Impact of the Flipped Learning Model on First Year Algerian EFL Degree Students' Reading Ability: A Blended Learning Approach

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Abstract

Flipped learning has garnered much attention from researchers since it is considered as an innovative instructional method that meshes online learning with face-to-face learning. Within the framework of sociocultural theory, this research study focuses on the use of mediation and collaboration in the learning process and aims at investigating the impact of flipped learning on developing Algerian first year EFL degree students' reading ability at the university of Algiers 2 as well as exploring their perceptions of using flipped learning. To this end, this research study is quasi-experimental and consisted of 100 participants divided into 50 experimental subjects and 50 control subjects. Data were collected through administering a reading test to both groups under study and a perceptual questionnaire to the experimental group only. The findings reveal that flipped learning has significantly a positive impact on developing experimental subjects' reading ability. Moreover, the experimental subjects expressed positive perceptions of using flipped learning to develop their reading skill. This research article concludes with pointing out some implications for implementing flipped learning in EFL classrooms and casts new light on this model.

Keywords:

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أثرُ نموذج التعلم المعكوس في قدرة طلاب السنة الأولى إنجليزية لغة أجنبية بالجزائر على القراءة: مقاربة تعليمية مدمجة

الملخص

لقـد اهتـم الباحثـون بالتعليـم المعكـوس أيمـا اهتمـام لكونـه منهجـا تعليميـا مبتكـرا، فهـو يدمـج التعلــم عبــر الإنترنــت بالتعلــم المبـاشر. في ظـل النظريـة الاجتماعيـة-الثقافيـة، تهتـم هـذه الدراسـة عـلى اسـتخدام الوسـائط التربويـة والتعـاون أثنـاء التعلــم وهدفهـا دراسـة تأثيـر التعليـم المعكـوس عـلى تطويـر قـدرة القـراءة عنـد طـلاب السـنة الأولى إنجليزيـة بجامعـة الجزائـر 2 و استكشـاف تصوراتهـم حـول اسـتخدام التعليـم المعكـوس. مـن أجـل ذلـك، قمنـا بدراسـة بحثيـة شـبه تجريبيـة عـلى عينـة مـن 100 مشـارك مقسـمين إلى 50 مشـارك في المجموعـة التجريبيـة و 50 مشـارك في المجموعـة الضابطـة. جمعنـا البيانـات بإجـراء اختبـار القـراءة لـكل مـن المجموعتيـن قيـد الدراسـة و توزيـع اسـتبيان مـا بعـد الامتحـان للمجموعـة التجريبيـة فقـط. وقـد كشـفت النتائـج أن التعليـم المعكـوس لـه تأثيـر إيجـابي عـلى تطويـر قـدرة الطـلاب عـلى القـراءة وقـد عـبر المشـاركون التجريبيـون عـلى تصـورات إيجابيـة لاسـتخدام التعليـم المعكـوس لتطويـر مهاراتهـم في القـراءة. و يشـير هـذا المقـال في الأخيـر إلى بعـض التوصيـات تحـث عـلى اسـتخدام التعليـم المعكـوس في أقسـام اللغـة الإنجليزيـة والمـضي قدمـا نحـو دراسـات مسـتقبلية تهتـم بالتعليـم المعكـوس.

الكلمات المفاتيح:

التعاون - التعليم المعكوس- الوسائط التربوية - مهارة القراءة.

L'impact du modèle d'apprentissage inversé sur la capacité de lecture des étudiants algériens de première année d'anglais langue étrangère: une approche d'apprentissage mixte

Résumé

L'apprentissage inversé a beaucoup attiré l'attention des chercheurs puisqu'il est considéré comme une méthode pédagogique innovante associant l'apprentissage en ligne et l'apprentissage en face à face. Dans le cadre de la théorie socioculturelle, cette étude porte sur l'utilisation de la médiation et de la collaboration dans le processus d'apprentissage et vise à étudier l'impact de l'apprentissage inversé sur le développement des capacités de lecture des étudiants algériens de première année en EFL. À cette fin, une étude quasi-expérimentale est menée avec 100 participants répartis en 50 sujets expérimentaux et 50 sujets témoins. Les données ont été collectées en administrant un test de lecture aux deux groupes étudiés et un questionnaire perceptuel au groupe expérimental uniquement. Les résultats ont révélé que l'apprentissage inversé avait un impact remarqué sur le développement des capacités de lecture des étudiants. De plus, les participants expérimentaux ont exprimé une perception positive de l'utilisation de l'apprentissage inversé pour développer leurs compétences en lecture. Cet article conclut en soulignant certaines implications pour l'application de l'apprentissage inversé dans la classe EFL et en apportant un nouvel éclairage sur les futurs travaux portant sur l'apprentissage inversé.

Mots clés:

Collaboration - apprentissage inversé - médiation - capacité de lecture.

Introduction

With the advancement of new technologies, variegated up-to-date pedagogical approaches an+d models have been forged for the purpose of increasing students' learning and enabling them to achieve better learning outcomes. Nowadays, students are digitally-oriented, and thus, need a learning approach that merely reflects their profile. Therefore, selecting different teaching methods and learning strategies that fit students' learning styles and needs can contribute to enhancing their language skills and motivating them to engage in active learning, thereby placing them at the heart of the learning process. The flipped learning model, as part of a blended learning approach, has gained much attention and adherents among researchers and scholars to be considered as an innovative learning model that conflates the use of technology with sound pedagogy to meet the requirements and the demands of the globalized epoch in general and the changing profile of the students in particular. This learning model is applicable to different language skills among which the reading skill. The latter is believed to be heightened by including and implementing mediational tools, such as technology, to help students extend the learning hours beyond classroom education, thereby scaffolding students' learning, practising their reading skill extensively and having more control over their learning process.

1. Objectives of the study:

The present research's first objective is to examine the effect of the flipped learning model, as part of a blended learning approach, on developing students' reading ability at university of Algiers 2. The second objective is to find out students' perceptions of engaging in a flipped learning environment to develop their reading skill. The present study addresses the following research questions:

Question 1: To what extent does a flipped learning model develop students' reading ability?

Question 2: How do students perceive this model?

Two research hypotheses are formulated:

Hypothesis 1: The flipped learning model has a positive impact on student reading ability.

Hypothesis 2: The students have a positive perception of this model.

This study highlights the benefits of meshing two learning contexts namely face-to-face and online learning for the purpose of enhancing students' reading outcomes and improving teaching practices. It can also broaden teachers' vista

towards adopting flipped learning model in EFL classes to cater to different learning styles.

2. Theoretical background:

2.1. The Flipped Learning Model as part of blended learning approach:

Known as the inverted classroom or flipped classroom, flipped learning is a recent and prevailing instructional model that is based on a blended learning approach. The latter amalgamates face-to-face learning with online learning in order to maximize and leverage students' learning outcomes (Snart, 2010). Although different researchers have defined flipped learning differently, there seems to be a consensus among them. According to the definition provided by Bergmann and Sams (2012), the flipped learning model moves the presentation of instructional content outside class while class time is devoted to doing homework and involving students in active learning. Therefore, "*it is called the flipped class because what used to be classwork is done at home via teacher-created videos, and what used to be homework (assigned problems) is now done in class.*" (Bergmann et al, 2012, p.13). This definition is close to that of Correa (2015) who referred to the term flipped learning as "*What traditionally has been taking place inside the classroom now takes place outside the classroom and vice versa.*" (p.115). Hence, flipped learning consists of watching instructional videos or lessons and doing quizzes to reinforce students' understanding prior to classroom learning, and this is supported by face-to-face instruction that hinges on doing homework in class to engage students in active and deep learning (Fulton, 2012). In lieu of being passively lectured, this reversal was seen as crucial to give students a chance to be actively questioned (Mazur, 2009; Strayer, 2012), thereby revisiting the learning process to involve language learning communities where students act and react, rather than just replacing or embellishing the lecture/lesson with technology.

Furthermore, the flipped learning model stands on Bloom's revised digital taxonomy where the lower order thinking skills (LOTS) are practiced outside class, and higher order thinking skills (HOTS) are executed in class (Anderson et al., 2001). Low order thinking skills such as understanding, remembering and some application are practiced prior to face-to-face learning through online learning; however, higher order thinking skills like: analyzing, evaluating and creating are practiced in class (See Figure 1).
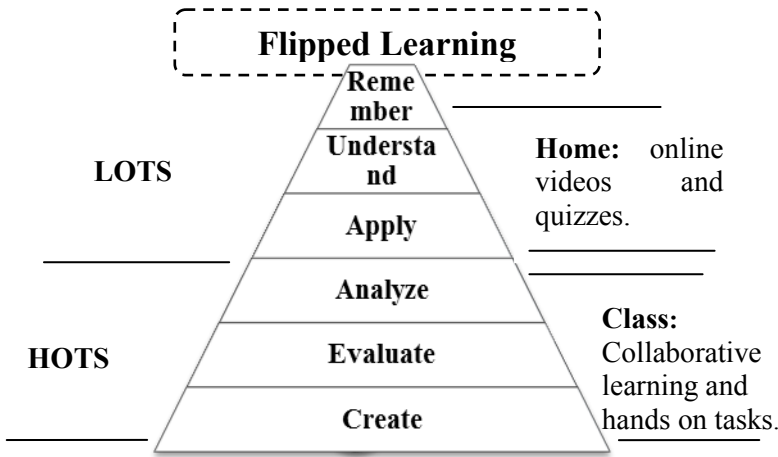
Figure 1: Flipped Learning Model (Anderson, Krathwohl & Bloom, 2001)

From this perspective, lower order thinking skills are best practiced before class in order to enable the student to have some background knowledge before coming to class so that class time will be devoted to higher order thinking skills through supporting the students with adequate scaffolding, feedback and hands-on tasks that may help them upgrade their language skills (Conklin, 2012; Correa, 2015). As Tucker (2012) claims "*class becomes the place to work through problems, advance concepts, and engage in collaborative learning*" (p.82).

Consequently, flipped learning is not about neglecting the role of the teacher or replacing him/her with videos, but it is about transforming the teacher from being the only transmitter of knowledge to a facilitator of knowledge and making the student more active and autonomous. As Le (2002) points out that "*learning is not to receive knowledge, but to make sense of knowledge and to promote in a learner an independent mind that can inform, reflect and even challenge conventional knowledge wisdom*" (p. 02).

Besides, there is a common misconception that considers the flipped learning model as a purely online course where the student spends all his/her time in front of his or her computer doing the learning activities in isolation and without structure (Bergmann, Overmyer and Wilie, 2012). However, as Bennet et al. (2012) claimed, flipped learning carries various pedagogical merits. Flipped learning can enhance students' sense of responsibility in their learning process and promote student-teacher and student-student intercommunication which in return fosters personalized contact time and face-to-face interaction (Lage et

al., 2000). When students study the learning materials before coming to class, the classroom becomes student-centered where group discussion and collaboration take place to raise students' awareness of the language areas that need further improvement and consolidation (ibid). Besides, flipped learning allows the students to study at their own pace which helps them reflect on the information presented and boost their autonomy (Ambrose et al., 2010). Moreover, within this inductive approach to learning, drills and quizzes are practiced before class while face-to-face sessions are devoted to intensive practice and meaningful activities that develop higher order thinking skills. The students can then apply what they learned at home, evaluate their understanding through scaffolding and constructive feedback and create meaning through group discussion (Boucher et al., 2013). Therefore, in flipped learning, the student is placed at the heart of the learning process, and the teacher becomes a facilitator who scaffolds, guides, motivates and rejuvenates student learning.

2.2. Defining reading and reading strategies:

Reading is perceived as a complex process where the student needs to undergo several processes in order to accomplish specific reading objectives (Applegate et al., 2002; Cain, Oakhill, & Bryant, 2004). Reading comprehension is perceived as an interactive process, for it requires the understanding of meaning at the word level and active thinking about the information presented in the text (Baddeley, Eysenck and Anderson, 2009). This combination, which is based on linguistic information and activated schemata or background knowledge, allows the reader to interpret the text to achieve comprehension. This perspective is reflected in the interactive model that emphasizes the interplay between bottom-up and top-down processing. According to the interactive model, bottom-up and top-down processing are executed at the same time while reading. Therefore, bottom-up processing is initiated by understanding print and deriving meaning from linguistic elements such as words, phrases, clauses, sentences, and paragraphs; however, top-down processing requires active cognitive processes to achieve text comprehension. These cognitive processes, which are also called higher level processes, consist of "*recognizing and storing word information, using syntactic information, connecting pronoun references, building overall text structure, integrating and restructuring information, establishing main ideas, assessing inferences and adapting reader goals*" (Grabe and Stoller, 2013, p. 12).

Reading is also considered as a strategic process (Grabe and Stoller, 2013). Researchers have given prime consideration to the continuous monitoring of

understanding and to the use of reading strategies to achieve text comprehension (Alexander & Jetton, 2000; Baker & Brown, 1984). For Cronbach (1977), the cognitive process is crucial for the student to unveil what strategies should be adopted and used when reading a specific text. He points out that "*the initial cognitive phase is when the learner in an unfamiliar situation must find out what to do.*" (p. 396), and that "*the beginner is getting in mind just what is to be done*" (ibid: 398). In this vein, Paris et al, (1996) define reading strategies as the "*tactics readers use to engage and comprehend text*" (p.610). Reading strategies can therefore be viewed as cognitive processes that can be employed in a selective and flexible way for the purpose of achieving reading comprehension. These strategies consist of activating background knowledge, summarizing information, setting a purpose for reading, questioning, evaluating information and drawing inferences (Kirmizi, 2010). However, researchers dealing with reading comprehension claimed that in order to enhance the students' cognitive processes and enable them to achieve mastery and automacity in reading, social aspects need to be taken into account. Hence, reading is a complex skill which involves not only cognitive processes but also social ones such as mediation and scaffolding, which are discussed below.

2.3. The place of mediation and scaffolding in reading ability:

According to Lantolf and Throne (2006), reading is perceived as a solitary cognitive skill; however, nowadays it is viewed as a social skill that necessitates students' active participation, engagement and use of meditational tools. With reference to Vygotskian perspectives that sprung out from sociocultural theory, learning is perceived as a socially-mediated and tool- mediated activity (Cole & Engestrom, 1995). A critical theoretical tenet of sociocultural theory is that human action, involving cognition, is mediated by artefacts and semiotic tools which alter students' thinking to dive into new learning situations where scaffolding and collaboration take place. As Renshaw (1998) claims "*meditational tools do not simply amplify existing cognitive processes or provide a more efficient way to complete existing tasks— they fundamentally change the nature of the task, the required processes, and the subjects who are the actors.*" (p.85). Thus, appropriating meditational tools in the learning process can scaffold the student and help him internalize certain cognitive skills as a result of interaction, group discussion, extensive practice and collaboration with other peers. This, in return, renovates and transforms the learning process from being an individual outcome to a joint productive activity.

Approaching the reading skill from a sociocultural stance helps in shedding

light on the importance of mediation by tools (such as technology) and by others (such as peers and teacher) in developing the students' cognitive processes in reading comprehension. When students engage in active learning, they can gain assistance from advanced partners to attain mastery and automacity in reading (Fitts, 1962). These advanced partners can take many forms such as peers, teachers and cultural inventions (such as computer programs) (Renshaw, 1998) that can assist the students to develop their reading ability and push them to perform beyond their zone of proximal development. The latter is defined by Ohta (2001) as "*the distance between the actual developmental level as determined by individual linguistic production, and the level of potential development as determined through language produced collaboratively with a peer or teacher*" (p.09). Therefore, relying on mediation by tools and on collaboration can lead to scaffolding that helps the student perform out of his zone of proximal development, and this makes the student autonomous and active. And students' awareness of strategic reading can be raised through simplifying the activity, modeling, monitoring performance, engaging in group discussion, providing extensive practice, and giving feedback (Rogoff, 1990).

Recent studies have revealed that the flipped learning model has a positive impact on enhancing students' language skills in general and the reading skill in particular. In an investigation into the effect of flipped learning on developing students' reading comprehension, Hashemifardnia, Namaziandost and Shafiee (2018) found that the experimental participants who received instruction through flipped learning outperformed the control participants who were taught through traditional learning, which involves individual work, paper-based learning materials and doing homework outside class. Therefore, the researchers concluded that the flipped learning model encouraged students to have prior knowledge before coming to class and to engage in dialoguing and group work to solve meaningful reading activities in class. Similarly, Enfield (2013) examined the effect of the flipped learning model on students' learning at California State University Northridge. The results of the study showed that the flipped learning model increased students' learning, provided opportunities for more practice, and increased students' self-efficacy and autonomy.

In a study which set out to determine the effect of flipped learning on EFL learners' reading comprehension, Karimi and Hamzavi (2017) found that engaging students in flipped learning upgraded their reading ability in a way that they become more aware of the use of reading strategies such as activating background knowledge, brainstorming ideas, generating information and

understanding sentence structure. Besides, the students reported that they had positive attitudes towards flipped learning. Moreover, Freeman et al, (2014) conducted a comprehensive meta-analysis of 225 studies to compare active learning method, which requires students to participate in group discussions and activities in class, and traditional learning method. The findings revealed that active learning enhances examination performance rate and traditional learning increases failure rate by 55%; thus, students who were instructed through active learning method improved significantly as compared to those who were traditionally taught. The researchers concluded that active learning enhances higher order thinking skills.

3. Method: sample, tools, data collection and analysis:

The present research study, which set out to investigate the impact of flipped learning on developing first year EFL degree students' reading ability, is quasi-experimental and was conducted during the second semester of the academic year 2017-2018 in the Department of English, at the University of Algiers 2. The independent variable is flipped learning, and the dependent variables include students' reading ability and experimental subjects' perceptions of flipped learning.

3.1. Sample population:

The sample population for this experiment involves 100 first year degree students and is divided into two groups: 50 experimental subjects and 50 control subjects.

3.2. Research instruments:

Two research instruments were used in this investigation: a test and a questionnaire. The reading test is a standardized TOEFL test based on multiple-choice questions administered to the experimental and control subjects in order to examine their reading ability before and after the intervention. It contains 50 items divided into 5 reading texts. Therefore, the pre-test, which was conducted before the intervention, aims at measuring the participants' level in reading to determine equivalence (or not) between control and experimental subjects. However, the aim of the post-test is to compare the achievement of both groups to see whether there is any significant difference (or not) between the control and experimental groups as a result of using flipped learning model. The test was corrected and marked out of fifty points then it was converted to a scaled score of twenty points, and it was analyzed using descriptive and inferential statistics.

The second consists of a questionnaire and was administered to the

experimental subjects only to explore their perceptions of flipped learning. The questionnaire was adapted from Chang and Fisher's (2003) to fit the study's objectives. It comprises 32 items, and each item has a five-point Likert format: almost always (5), often (4), sometimes (3), seldom (2), and almost never (1). Thus, the experimental subjects had to circle the appropriate choice that matches the degree of their approval to the statements. The questionnaire was analyzed descriptively using frequency analysis. It is worth mentioning that both research tools i.e. the test and the questionnaire were piloted before their final use.

3.3. Data collection procedure:

The present research study was carried out during the second semester of the academic year 2017/2018. The different research instruments were used during the classes and exams set by the department of English. Both groups had reading instruction once a week, and each session lasted one hour and a half.

In the pre-treatment phase, a pre-test (as described above) was submitted to both experimental and control subjects under study. Then, the intervention started with the experimental group only. This lasted 12 weeks and consisted of the use of online learning outside class and collaborative learning in class.

Outside class, the experimental subjects were given usernames and passwords to have access to the Moodle online learning platform which contains instructional videos, quizzes and reading assignments. The experimental subjects were assigned topic outline and video lessons and demonstrations about the employment of reading strategies such as reading for details, reading for main ideas, reading for reference and vocabulary and reading for inference. The participants watched the videos posted and read the explanation of the reading lesson. After that, they were required to engage in a group discussion asking questions and exchanging clarification.

In class, the experimental subjects attended face-to-face classes which required them to engage in group work to read and answer text comprehension questions related to expository texts and apply the strategies learnt online. Hence, in class, the participants relied on the use of reading strategies before, during and after reading a text. Before reading, the student leader introduced the topic of the text and clarified any difficult vocabulary to his/her group. Then the group members discussed what they already knew about the topic to activate their background schemata, relied on headings and visuals to preview the text, and predicted what they thought they would learn from the text. After that the participants recorded their brainstormed ideas and predictions in their learning log.

During reading, the experimental subjects used two reading strategies:

identifying misunderstandings and getting the gist. The students identified misunderstandings of a text then collaboratively tried to clarify the comprehension problems by using fix-up strategies that involve guessing the meaning of the word from the context and identifying word parts that may help achieving understanding. Identifying the difficult words within a text can help developing reading for vocabulary. After clarifying the difficult words presented in the text, the participants relied on get the gist strategy to understand the main idea of the text.

After reading the text, the experimental subjects moved to the final review strategy (Wrap up) which includes generating questions in relation to the text, writing a summary of the text and drawing conclusions. The purpose of generating questions is to develop reading for details, synthesize information, promote understanding and boost memory of the ideas presented in the text. While the experimental subjects were working in class in small groups, I provided scaffolding and feedback to assist them and monitor their understanding of the assigned text and encouraged them to provide assistance and clarify misunderstanding to each other.

Outside class, the experimental subjects had to do online reading quizzes that took the form of multiple choice questions, matching information or providing short answers. Therefore, Flipped Learning allowed the participants to first learn online, second, to practice through face-to-face learning and finally to study online to reinforce understanding.

In the post treatment phase, a post-test was administered to both experimental and control subjects. Finally, a questionnaire was administered to the experimental subjects only to explore their perceptions of flipped learning and to triangulate the findings obtained from the test.

4. Results:

The reading test (pre and post) was analyzed descriptively and inferentially, and the questionnaire was analyzed using frequency analysis. The results of data analysis are presented in the next sections.

4.1. Results of the reading pre-test:

Table 1 below presents the results of the pretest of reading administered to

both experimental and control subjects.

Table 1: Descriptive statistics and Independent samples t-test of both groups in the reading pre-test

Group	N	Mean	SD	T value	Df	Critical value	Decision
EXP	50	10.82	3.48	-0.66	98 (approx 100)	1.98 at alpha level= 0.05	Not significant
CTR	50	11.19	4.00				

N= Number of participants   **SD**= Standard deviation   **Df**= degree of freedom

From table 1, it can be noticed that the mean of the control group is 11.19 with a standard deviation of 4, and the mean of the experimental group is 10.82 with a standard deviation of 3.48. Besides, the calculated t-value is -0.66, and it is lower than the critical value 1.98 at an alpha level of 0.05. Thus, the p-value is higher than the alpha level p >.05.

4.2. Results of the reading post-test:

Table 2 below displays the results of the post-test of reading administered to both experimental and control subjects.

Table 2: Descriptive statistics and Independent samples t-test of both groups in the reading post-test

Group	N	Mean	SD	T. value	Df	Critical value	Decision
EXP	50	13.15	2.66	2.43	98	1.98 at alpha =0.05	Significant
CTR	50	11.74	3.19				

Table 2 presents the results of descriptive statistics and independent samples t-test of experimental and control groups' mean scores in the reading post-test. From table 2, it is apparent that the mean of post-test scores is higher for the experimental group 13.15 than the control group 11.74. Moreover, the findings in table 2 indicate that the calculated t-value is 2.43 and is higher than the critical value 1.98 at an alpha level 0.05.

Table 3 and 4 below present the results of the paired samples t-test applied with the experimental and control groups.

Table 3: Paired t-test statistic of reading comprehension test for experimental group

Experimental	N	Mean	SD	Df	T value	Critical Value	Decision
Pretest	50	10.82	2.69	50-49=1	(-)6.29	2 at alpha =0.05	Significant
Post test		13.15					

N= number of participants   **SD**= standard deviation   **Df**= Degree of freedom

The findings in table 3 reveal that the t-value is 6.29 with the significance test p-value sig. (2-tailed) = 2. Thus, p-value is less than the alpha level 0.05.

Table 4: Paired t-test statistic of reading comprehension test for control group

Control	N	Mean	SD	DF	T value	Critical value	Decision
Pretest	50	11.19	1.80	49=50-1	(-)2.34	2 at alpha = 0.05	significant
Post test		11.74					

N= number of participants   **SD**= standard deviation   **Df**= Degree of freedom

The results in table 4 reveal that the t-value is 2.34 with the significance test p-value sig. (2-tailed) = 2. Hence, p-value is lower than the alpha level 0.05 ($p<0.05$). The results of the second research tool are displayed in the next section.

4.3. Results of the questionnaire:

The results of the questionnaire are presented in the tables below.

- **Scale 1: Access**

Table 5: Students' perceptions of "Access"

N°	Items	Almost always (%)		Often (%)		Sometimes (%)		Seldom (%)		Almost never (%)		Total (%)
		AF	%	AF	%	AF	%	AF	%	AF	%	
1	I can access the learning activities at times convenient to me.	15	30	16	32	16	32	2	4	1	2	100%
2	The online material is available at locations suitable for me.	17	34	17	34	12	24	1	2	3	6	100%

3	I can use time saved in travelling and on campus class attendance for study and other commitments.	6	12	12	24	24	48	6	12	6	4	100%
4	I am allowed to study at my own pace.	11	22	19	38	11	22	5	10	4	8	100%
5	I decide how much I want to learn in a given period.	10	20	16	32	14	28	9	18	1	2	100%
6	I decide when I want to learn.	18	36	13	26	14	28	4	8	1	2	100%
7	The flexibility allows me to meet my learning goals.	16	32	24	48	10	20	0	0	0	0	100%
8	The flexibility allows me to explore my own areas of interest.	17	34	24	48	8	16	1	2	0	0	100%

AF= Absolute frequency

Table 5 presents the experimental subjects' perceptions of accessing the online learning platform. From the results presented in table 5, it can be seen that the experimental subjects' answers related to the first item range between always (30%) and sometimes (32%) regarding accessing the learning activities at convenient times, and only (4%) and (2%) report that they seldom have access to the learning materials at convenient times. The majority of the participants (34%) proclaim that they almost always use time saved for studying through using the online platform. Besides, 38% of the experimental subjects claim that they are often allowed to study at their own pace and can decide how much they learn in a given period (32%). Flexibility often allows them to meet their learning goals (48%), and they often (48%) explore their own areas of interest. Furthermore, 36% of the participants always decide when they wanted to learn.

- **Scale 2: Interaction**

Table 6: Students' perceptions of "Interaction"

N°	Items	Almost always (%)		Often (%)		Sometimes (%)		Seldom (%)		Almost never (%)		Total (%)
		AF	%	AF	%	AF	%	AF	%	AF	%	
9	I communicate with other students in this subject electronically by using email, forum, and chat.	28	56	3	6	12	24	2	4	5	10	100%
10	In this learning environment, I have to be self-disciplined in order to learn.	31	62	9	18	3	6	5	10	2	4	100%
11	I can ask my teacher to re-explain what I do not understand.	23	46	13	26	13	26	1	2	0	0	100%
12	I can ask my classmates what I do not understand.	21	42	16	32	11	22	1	2	1	2	100%
13	Other students respond promptly to my questions.	8	16	20	40	13	26	7	14	2	4	100%
14	I regularly participate in self- evaluations.	12	24	20	40	15	30	2	4	1	2	100%
15	I regularly participate in peer-evaluation.	15	30	16	32	11	22	6	12	2	4	100%
16	I was supported by positive attitude from my peers.	22	44	15	30	9	18	4	8	0	0	100%

Table 6 demonstrates the experimental subjects' perceptions of interaction in the flipped learning environment. The findings displayed in table 6 reveal that the majority of the participants almost always (56%) communicate with their peers through using asynchronous and synchronous tools. And 62% of the participants report that they often felt that they must be self-disciplined when engaged in online learning environment. The participants also admit that they often ask the teacher (46%) and their classmates (46%) to re-explain what they did not understand. Moreover, 40% of the participants claim that they sometimes receive prompt answers from their peers, and they sometimes (40%) participate

in self-evaluations and peer evaluation (32%). Besides, 44% of the participants maintain that they are always supported by positive attitude from their peers.

- **Scale 3: Response**

Table 7: students' perceptions of "Response"

N°	Items	Almost always (%)		Often (%)		Sometimes (%)		Seldom (%)		Almost never (%)		Total (%)
		AF	%	AF	%	AF	%	AF	%	AF	%	
17	This mode of learning enables me to interact with other students and the teacher using e-mail or instant messaging.	21	42	16	32	11	22	2	4	0	0	100%
18	I felt a sense of satisfaction and achievement about this learning environment.	29	58	14	28	6	12	1	2	0	0	100%
19	I enjoy learning in this environment.	27	54	15	30	4	8	4	8	0	0	100%
20	I could learn more in this environment.	26	52	15	30	6	12	3	6	0	0	100%
21	It is easy to work in groups.	7	14	23	46	15	30	5	10	0	0	100%
22	It is easy to work collaboratively with other students involved in a group.	14	28	16	32	12	24	6	12	2	4	100%
23	The flipped learning environment held my interest throughout my course of study.	22	44	17	34	7	14	4	8	0	0	100%
24	I felt a sense of boredom towards the end of my course of study.	2	4	8	16	10	20	12	24	18	36	100%

Table 7 shows the experimental subjects' perceptions of response. The results, as demonstrated in table 7, indicate that the majority of those who were questioned feel that flipped learning environment often (42%) enable them to interact with peers and the teacher using e-mail or instant messaging. Also they

often feel a sense of satisfaction (58%) and enjoyment (54%) about engaging in this learning environment, and they often (52%) learn more in this learning environment. Besides, 46% of them claim that it is sometimes easy to work in groups and work collaboratively with other students (32%). They also report that flipped learning environment almost always (44%) holds their interest throughout the course of study, and 36% of the participants almost never feel sense of boredom towards the end of the course.

- **Scale 4: Learning outcomes**

Table 8: Students' perceptions of "Learning outcomes"

N°	Items	Almost always (%)		Often (%)		Sometimes (%)		Seldom (%)		Almost never (%)		Total (%)
		AF	%	AF	%	AF	%	AF	%	AF	%	
25	The learning objectives are clearly stated in each lesson.	32	**64**	9	**18**	8	**16**	1	**2**	0	**0**	100%
26	The organization of each lesson is easy to follow.	25	**50**	19	**38**	5	**10**	0	**0**	1	**2**	100%
27	The structure keeps me focused on what is to be learned.	29	**58**	14	**28**	6	**12**	0	**0**	1	**2**	100%
28	Expectations of assignments are clearly stated.	26	**52**	13	**26**	8	**16**	3	**6**	0	**0**	100%
29	Activities and instructional videos are planned carefully.	36	**72**	10	**20**	3	**6**	1	**2**	0	**0**	100%
30	The online subject is appropriate for delivery on the web.	25	**50**	13	**26**	8	**16**	2	**4**	2	**4**	100%
31	The presentation of the subject content is clear.	28	**56**	13	**26**	9	**18**	0	**0**	0	**0**	100%

32	The quizzes in the online learning platform enhanced my reading ability.	37	**74**	9	**18**	4	**8**	0	**0**	0	**0**	100%

Table 8 presents the experimental subjects' perceptions of learning outcomes. From table 8 above, it can be seen that the participants in the experimental group agree that the learning objectives are almost always clearly stated in each lesson (64%) and the organization of each lesson is easy to follow (50%). In addition, the 58% of the participants claim that the structure always keeps them focused on what is to be learned. The majority of the participants think that the expectations of assignments are almost always clearly stated (52%), the activities are planned carefully (72%), the online subject is appropriate for delivery on the web (50%), and the presentation of the subject content is clear (56%). Besides, 74% of the participants questioned think that the quizzes in the online learning platform almost always enhance their reading ability.

5. Discussion:

This study sought to examine the impact of the flipped learning model, as part of a blended learning approach, on developing first year EFL degree students' reading ability at the University of Algiers 2. It aimed also at finding out students' perceptions of using flipped learning to enhance their reading ability.

5.1 The reading test:

The first research question aimed to see to what extent flipped learning model develops students' reading ability. Through descriptive and inferential analysis, the findings of the pre-test indicated that both samples under study had similar results as there was no significant difference between the experimental and control subjects' mean scores. However, the findings of the post-test showed that the improvement in experimental subjects' reading scores was descriptively and statistically significant as compared to the control subjects' mean scores. Hence, the null hypothesis, which presumes that there will be no significant difference between the experimental and control groups' means scores in the reading post test, is rejected, and the alternative hypothesis, which assumes that there will be a difference between the experimental and control groups' means scores in the reading post test, is confirmed. It can be concluded that the use of flipped learning has a positive impact on developing students' ability to read effectively.

Moreover, the results of the paired samples t-test revealed that the intervention

that is based on the use of flipped learning led to a significant difference in experimental subjects' means scores of pre and post tests; thus, the null hypothesis, which assumes that there will be no difference in the means of pre and post reading tests for the experimental group, is infirmed, and the alternative hypothesis, which states that there will be a difference in the means scores of the pre and post reading test for the experimental group, is supported. These results may be explained by the fact that flipped learning allows the students to benefit more from face-to-face classes that are supplemented with online learning. This helps them extend learning hours beyond classroom education, have extensive practice of reading strategies and devote class time to hands-on tasks. Engaging in this student-centered milieu, students can take advantage of their peers' and teacher's scaffolding that boosts them to engage in deep and active learning. Therefore, the use of meditational partners such as online learning and collaboration offered students new opportunities to get immersed in purposeful group discussion that leads to fostering specific meaning-making and cognitive strategies that achieve text comprehension (Vygotsky, 1986). The findings of the present research study are compatible with the empirical studies conducted by Abaeian and Samadi (2016) Hashemifardnia, Namaziandost and Shafiee (2018), and Karimi and Hamzavi (2017) who found that flipped learning carries various pedagogic potentials among which is the development of students' reading ability.

5.2 The questionnaire:

The second research question concerned students' perceptions of flipped learning. The results of frequency analysis demonstrated that the experimental subjects expressed positive perceptions regarding the use of flipped learning to develop their reading ability. With regard to the results of the first scale which focuses on access to the online learning platform, the experimental subjects agreed that flipped learning environment allowed convenient and easy access to the learning activities and quizzes. It also boosted flexible self-paced learning and enhanced students' stamina and autonomy to access the learning materials and to undertake learning tasks at convenient times. These results further support the advantages of flipped learning that are stated by Ambrose et al. (2010) and Bennet et al. (2012). Besides, the findings of the second scale, named "Interaction", revealed that the experimental subjects believed that they had to be responsible for their learning process. They also claimed that they could participate in group discussion and provide constructive feedback to each other. Similarly, the participants were aware that they had to be self-disciplined

when engaged in online learning and should take part in different evaluations and apply strategies to achieve successful learning outcomes. Hence, flipped learning encourages personalized learning as Aaron and Bergmann (2012) advocate. They state that "*Flipping the classroom establishes a framework that ensures students receive a personalized education tailored to their individual needs.*" (Aaron and Bergmann, 2012, p. 6). Moreover, students are given more time to understand, remember, apply their knowledge and interact with their peers and the teacher to receive instant feedback and scaffolding (Hamden et al., 2013).

It would be fair to conclude that the findings of the third scale "Response" indicated that the experimental participants experienced a sense of achievement and satisfaction once they completed the learning activities. These results suggest that flipped learning enhances students' motivation to learn; thus, various learning activities need to be integrated in order to provide ample opportunities for the students to learn and to hold their interest throughout the course of study. On the basis of the questionnaire results related to the fourth scale "Learning outcomes", it may be concluded that the learning objectives and organization of the flipped learning materials were crucial in guiding students in their studies, thereby enhancing their reading ability. From these findings, course unit activities and different quizzes need to be planned carefully to increase students' learning and to provide them with adequate scaffolding and constructive feedback. Overall, the findings, which emerged from the questionnaire, provide further support for the research hypothesis that assumes that EFL students have positive perceptions of using the flipped learning model to develop their reading ability.

Conclusion

The present research study has attempted to examine the impact of flipped learning on developing students' reading ability and provided valuable insights for the use of this model in English language classrooms. Flipped learning is a novel and recent pedagogical model that is based on the use of educational technologies along with well-planned face-to-face sessions. The evidence emerging from the posttest indicated that flipped learning had a significant impact on enhancing the experimental subjects' reading ability as compared to the control subjects who were instructed through traditional method. Moreover, the findings obtained from the questionnaire demonstrated that the experimental subjects expressed positive perceptions of using flipped learning, claiming that engaging in flipped learning supported flexibility, encouraged self-paced learning and interaction, enhanced intercommunication and autonomy, increased enjoyment,

and assisted students in their learning process. Combining online learning with face-to-face instruction proved to have a direct bearing on developing students' reading ability and increasing their learning outcomes. Hence, flipped learning carries various pedagogical merits such as devoting class time to deep and active learning, providing scaffolding and feedback, and enabling students to work collaboratively and interactively. Based on these findings, some implications can be made. This study has gone some way towards enhancing our understanding of integrating educational technologies and online learning in the learning process to extend students' learning and customize learning materials so as to answer students' needs and cater to different learning styles. A future study investigating the impact of flipped learning on content courses or other language skills such as writing, listening and speaking may reveal more insight on this question.

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