JOURNAL OF SOCIAL AND HUMANITIES SCIENCES RESEARCH (JSHSR)
Uluslararası Sosyal ve Beşeri Bilimler Araştırma Dergisi

ISSN:2459-1149

Article Type	Received / Makale Geliş	Published / Yayınlanma
Research Article	03.11.2020	30.12.2020

http://dx.doi.org/10.26450/jshsr.2209

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Citation: Kayalar, F. & Kayalar, F. (2020). Sub-model of blended learning: Flipped classroom model. *Journal of Social and Humanities Sciences Research, 7*(63), 3790-3796.

SUB-MODEL OF BLENDED LEARNING: FLIPPED CLASSROOM MODEL

ABSTRACT

Rapid developments in science and especially internet technologies offer new opportunities for teachers to design their lessons in a way that supports teaching and students' cognitive competencies. One of the changes that include many innovations in teaching learning approaches is blended learning, which includes several methods. Blended learning is an eclectic approach that emerged from minimizing the disadvantages of face-to-face and online learning and considering the advantages of both. The biggest problem for distance education is the lack of motivation (motivation) in students due to the lack of social interaction. Face-to-face teaching has its drawbacks, such as lack of time flexibility and being in the classroom three or four days a week. This situation has pushed education researchers to develop a new model. Researchers have proposed a new teaching model called blended learning that combines the active aspects of both models (face-to-face and distance learning). Undoubtedly, efforts in this direction are based on the effort to create a more effective and efficient teaching environment. In the study, we aimed to indicate the importance of Flipped Classroom as a sub-model of Blended Learning under the light of literature. As a conclusion, we recommended some important points to support Flipped Classroom applications to be successful in the process of distance education

Keywords: Blended Learning, Flipped Classroom, Rotation Model, Flex Model, Online Lab Model

1. INTRODUCTION

In view of the trend towards increasing student numbers in many countries, new demands are placed on secondary schools and university teaching. It is important to enable optimal learning processes for a larger number of pupils. Innovative teaching and learning scenarios could meet such requirements. Especially in this area, there is increasing talk of the use of so-called "flipped" or "inverted classrooms" (Bishop, 2013; Sun, Xie & Anderman, 2018). With the increasing enthusiasm for such approaches in practice, the interest from a research perspective also grows. Various variables are examined, such as the effects of flipped classrooms on the motivation of learners (Yılmaz, 2017) as well as effects in the context of inclusive learning (Altemueller & Lindquist, 2017), effects on the self-regulatory ability of learners (Sun, Wu & Lee, 2017) or on learning performance (Chen Hsieh, Wu & Marek, 2016). It is noticeable that there is often no clear separation between different educational concepts, such as flipped classrooms, discovery learning or blended learning. Numerous studies on the effectiveness of flipped classrooms come from the higher education sector rather than the school context. This results in insufficient knowledge regarding the effectiveness of the concept in the school context (Lo, Lie & Hew, 2018). Gillette et al. (2018) warn against the frivolous expansion of the flipped classroom concept to teaching and learning rooms in view of the high expenditure of time and resources with simultaneously low positive effects on learning performance. Central statements about possible effects of flipped classrooms are difficult to make on the previous basis - despite some references in the scientific literature. The lack of evidence does not seem to slow down the euphoria of the self-proclaimed "innovation educator", but even to stir it up.

Meeting the diverse needs of individual students has always been a challenge for teachers. With just so many minutes in a classroom or too many hours in a day, teachers struggled to provide talented, average,

and vulnerable students and honor all their learning styles. Adding online learning experiences to face-to-face delivery has been a solution to these struggles, and research seems to point to the achievements of these hybrids.

2. BLENDED LEARNING

Blended learning is a teaching method in which online education content is blended with traditional teaching approaches. Computer-mediated activities are combined to blend the learning experience for students, while requiring the physical presence of teachers and students; students have some control over the time, pace, and location of lessons.

In blended learning (or hybrid learning), the definition and form of implementation vary greatly (Lenz, Köttgen & Isenhardt, 2016; Zumbach, 2010; Zumbach & Astleitner, 2016). Reinmann (2005) and Kayalar (2020) describe blended learning as a label capable of consensus for teaching and learning concepts that regard digital media as an integral part of learning environments and focus specifically on the added value of digital media for the optimization and expansion of face-to-face learning. The term encompasses a broad field of classroom-related, classic and innovative forms of organization, including media and methods. In general, this form of learning relates to positive aspects of face-to-face teaching and learning and at the same time exploits the advantages of teaching and learning with new media (Lenz et al., 2016). The media that can be used vary greatly, so that the Internet, computer-based training and web-based training, but also audio, handouts and textbooks can only be mentioned here as examples. The organization of learning also varies insofar as phases of self-organized learning alternate with teaching-controlled episodes. In addition, there are various other forms of didactic influence on the learning process, such as trainer-teacher, team learning situation or even peer-to-peer learning. The flipped classroom can be viewed as a special form of blended learning.

Blended learning is used not only for educational purposes but also for professional training. Different blended learning models combine various levels of content distribution and interaction through digital media. The main purpose of blended learning is to provide a better teaching experience. In some cases, blended learning can also be viewed as a more personalized teaching method for better learning outcomes.

2.1. Features of Blended Learning

Osguthorpe and Graham (2003) identified six goals that teachers will adopt when designing blended learning environments. These include Pedagogical Wealth, Access to Information, Social Interaction, Learner Control, Cost Effectiveness, and Easy to Revise.

Pedagogical Richness; in blended learning, as in other learning environments, the main purpose is to move the student's learning level to the upper limit. In the blended learning environment, with the use of online technologies, the student can see the course to be taken on the web in advance and come ready for the course.

Access to Information; another purpose of blended learning is to increase the student's access to information. The purpose of blended learning is for the student to comprehend the content effectively. By getting this web support, you can send additional information about the course, pictures, videos etc. online. elements are available.

Social Interaction; learning is a situation that can occur in a social environment. The student's interest in the course increases as the student shares his / her problems, predictions, opinions and situations related to the subject. Information turns into life. Thus, the student has the opportunity to repeat the information and appropriates the information.

Learner Control; Blended Learning is a design that keeps the student in control throughout the learning period. In other words, it defends that the student's learning authority should still belong to the student. In this way, it enables the student to control himself, to have different options in making personal preferences and making decisions.

Cost Effectiveness; one of the goals of blended learning is to make learning cost effective. The amount of time spent in class for repetition decreases as the level of readiness increases, thanks to the basic

knowledge that students acquire from the websites or the skills they have acquired through the exercises on the websites.

Easy to Revise; since blended learning environments are designed and developed by the teachers themselves, the information provided in the online environment can be easily changed at any time, new information can be added or updates can be made on existing information. The teacher does not need to have the detailed programming knowledge to be able to do all this. As for the features of Blended Learning, we can count for:

- Blended learning combines traditional teaching with distance education,
- The teaching process continues with a pedagogical approach,
- In the blended teaching process, the teacher aims to increase the opportunities among learners.
- Communication between learner-learner or learner-tutor proceeds differently than traditional teaching.
- The online component becomes a natural extension of traditional classroom learning,
- The role of the tutor is different from traditional teaching.

2.1.1. Sub-models of Blended Learning

Educators have developed 6 submodels for blended learning, and teachers choose between them based on unique student populations. These are "The Face-To-Face Driver Model", "The Rotation Model", "The Flex Model", "Online Lab School Model", "Self-Blend Model" and "The Online Driver Model". Station rotation, lab-rotation, and flipped-classroom rotation are to be considered truly blended or hybrid classrooms while individual-rotation model borders on a more typical online classroom (Clayton, 2013).

The Face-to-Face Driver Model works best in a variety of classes where students work at varying levels of ability and mastery. Face-to-face model is seen as a structure for students to learn. Planning face-to-face meetings help students keep track of their time and manage their time (Adam & Nel, 2009; Hall & Villareal, 2015) and is essential to clarify problems as well as providing students with important information (Stubbs, Martin & Endlar, 2006). While providing a structure, face-to-face blended learning is understood to be flexible in terms of content that must be decided according to student needs rather than a fixed pre-selected curriculum (Adams, 2012; Swart & Wuensch, 2016).

The Rotation Model is really just a variation of the learning stations model that teachers have been using for years. There is a specific program that allows students to spend face-to-face time with their teachers and then move on to work online. This model seems to be most popular in Primary Schools. Primary education classes in which students can be divided according to their skill level in reading and mathematics. Therefore, students who perform well in math but are not good at reading can read face-to-face with their teachers before returning to online learning stations for math. Teachers can provide more individual assistance to struggling students according to their needs.

Particularly, the first model that classroom teachers directed is the Rotation Model. This category includes any subject or lesson in which students alternate between learning modalities, of which at least one is online learning - on a fixed schedule or at the teacher's discretion. Often, students alternate between online learning, small group instruction, and pencil and paper assignments in their turn. Or they could alternate between online learning and some kind of whole class discussion or project. The trick is that the clock or teacher announces that it's time to return and everyone moves on to their next assigned activity in the course. The idea of alternating between stations is absolutely not new to education. Indeed, teachers have exchanged groups of students between centers for decades, mainly at the primary level.

Flex Model relies heavily on online education delivery, and teachers act as facilitators rather than primary providers of teaching. This model appears to be the most used and most successful in non-traditional learning environments. For this reason, it is a teaching method for non-traditional students. Learning materials and instructions are delivered online and lessons are self-directed. The teacher is present on the site. Students work independently and learn to develop and create new concepts in the digital environment. Most of the time they work in computer labs. The programs of the learning methods

are individually customized and the enrollment teacher is on site. While most of the instructions are provided online, the student's needs are delivered by the enrollment teacher and adults through activities such as face-to-face support, group projects, small group instruction and individual lessons. This model provides students with a flexible learning environment. They are free to come and leave their learning facilities within the given schedule of the day. The teacher in this model acts as a mentor and places equal emphasis on providing appropriate education to students.

Content and training are primarily made available to teachers via the internet. Students receive individualized training from teachers at school from computers. The teacher transfers the lesson to the group and individually when necessary. Students work with course materials at their own pace online with face-to-face educational support. Curriculum-based online courses are given in the Blended Class.

The Online Lab model provides most, if not all, of the content remotely. This is completely different from online learning in that students come together in a traditional environment to access computers. However, no face-to-face teachers are required. The online lab model allows differentiation in education because every student in the classroom can learn different things at different levels. Also, course options are not limited to the current teaching staff. Therefore, students have access to almost unlimited options in learning and staff are limited to what is required to supervise the facility.

The Online Laboratory Model is more suitable for rural schools. Rural schools are small and poorly populated and may be under-resourced. Such schools do not have many options for students in terms of course offerings, teaching staff, and extracurricular activities. Rural students will be able to connect to a greater learning opportunity with the help of their school's computer lab. They can take a course not offered on campus or join a club with students from all over the world. This represents the online lab model at its best.

Self-blended learning is not full-time online learning. Students self-blend some individual online courses and take other courses at a brick-and-mortar campus with face-to-face teachers. Only certain courses take place online. Students choose to take one or more courses entirely online to supplement their traditional courses and the teacher-of-record is the online teacher. It is not a whole school experience. Not everyone in the school completes their education in the same way, with the same courses. The courses may be taken on campus or off-site.

Self-inclusion is not ideal for students who lack motivation and support. Students should make a great effort without the usual face-to-face communication they receive in the classroom. Self-inclusive learning is generally not suitable for young learners who have not developed discipline and independence to complete classes on their own. Self-blended learning is considered most suitable for high school students.

2.2. Flipped Classroom as a Sub-model of Blended Learning

The concept of flipped classroom has a vague basic structure in terms of the definition of terms. So far there is no uniform model in didactic basic research (O'Flaherty & Phillips, 2015). Rather, there is a wide range of measures, which are summarized under the umbrella term of inverted or flipped learning. There are certainly general core features of flipped learning approaches. Common central aspects concern, for example, a) the preparation of learning content in advance, b) the teacher's view of the learning processes of understanding, or c) the higher-order learning processes within the framework of teaching units (O'Flaherty & Phillips, 2015). The extra-curricular development of learning content usually takes place by means of lectures recorded in advance (podcasts) or other documents (e.g. teaching texts), which are usually made available via digital channels (e.g. through learning platforms). The term flipped classroom is often heavily generalized or incorrectly extended to related didactic models (Fallmann & Reinthaler, 2016; Lenz, Köttgen & Isenhardt, 2016). An explicit demarcation from the didactic generic term of blended learning, as attempted for example by Strayer (2012), is rarely found. According to Bishop (2013), there is no uniform definition of flipped classroom either. The terms flipped classroom, blended learning or discovery learning are often used synonymously.

Lienhardt (2016) criticizes the flipped classroom with regard to the learning culture that learners have acquired. Tendentially characterized by external control by teachers, a change from this subject-

centering to more personal responsibility means a significant additional effort for everyone involved. Lo, Hew and Chen (2017) also cite the lack of familiarity among learners with the learning approach as a relevant challenge. For teachers, there is a higher burden due to the new curriculum and the increased need for supervision. On the part of the learner, there must be an adequate level of self-directed learning competencies so that they can work independently on the learning material in phases outside of the classroom. Here, too, additional supervision by teachers is indispensable.

Giving students materials to prepare for the lesson has been around since the first phase of learning. But with learning platforms, flipping your classroom is now easier and more efficient. In the traditional teaching model, students learn theory in class and then practice with homework at home. In the inverted classroom model, this is reversed. This model better prepares students for work in the classroom. Therefore, teachers can be more effective in-class time. A primary school teacher in Norway tried this and he said he was able to talk less in class and deal with more students individually. The teacher adds the theory of the work he will do in the next lesson to the learning platform as homework for the students by making videos. For homework, students watch the video and the teacher runs a quick digital test to check if the students understand the theory. This test analyzes whether any student understands the theory. The reason this information is important is that the teacher can plan the next lesson more effectively and focus more on the areas students need more help. He can understand which student has more difficulty and spend one-on-one time.

Teaching with an inverted learning model makes learning more effective. Watching videos is a low cognitive stage. Everything requires the absorption of information and some critical thinking. Another one, on the other hand, completing the tasks requires high cognitive problem-solving skills. Thanks to inverted classrooms, this highly cognitive job is done in the classroom with the help and guidance of teachers, encouraging students to learn beyond what they know. Setting up inverted classes ensures that students are made an environment according to their individual needs.

3. RESULT AND SUGGESTIONS

When examined in the context of combining different learning approaches in addition to the positive effects of blended learning, the design of blended learning environments is related to multiple factors such as the instructor, the teaching designer, the students and the communication / interaction styles between them, the learning environment, the learning content and these effective blended learning design. This is a situation that makes it difficult to achieve (Dağ, 2011).

The following recommendations can be made for the components that should be in the design of blended learning.

- Considering the necessity of using more than one learning approach in design, blended learning should be considered as an instructional design approach.
- Different learning methods such as project-based learning, collaborative learning, role-based learning should be included in the blending.
- Course materials created for blended learning; It should be specially designed for blended learning in different formats (sound, image, writing), taking into account the learning styles of the students, enabling students to learn at their own pace.
- The blended learning environment should be enriched with learning activities to be offered with e-learning methods. For example, after a face-to-face lesson, presenting exams with questions in different question types that are presented to the student in an e-learning environment, which can be accessed and used at any time, will be beneficial for the student to consolidate the knowledge learned. E-learning tools such as forums, chat tools, discussion boards, instant message services should definitely be used as learning activities in the learning environment, and the use of these tools by students should be evaluated in the course.
- After the decision to implement blended learning, raising the students' awareness about this issue and making studies to increase their motivation and self-efficacy are the situations that should be taken into consideration in planning for the successful implementation of blended learning.

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