Theoretical Analysis in the Context of the Flipped Learning Model

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Abstract:

In this article, learning-teaching in the context of flipped learning model theories and approaches, which are important in order to be applied effectively in the learning process. It is aimed to make a theoretical analysis of the issues. This article It is a narrative based review article. The findings obtained within the scope of the study are as follows can be summarized. With educational technology and face-to-face activities that positively affect learning environments, flipped learning model, which is defined as a new learning model that is facilitated It is one of the blended learning models. In the flipped learning model, the student bases reaches the level of knowledge outside the classroom, and in-class time is used in higher education such as discussion, application and problem solving. level skills. autonomous self theory, cognitive load theory, self-regulated learning,

The flip side based on learning-teaching theories and approaches such as constructivism and active learning. The enhanced learning model has many advantages over the traditional learning model.

Many studies in the literature that concluded that it has a positive effect on available. The fact that the flipped learning model is the subject of more research, application examples need to be increased and disseminated.

INTRODUCTION

There have been major changes in the world affecting many sectors such as education, health, technology and food in certain periods, and these periods are referred to by different names according to the changes and developments experienced.

While the era of the world was called the industrial age with major developments in business fields such as transportation, industry and energy in the 1945s, the industrial age was replaced by the information age with the availability of the internet in the 1980s and its rapid spread in the 1990s (Bell, 1999).

It is safe to call the 21st century the age of technology, when technology is developing, changing rapidly and it is easy to access, disseminate and learn information. The effects of technological developments in our current era are seen in the field of education as well as in all areas.

With the technological developments experienced, it has become inevitable that technology will enter the classroom. In addition, with the emergence of various learning approaches, it was raised that the learner should be centered, and in addition to acquiring the knowledge of the learner, equipping him with many different skills such as critical thinking, creative thinking, problem solving and cooperation has been an important goal of education (Gerstein, 2014).

When studies on educational technologies are examined, it is seen that different technological tools are used in in-class applications and different learning approaches are used with it (Farah, 2014; Johnson and Renner, 2012; Yestrebsky, 2015). Blended learning is one of these approaches.

Blended learning, which is created by blending the strengths of face-to-face and distance learning (Garrison and Kanuka, 2004), is an approach that takes advantage of both learning environments. In other words, it is a combination of learning activity that the student carries out outside the classroom with various online tools, where he or she can adjust his/her time, location and speed according to his needs, and face-to-face education within the classroom

(Staker and Horn 2012). In other words, the student benefits from both technology-assisted learning environments and face-to-face teaching.

Online teaching can take place simultaneously with electronic materials such as text, video, audio recording, or activities such as forum discussions, or simultaneously with applications such as instant messaging, voice/video conferencing, or distance learning platforms (Hew and Cheung, 2014).

Face-to-face teaching takes place within the classroom. In addition, blended learning increases access between student and teacher, costs are reduced, and in-class time can be used more actively and more efficiently (Stein and Graham, 2014).

When the relevant field is examined in the summer, it is seen that different classifications are made for the blended learning model. Rossett and Frazee (2006) divided blended learning into three groups, Twigg (2003) into five groups, and Staker and Horn (2012) into four groups (act). Staker and Horn, 2012). The classification made by Staker and Horn (2012) is as follows.
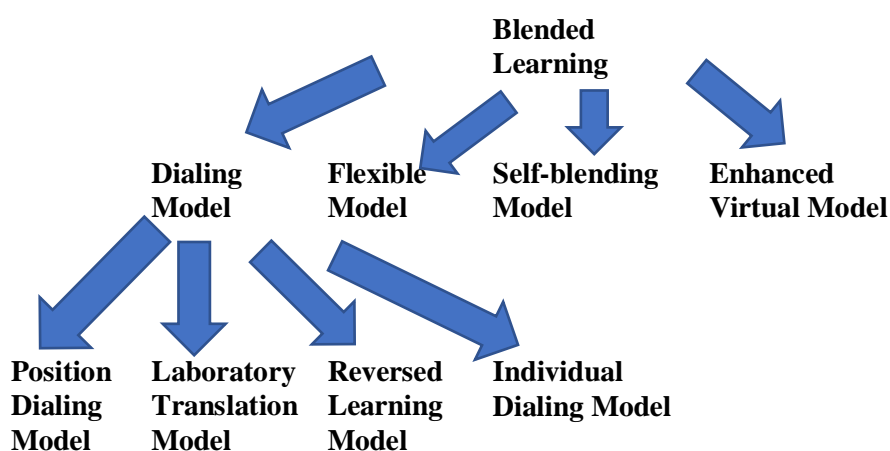
Figure 1. Blended Learning Types

In the translation model, which is one of the blended types of learning, the student switches between different learning environments either according to a program or according to the guidance of the teacher in a course or subject (Staker and Horn, 2012).

At least one of these learning environments should be an online learning environment, while other learning environments can be face-to-face learning, group work, project assignments. The inverted learning model under the heading Flip model is one of the models that best blends face-to-face training and technology with the benefits of enriched online learning environments. This research focuses on the inverted learning model from the translation models.

This study is important for detailing all the basic foundations and characteristics of the inverted learning model. In-depth explanations of the model will guide the effective applicability of this model in the learning-teaching process, and the necessary measures will be taken with the knowledge of its possible limitations in advance. In this study, it is aimed to discuss the reversed learning model comprehensively within the framework of the following basic topics;

1.   Description and basic features of the reversed learning model

 2. Comparison of the inverted learning model with the traditional learning model.

3. Learning-teaching theories and approaches that support the reversed learning model.

4. Advantages and disadvantages of the reversed learning model.

At the end of the comprehensive field summer screening for the purpose of the research, ten

steps proposed by Pautasso (2013) were applied in the process of summarizing, synthesizing and making comparisons of the information obtained about the reversed learning model.

Table 1 Ten Steps applied in summarizing, synthesizing and comparing the obtained information

1. Determination of the subject:	The subject of this compilation study is the inverted learning model.
2. Many of the field writing scanning times:	The subject of the research was scanned in the international field article with concepts such as "flip learning", "flipped classroom", "inverted learning" and "flipped learning", and in the domestic field writing using concepts such as "converted education", "converted classrooms", "inverted learning" and "inverted classrooms".
3. Notes during reading Be:	When reading the resources obtained as a result of extensive field summer scanning notes have been taken in accordance with the purpose of the research.
4. Want to write decision on assembly type Giving:	Compilation studies are divided into narrative and systematic compilations Strands. Quantitative findings in systematic review articles while performing meta-analysis studies using qualitative resources are used in articles
5. The compilation of a focus on:	In the study, we found that what the inverted learning model was was based on learning-teaching theory that supports this learning model and approaches, the similarity between the traditional learning model and focused on differences
6. A critical and consistent attitude:	The field is based on the quality of resources reached in the summer scan and critically when deciding on the relationship. Located whether the quality and accuracy of the work is consistent with other studies is determined by checking.
7. A logical structure Establishment:	After reading and analyzing the sources, the research questions and topics have been determined within the framework of the questions.

8. Browse feedback in front of:	Research questions and topics are fully covered and the draft research is submitted to the expert opinion.
9. On the subject authors' studies impartial inclusion in the assembly:	The authors have not yet been informed of the issue before this study. there is no work.
10. Current including studies:	Important studies in this field are up to date without being ignored studies have been tried to be focused.

key features

1. Learning may not always occur in inverted classrooms.

2. With inverted classrooms, teachers can prepare additional materials such as videos and text that students can access outside of school and move some in-class activities out of the classroom.

3. Inverted classrooms are a logistical arrangement and include activities such as preparing infrastructure, enrolling students in online learning environments, uploading learning materials to these environments. However, inverted learning focuses on students' learning and achievements, namely the process (Lafee, 2013).

Defined as a new learning model facilitated by educational technology and face-to-face activities that positively affect learning environments (O'Neil, Kelly and Bone, 2012), the inverted learning model is a blended learning model in which the student reaches basic level knowledge outside the classroom, while in-class time is divided into high-level skills such as discussion, implementation and problem solving (Johnson, 2012).

Two of the important concepts for the inverted learning model are "place and activity". The first of the concepts is "Place" inverted learning model as "individual field" and "group area" in two ways (Talbert, 2017).

However, it should be known that the word field does not only refer to physical space, but also the emotional, intellectual and psychological contexts that the student is subjected to when performing learning activities. "Individual space" means the work that the student does alone or with small groups outside of official classroom meetings.

The student can study alone in the dorm room, at home or in a café, or to meet with friends at weekends and study in the library, or via Skype (Talbert, 2017).

With the "group area", the activities of the student with his friends in the classroom are tried to be explained. The learning activities carried out by all students in the classroom either together or together with the in-class groups created by the teacher of the course are within the scope of the group area. "Activity", another important concept for the inverted learning model, can be discussed in two ways: the use of the narrative method and active teaching methods. (Talbert, 2017).

With active learning, the student takes responsibility for his own learning as part of group area activities and is actively involved in this process (Talbert, 2017). However, at this point, it would be wrong to say that active learning has an advantage over the narrative method. In line with the needs of the students, it is right to use active learning methods when necessary.

Inverted Learning Network (2014) :

FLIP

| FLEXIBLE ENVIRONMENT | LEARNING CULTURE | INTENTIONAL CONTENT | PROFESSIONAL EDUCATOR |
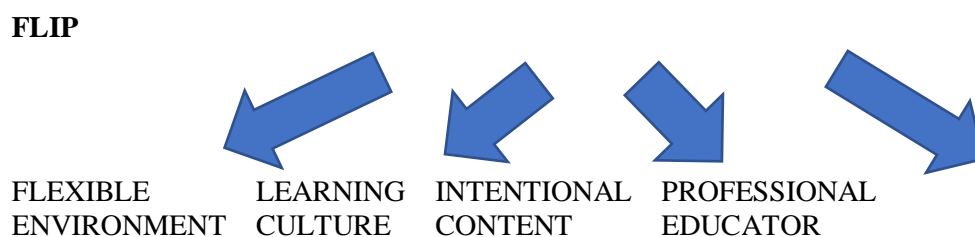
Figure 2. Four Components of the Reversed Learning Model

Table 2 Comparing The Distribution of Time Allocated to In-Class Activities in the Implementation of Traditional Learning and Inverted Learning Models

Traditional Learning Model		Reversed Learning Model	
Activity	Duration	Activity	Duration
Warming activity	Five minutes.	Warming activity	Five minutes.
Handout control and feedback	Ten minutes.	Q&A activity	Ten minutes.
Presentation of new content to the student	20-25 min.	Guidance and independent implementation Events	Thirty minutes.
Guidance and independent implementation Events	5-10 min.		

Source: (Bergman & Sams, 2012)

As shown in Table 2, the time allocated to in-class activities varies in both learning models. In traditional learning, most of the course is assigned to the control of the assignment given in the previous course and the presentation of the content of the new course, and there is limited time for various activities or practices related to the subject being processed.

Learning-teaching theories and approaches that support the reversed learning model In order to better understand the reversed learning model, it is necessary to understand some learning-teaching theories and approaches that support this model from the fields of educational psychology and cognitive psychology. It is possible to classe these theories and approaches as follows.

The inverted learning model allows this due to the effective use of in-class time compared to the traditional learning model. However, when the learning activities prepared by the teachers are not directly related to the knowledge and skills that are intended to be gained to the student, and the students have to participate in some cognitive activities that stray from their learning purposes, the cognitive load generated by these activities can also hinder the students' intended skills acquisition. (Chandler & Sweller, 1991).

Advantages and Disadvantages of The Reversed Learning Model

Every learning approach or teaching method can have its superiorities or limitations. This also applies to the reversed learning model. Limitations cover a variety of principles and situations that need to be considered in order to be applied effectively, rather than explaining why the learning model cannot be implemented. In this context, the benefits will increase when the relevant limitations are eliminated.

When the relevant field is examined in the summer, it is possible to table the advantages and disadvantages of the inverted learning model as follows (Bergmann & Sams, 2012).

Table 4 Advantages and Disadvantages of The Reversed Learning Model

Advantages	Disadvantages
Students can view videos or audio of the course when and when they want their records each student can learn according to their own speed of comprehension, as they can often watch.	Students can use computer and internet has the necessary technological facilities Not.
Students have the opportunity to ask the teacher their possible questions about the subject because they do the applications that reinforce the subject in the classroom instead of outside the classroom.	Students' videos before class time to check if you are watching and requires intensive effort.
It allows students to develop their high-level skills.	Students can learn how to take a class without watching videos even if they participate in in-class activities causes them to fail to grasp the subject.
The teacher may take more care of his students individually and design various activities for individual differences.	Students can make lesson videos outside the classroom incomprehensible wrong because they can't ask questions at the point learning is likely to occur.
In classroom time, students have the opportunity to structure information because they work with their peers.	Inadequate individual learning disadvantaged students, learning knowledge they are alone in the process.
It increases the interaction between teacher-student and student-student.	Difficult to create internal motivation students' lessons in extracurricular time videos or audio recordings can be difficult to do.
Students have their own learning responsibilities they'll take over.	Teachers, students various courses so that they can watch before it takes time to prepare materials and it takes a lot of work.

Students' attitudes, motivation and achievements towards the course can be observed.	
The use of technology in teaching and the 21st century. It supports 19th-century learning.	

When the field is examined in the summer, it is seen that there are many studies that achieve similar results with the advantages and disadvantages of the reversed learning model mentioned in Table 4.

Discussion

In the inverted learning model, it can be defined as a student-centered pedagogical approach in which direct narration is shifted from group area to individual area, making the group area more dynamic and interactive under the guidance of the teacher and transformed into an active learning environment where the student uses his/her high-level thinking skills (FLN, 2014).

The inverted learning model is based on autonomous self and cognitive load theories, self-regulation, configuration and active learning approaches. The model has many superior aspects to the traditional learning model. (Bergmann & Sams, 2012).

In the traditional model, most of the ordinary course hours are passed by warm-up activities, homework control and presentation of new content, while in a classroom where the inverted learning model is applied, after the students' control of the information they have learned before the course and a short question and answer event to correct the missing or incorrect information, if any, a significant part of the course will be problem solving for the purposes of the course to be held on that day, it is spent with activities such as critical thinking and practice.

Based on the refurbished Bloom taxonomy, we can explain this application as follows. Basic learning, such as remember and understand, occurs outside the classroom, and high-level learning such as apply, analyze, evaluate and create takes place within the classroom.

 At the same time, by communicating with students on the basis of social media, it also increases the interaction of learners, learners and teachers. This interaction is an important requirement for an inverted learning model to be carried out through various synchronous or asynchronous platforms to be even more effective.

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