturers utilize online materials to complement face-to-face interactions. For online learning, a variety of platforms, including Zoom, Google Meet, Instagram, WhatsApp, and Edmodo, can be used to facilitate reviews, discussions, and assignments.

According to Syahputra and Saragih (2021), educators consider online platforms to be highly effective for e-learning. Technology-based learning enhances the learning experience and improves technological literacy among both educators and students (Mahyiddin & Amin, 2022). However, integrating technology effectively into learning requires significant time, effort, and resources, with challenges such as time constraints, training needs, access to technological experts, and infrastructure limitations.

Online learning provides opportunities for collaboration, discussion, and interaction without necessitating face-to-face meetings. This approach is cost-effective, energy-efficient, and time-saving. Lecturers can enrich the learning process by providing supplementary materials via online platforms. However, challenges remain, including the need for meticulous planning, particularly for creating instructional videos (Abeysekera & Dawson, 2015). Additionally, inadequate infrastructure—such as limited bandwidth, unstable networks, and insufficient devices—can hinder effective implementation. Before beginning the learning process, both lecturers and students must ensure the availability of essential tools, including reliable networks, sufficient bandwidth, and appropriate communication devices like smartphones, tablets, or laptops.



Figure 3. The General Pattern of Flipped Classroom (Kusnandar, 2021).

Figure 3 illustrates the sequence of flipped classroom learning, starting with home-based activities, transitioning to in-class learning, and concluding with follow-up activities. Blended learning, supported by the flipped classroom method, streamlines the learning process for students and provides lecturers with an alternative, effective approach to achieving learning objectives. Busebaia and John (2020) argue that the flipped classroom model is particularly well-suited for the digital era, significantly enhancing students' comprehension of instructional materials. Moreover, this approach promotes self-study, allowing students to develop independent learning skills without reliance on face-to-face meetings with lecturers.

Lecturers at the Tarbiyah and Teacher Training Faculty of UIN Raden Intan Lampung have observed that the flipped classroom model better prepares students for in-class learning, fostering independence and improving learning satisfaction. These findings align with Bergmann and Sams, who emphasize that the flipped classroom method, compared to traditional teaching models, encourages active student participation during class sessions. By integrating flipped classroom-based blended

learning, instruction centers around active learning principles, enabling students to take greater ownership of their education (Utaminingsyas & Evitasari, 2021).

El Rizaq and Sarmini (2021) further demonstrate that blended learning is one of the most effective educational strategies for the digital age and post-pandemic settings. This approach promotes flexibility, enabling students to independently clarify material they find challenging. Lecturers, in turn, can differentiate instruction to meet the diverse needs of students (Staker & Horn, 2012). Through this model, students spend less time passively consuming lectures in online forums and more time engaging with pre-prepared materials. At the conclusion of each session, lecturers reinforce the learning by providing clarifications and explanations, allowing students to deepen their understanding, explore concepts beyond the classroom, and solve problems independently or collaboratively.

This study stands out from previous research by providing a comprehensive analysis of the blended learning model using the flipped classroom approach in higher

education—an area that remains underexplored. The findings indicate that this approach is both innovative and practical, significantly increasing active student engagement. Many students expressed a preference for this method over traditional approaches, particularly in the context of post-pandemic education. As highlighted, the flipped classroom-based blended learning model enhances students' educational experiences and outcomes by fostering active learning, self-confidence, independence, problem-solving abilities, critical thinking, and technological proficiency. Consequently, this model serves as an effective educational solution for post-pandemic scenarios and aligns with emerging trends in education.

CONCLUSION

Based on the findings and discussions regarding the implementation of the flipped classroom-based blended learning model by lecturers at the Faculty of Tarbiyah and Teacher Training, UIN Raden Intan Lampung, this approach effectively encourages students to explore, research, and gather information across various fields. This model offers several significant advantages, including the flexibility for students to learn at their own pace, anytime and anywhere. It also prepares students for upcoming class material, fostering curiosity and enthusiasm during in-class activities. Furthermore, the flipped classroom model simplifies the learning process, enabling active student engagement without requiring constant face-to-face interactions with lecturers. Given these benefits, the flipped classroom-based blended learning model is particularly well-suited for application at the Faculty of Tarbiyah and Teacher Training, UIN Raden Intan Lampung. This approach addresses challenges related to time and distance constraints, thereby enhancing the efficiency and effectiveness of

learning delivery. Moreover, it aligns well with the demands of the new normal era, where flexibility and digital integration are paramount. In conclusion, blended learning using the flipped classroom method is a practical and innovative educational solution, facilitating effective teaching and learning processes in higher education. Its adaptability and focus on student-centered learning make it a valuable approach for addressing contemporary educational challenges and opportunities.

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