

**The Effect of Flipperentiation on Enhancing  
Secondary Stage Students' Reading  
Comprehension Skills and their Attitudes  
Towards it**

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**Abstract**

The Present study aimed at developing secondary school students' reading comprehension through the use of flipperentiation and their attitude towards it. Participants of the study were 60 first year Itsa secondary school students at Fayoum governorate. They were randomly assignend to two groups: experimental (N=30) and control (N=30). The researcher prepared a reading comprehension test , a scale and a manual. Having pre administered the reading comprehension test and attitude scale ,the experimental group was taught using flipperentiation. The same instruments were administered at the end of the treatment. The results showed that the use of flipperentiation proved to be effective in developing secondary school students' reading comprehension and the attitudes towards flipperentiation. The study concluded with some recommendations and suggestions for the students, teachers and curriculum designers. Also, suggestions for further research were provided..

**Keywords:** Flipperentiation, reading comprehension, secondary school students .

**المستخلص العربي :**

هدفت الدراسة الحالية إلى تنمية مهارات الفهم القرائى لدى طلاب المرحلة الثانوية باستخدام التعليم المعكوس المتمايز و تنمية إتجاهاتهم نحوه ، وتكونت عينة الدراسة من مجموعتين تجريبية وضابطه اشتملت كل واحدة على 30 طالبا من طلاب الصف الأول الثانوى بمدرسة إطسا الثانوية بمحافظة الفيوم. وقامت الباحثة بإعداد اختبار لمهارات الفهم القرائى. كما قامت بإعداد مقياس إتجاه و دليل معلم يوضح كيفية استخدام التعليم المعكوس المتمايز فى تنمية مهارات الفهم القرائى وبعد تطبيق اختبار الفهم القرائى وإستبيان الإتجاه قبلياً وبعدياً وبعد التدريس للمجموعة التجريبية باستخدام التعليم المعكوس المتمايز كشفت النتائج عن الأثر الموجب للتعليم المعكوس المتمايز فى تنمية مهارات الفهم القرائى لدى أفراد المجموعة التجريبية واتجاهاتهم نحوه. واختتمت الباحثة الدراسة بتقديم مجموعة من التوصيات التى تفيد الطلاب والمعلمين و الموجهين هذا بالإضافة إلى اقتراح بعض الدراسات و البحوث المستقبلية.

**الكلمات المفتاحية:**

التعليم المعكوس المتمايز – مهارات الفهم القرائى- طلاب المرحلة الثانوية

## Introduction

Technological advancements in the last century have brought about a digital revolution in the field of education which lead to the emergence of many online learning materials and activities that are used to develop a variety of language skills. Technology provides easy, practical, and authentic activities that are beneficial to students learning in general and EFL teachers in particular. Teachers have to equip themselves with various technological skills in order to update themselves in coping with advances and meeting the needs of today's generation of learners .

Flipped learning (FL) is considered to be one of the active learning approaches that focuses on switching in-class instruction time with at – home practicing time using technology, especially videos ( Kostaras, 2017). FL refers to a new teaching model in which videos and lectures are uploaded or given to the students, and they are able to preview them before class. Students in FL work hard to learn the terms and concepts of the subject matter before conferring face – to – face with the teacher or peers . During the class , students mainly solve problems, carry out tasks, make projects, and discuss various important issues concerning the topic". After classroom activities, students continue working with electronic sources. They can study at their own pace due to availability and accessibility of all necessary online resources" (Roth & Suppasetserree, 2016).

## Origin of FL

The flipped learning was initially introduced by two Biology teachers in Colorado, in 2007 and since then it has become widely used all around the world in different disciplines by educators (Kostaras, 2017). It is based on the idea that the lectures and explanations are reversed. There are done at home , whereas what was previously treated as homework is to be done in the class time. (Al – Harbi & Alshumaimeri, 2016). Flipped learning thus changes the concept of regular classroom which is teacher-centered. Everything in FL is reversed and becomes student-centered. This is in line with 21st century learning .

A successful flipped classroom involves more than just recording and sending videos and content to students before a lesson: the time spent in class should be more important than the videos. Classroom time can be used

for conducting activities, discussing, clarifying hard-to-understand information, and investigating questions related to the content. The videos allow time in class for problem solving and hands-on activities, changing the classroom into a place where students become active learners (Basal, 2015).

Students' control over their learning is the revolutionary idea behind flipped learning. In EFL context, flipped learning can help solve common problems of English language learners such as lack of participation, communication, interaction opportunities, lack of sufficient feedback, and low proficiency level (Al-Harbi & Al-Shumaimeri, 2016).

### **Benefits of FL**

According to Chuang; Weng and Chen (2018) and Basal (2015) the benefits of FL are as follows:

1. It provides learners with opportunities to learn by doing since their learning is more personalized.
2. It creates the potential for active, engaged, student-centered learning, peer interactions, and personalized instruction.
3. It is student-centered because class time can be used to participate in engaging activities, while the teacher acts as a facilitator and observer, allowing students to be more active.
4. Class time is free from didactic lecturing, allowing for a variety of activities, group work, and interactive discussion.
5. It promotes meaningful learning.

Several researchers indicated that there are some reasons for adopting FL. First, using videos allows students to review and preview to have background knowledge before class. This allows them to approach things at their own pace. Students can stop, pause, rewind, and fast forward material, so that they can examine things in their own way. Second, multimedia digital teaching materials are easy to save, manage, revise, and impart. Third, in the process of preparing a flipped classroom, educators can inspect and reflect on the whole curriculum and improve the teaching contents and activity design. Fourth, with enough prior knowledge, students have more time to conduct higher level activities and questions (Anwar & Pratama, 2016; EL – Bassuony, 2016).

### Studies related to FL

Many studies suggest that the flipped learning positively affects students' performance and proficiency levels in various skills/ areas of English language as follows:

Hamzavi (2017) investigated the effect of the flipped model of instruction on EFL learners' reading comprehension ability, identifying EFL students' attitude toward the flipped model of instruction. Participants of the study were 50 EFL learners within age range of 19 to 25 .They are equally assigned to two groups: experimental and group. Hamzavi designed a reading comprehension text and adopted a scale on flipped model of instruction developed primarily by Elfatah and Ahmed (2016). The results of the study revealed that the flipped model of instruction had a significant positive effect on the reading comprehension ability of EFL students. Moreover, EFL students in the experimental group had a positive attitude towards flipped learning.

Li and Suwanthep (2017) examined the effects of the flipped classroom model on teaching English speaking in an EFL context. Participants of the study were 94 first year non – English major students at a university in Thailand who were divided into two groups: an experimental group (N=46), and a control group (N=48). The authors used speaking pretests and posttests, student scales, and student interviews to collect data. The study results showed that the experimental group obtained significantly higher scores in the speaking posttest than the control group; students expressed supportive opinions towards the implementation of flipped instruction and constructive role- plays.

Ali (2016) investigated the effect of a flipping classroom on the writing skill in English as a foreign language and students' attitude towards flipping. Participants of the study were 60 students at Qassim University. They were divided into two groups: an experimental group (N=30) and a control group (N=30). The author used an EFL writing test and a scale to collect data. Results of the study showed that the experimental group outperformed the control group in the writing post- test. Also, there was a statistically significant difference between the mean scores of the pre and

post administrations of the scale of the experimental group in favor of the post administration.

Roth and Suppasetseree (2016) explored the effectiveness of the flipped classroom in enhancing Cambodian pre- university students English listening skills and investigated the students opinions regarding the flipped classroom to enhance English listening comprehension. Participants of the study were 30 Cambodian pre-university students. The authors used a scale and semi-structured interviews to collect data. The results indicated that the flipped classroom enhanced Cambodian pre- university student's English listening skills. Also, the learners had positive views on learning English via flipped classroom. They would like to study the other courses with flipped learning.

### **Differentiated instruction (DI)**

Differentiated instruction was originated by C.A. Tomlinson who defined it in (2001 ) as shaking up what goes on in the classroom so that students can have multiple options for taking information, making sense of ideas, and expressing what they learn. It provides different avenues to acquiring content, processing or making sense of ideas, and developing products so that each student can learn effectively. A Key goal of differentiated instruction is maximizing the learning potential of each student.

The theory of differentiated instruction is mainly based on the theory of social constructivism (Vygotsky, 1978). It emphasizes the active participation of students in the learning process where the construction of knowledge emerges due to the interaction of students with their environment: other students, teachers, knowledge, educational material etc. (Valiande et al, 2011).

Differentiated instruction is a philosophy of teaching purporting that students learn best when their teachers effectively address variance in students' readiness levels, interests, and learning profile references (Whipple, 2012). Tomlinson (2005) asserts that a task that matches students' readiness extends students' knowledge, understanding, and skills . A good readiness match provides the students with support in bridging the gap between the known and the unknown. By determining the students' zone of proximal development, according to Vygotsky's theory, teachers are better able to address readiness level.

Addressing students' interest can be also important to students' academic development. Students' interest refers to "what engages the attention, curiosity, and involvement of a student. Therefore, when teachers differentiate instruction according to students' existing interests, such students are motivated to connect what is being taught with things they already value. Interest- based differentiation also encourages students to discover "new interests". In a classroom, interests can include personal experiences and strengths, cultural background, and areas of need (Tomlinson & Imbeau, 2010).

Understanding students' learning profiles is an integral aspect to teaching. Students often have different learning preferences. While some students prefer to interact with groups or the whole class, others feel more comfortable working alone. Many students are visual or kinesthetic learners; others are verbal or auditory ones. When differentiation is based on learning profiles, students are provided with opportunities to learn in ways that are natural and efficient. (Joseph; Thomas; Simonette & Ramsook, 2013). Multiple intelligences, learning styles and students' characteristics are some factors that influence a student's learning profile. (Oliver, 2016).

According to Valiande; Kyriakides and Kautseling (2011) differentiated instruction is a response to each learner's uniqueness. Differentiation guides the planning and instruction in mixed ability classrooms based on students and their needs, facilitating the construction of knowledge for every student based on his/her prior knowledge .

Tomlinson (2001) stated some features of what differentiated instruction. They include the following: 1) it is proactive (the teacher proactively plans a variety of ways to get at and express learning to address learners' need); 2) it is more qualitative than quantitative (adjusting the quantity of an assignment will be less effective than adjusting the nature of the assignment to match each student needs; 3) it is rooted in assessment (assessment is an ongoing process; 4) it provides multiple approaches to content, process and product to encourage students' substantial growth in all students; 5) it is a blend of whole-class, group and individual instruction and 6) it is organic (teachers are continuously learning about how their students learn).

To make differentiation successful, Tomlinson ( 2000) pointed out that teachers can make sure that 1) curriculum is clearly focused on the

information and understanding that are most valued by an expert in a specific discipline; 2) lessons, activities, and products are designed to ensure that students grapple with, use, and come to understand those essentials; 3) materials and tasks are interesting to students and seem relevant to them; 4) learning is active, and 5) there is joy and satisfaction in learning for each student.

In differentiated classroom, the teacher should focus on three main elements :content ,process and product. Content refers to what is taught and what the students are hoped to learn , or the materials or tools students use to learn that information. For example , giving students different kinds of materials, such as simple and advanced texts, brochures, newspapers, texts on a computer or printed texts, also audiotapes, DVDs and field trips.

Process is used to describe what activities the students are designed to use to make sense of and apply the essential knowledge and understandings. Process can also refer to how teachers instruct (a whole class, group, pair, or individuals) and by which criteria the teacher groups the students at a certain time. It is important that the tasks that each group is working on are equivalent and somehow similar.

Product refers to how students show what they know, understand and can do after a predict of learning. Differentiating the product means that the students are given various ways to demonstrate what they have learned and how they can apply and extend it. Products can be formal or informal and the teacher should take students learning styles into consideration (Tominson 2014 & Blaz, 2013).

### **Studies related to DI**

Nikolaou; Zafiri & Pliogou (2017) Investigated the implementation of differentiated instruction as a means of teaching English to children with dyslexia (A senior level) at a private English language center. Participants of the study were three ten-year-old male students who participated in ten lessons designed according to the principles of differentiated instruction. Semi-structured interviews were applied to both the students and their mothers to collect data. According to the results of this small scale action research, the method of differentiated teaching is proved to be effective for students with dyslexia

Aliakbari and Haghghi (2014) explored the usefulness of differentiated instruction and traditional – based pedagogy in the promotion of male and

female learners' reading comprehension in a separate gender educational system. Participants of the study were forty seven elementary students of a language institute in Iran who were chosen and divided into experimental and control groups. The students of the experimental group were taught through the strategies of differentiated instruction, viz. flexible grouping, tiered instruction, and tiered assignments, in the areas of content , process, and product. The students of the control group received regular instruction strategies. The results of the study indicated that the students of the experimental group outperformed the control one.

Joseph; Thomas; Simonette & Ramsook (2013) examined the impact of using a differentiated instructional approach to teaching second year students pursuing an undergraduate course in curriculum studies at a tertiary institution. Participants of the study were 400 students. Two hundred students experienced differentiated instruction ,while other 200 were exposed to the whole-class instructional approach. Results of the study revealed that students at both campuses responded favourably to the differentiated instructional approach, with 90% of participants reporting higher levels of intellectual growth and interest in the subject. Assessment of student learning revealed that the majority of students in the differentiated classrooms demonstrated sound understanding of major concepts taught in the curriculum studies course. Almost all students (99%) expressed willingness to experiment with differentiated instruction in subsequent practicum sessions during their tenure at the university, and 88% indicated a desire to use a differentiated instructional in their classrooms upon graduation.

### **Flipperentiation**

The concept of flipperentiation was coined by Joe Hirsch (2014) who defines it is a pedagogical approach to teaching in which direct instruction moves from the group learning space to the individual learning space. It combines the concept of the flipped learning with differentiated learning. If differentiation is the engine, flipped learning is the grease. Used synchronously, they can provide a learning experience that gets students move faster and farther than ever before.

In (2015), Ober defines flipperentiation as a blend of flipped learning and differentiated instruction. Chuang et al. (2018) pointed out that one of

the benefits of flipping instruction is that it allows differentiated instruction to help students overcome language- learning obstacles. He states two main objectives of the flipperentiated classroom 1) It blends learning with technology to meet the individualized learning needs of each student and 2) It provides opportunities to further engage students by allowing them to work collaboratively on assignments and projects.

He also added that flipperentiation has a lot of advantages such as allowing for traditional instructional models to be transformed through the use of technology while creating a differentiated blended learning model that encourages students' engagement and develops the communication and collaborative skills required in the 21st century. Another benefit of flipperentiation is having more engaged parents. As more students utilize technology as a regular part of their day, both in school and at home, the opportunity for their parents to become part of what they are learning in school is highly enhanced.

Parents want a stronger connection to what their child is doing in class. Flipperentiation makes this possible by communicating with parents via websites, or communication apps. Parents' connection to such learning environment will result in a stronger connection to their child's learning and greater support for flipperentiated instruction. (Hirsch ,2014).

### **Studies related to flipperentiation**

Abaeian and Samadi ( 2016) investigated the effect of the flipped classroom on reading comprehension performance of Iranian EFL learners with different proficiency levels. 100 female EFL learners studying at two private language institutes in Shiraz. The participants were randomly divided into experimental and control groups. Pre/post test of reading comprehension was administered to all groups. Finally, the results indicated that the experimental groups performed significantly better than the control groups.

Mahmoud (2017) investigated the effect of flipperentiation in enhancing preparatory stage pupils' EFL reading comprehension. Participants of the study were 150 preparatory stage pupils who were post tested using a reading comprehension test to collect data. Results of the study showed that flipperentiated instruction proved to be effective in enhancing preparatory stage pupils' EFL reading comprehension.

Marlowe (2012) investigated the effect of the flipped classroom and associated differentiation on student achievement and student stress levels. Participants of the study were 19 students (14 females , 5 males). Marlowe used an achievement test and a student self reported stress survey to collect data. Results of the study showed that semester grades showed improvement and students reported lower stress levels in this type of classroom environment. Overall, students displayed positive feelings towards the experiment and enjoyed the associated benefits of being able to choose their own assignments and explore concepts they found interesting more in depth.

### **Reading comprehension**

Reading comprehension is essential for meaningful and effective reading. Reading comprehension skills allow us to read proficiently, learn effectively and to conceptualize. These skills are, basically, based on earlier stages of reading development such as oral reading and reading fluency. Without developing these earlier reading skills, student have to focus on decoding letters and words, rather than progressing to meaning and understanding (Roehl & Shive, 2011).

Reading comprehension as a process includes three elements: the reader , text and activity. The first element, the reader, includes all the cognitive, motivation capacities, abilities, various types of knowledge, and experiences that a person brings to the act of reading. Text is broadly construed to include any printed text or electronic text. Activity include the purposes, processes, and consequences associated with the act of reading. ( Snow, 2010)

Kwiatkowska-White (2012) classified comprehension into three levels including literal or factual comprehension, inferential comprehensions, and critical or evaluative comprehension. Literal or factual level refers to the simple understanding of the information that is explicitly stated in the text. This level is the primary focus of instruction because it is easier for a teacher to deal with the facts are indisputable, and questions that focus on literal comprehension are simple to develop and evaluate.

The second level, inferential comprehension, relies on information that is implied, or not explicitly stated in the text. The third level, critical or evaluative comprehension, involves the reader making judgments about various aspects of the text – the literary quality of the text, the competency

of the author, the righteousness of the characters and their actions, and so on . This level of comprehension obviously relies on the text, but to an even greater extent , it requires the reader to make personal judgments about the text.

It is the second and third levels of comprehension that challenge the reader to actively engage his or her background knowledge and reasoning skills to construct meaning- meaning that is not simply stated in the written text. This makes reading comprehension a thinking task rather than simply a recall task.

### **Attitude**

Hosseini and Pourmandnia (2013) define attitude as a disposition or tendency to respond positively or negatively towards a certain idea, person, or situation. Khan (2016) gives another definition to attitude as the way an individual looks at things or activities. It expresses the type of mood one has, and interprets a person's saying and action. Thus, attitude entail evaluative predispositions to respond to a certain situation guiding and directing the overt behavior of an individual. (Nyamubi, 2016).

Attitude , though not directly observable, are inferred from observable responses and behaviors which reflect a pattern of beliefs and emotions. Learners' attitude towards the subject determines their ability, willingness to learn, choice of action and response to challenges. It determines the level of engagement, interest, tendency to learn it. When student build positive attitude towards the subject, they become engaged and motivated to excel in the subject because they value it , enjoy it and are interested in the subject. (Langat, 2015). Having positive attitude towards learning a language is a good start to learn it.

Negative dispositions induces tendencies of fear, anxiety and stress where one resorts to other non productive practices which finally prevents them from learning or developing competencies in the language. However student's negative attitude can be changed and turned into positive ones that facilitate learning process (oroujlou & vahedi, 2011). This is because attitude can be modified by experience.

Khan (2016) states that there are many factors that constitute the attitude of an individual learner such as social background, lack of vision, no proper guidance, indifferent parental attitude, economic security, less

competitive nature, carefree life style, lack of job opportunities, less employment due to foreigner's dominance etc.

Zainol and Al zwari (2012) state that there are three components of the attitude. Cognitive, emotional and behavioral. The cognitive component involves beliefs, thoughts or view points about the object of the attitude. The cognitive attitude can be classified into four steps to connecting the previous knowledge and the new one, creating new knowledge, checking new knowledge, and applying the new knowledge in many situations.

The emotional component refers to the individual's feelings and emotions towards an object. Attitude can help the learners to express whether they like or dislike the objects or surrounding situations. It is agreed that the inner feelings and emotions of FL learners influence their perspectives and their attitude towards the target language.

The behavioral component involves the tendency to adopt particular learning behaviors. Successful language learning enhances the learners to identify themselves with the native speakers of that language and acquire or adopt various aspects of behaviors which characterize the members of the target language community.

In language learning, attitude seem to be very important in predicting learners' academic achievement. The learner's favourable attitude to the language he / she is learning would facilitate success in it at school and after school linguistic needs in real daily – life situations. Learners with positive attitude towards the target language learn more effectively than those who do not have such positive attitude. Learners' language attitude predict students' degree of success in terms of linguistic outcomes in learning the target language. (Nyamubi, 2016).

Attitude plays a major role in arousing students' motivation to learn. It is a component of motivation in language learning.

An attitude is a set of beliefs and motivation is a reason for doing something. This can be confused because a set of beliefs can be a reason for doing it. So the learner may be motivated to learn English because his/her attitude towards English culture, or towards the teacher. It is a common belief that the learner will not learn English if he / she dislike the English teacher. (Khan, 2016, Oroujlou & vahedi 2012). Gardner believes that the

learner's attitude towards L2 and their integrativeness have the strongest impact on the level of motivation. To Gardner, motivation can be divided into three components: the effort to achieve a goal, the desire to learn a language and satisfaction with the task of learning that same language. (Hosseini & Pairmandnia, 2013).

### **Studies related to attitude**

Yasar & Karadag (2010) investigated the effects of differentiated instruction approach on students' attitude in Turkish course. The study was carried out through an action research approach Participants of the study were 30 students of the 5th grade in Turkey. Data of the study were collected through Turkish course attitude scale and semi – structured interviews. The results of this study revealed that differentiated instruction approach influenced the students attitude towards Turkish course positively.

Fairah & and Qawasmeh investigated the attitude of English major students in Hebron University towards the flipped classroom during the second semester of the academic year 2017/ 2018. Participants of the study were 150 pre- service teachers A scale and interviews were used to collect data. The results of the study showed that students have positive attitude towards flipped learning. They considered the flipped classroom exciting, motivating and engaging.

Demissie (2013) investigated the effects of differentiated instruction on students' vocabulary achievement and attitude. The participants of the study were 122 grade 8 students selected randomly from Eyerusalehem and Addis Zemen Primary Schools. The participant students in the control groups were 30 in each of the two sections while those of the experimental groups were 32 and 30 in each section. The control groups were taught vocabulary by the traditional approach while experimental groups were taught by differentiated instruction. The study followed mixed method approach . The main instruments used to collect data were vocabulary achievement tests and attitude rating scales.

The results of the study showed that learners have positive attitude towards differentiated instructional approach as well as vocabulary learning.

### **Context of the problem**

Many EFL supervisors and teachers complain that secondary school students have reading comprehension difficulties. This is because they lack breadth of vocabulary, prior knowledge, reading strategies, word

recognition, working memory and interest in reading. They struggle to gain meaning from what they read. So, reading becomes a hard task and students avoid reading. This is supported by several studies some of which are Medjahdi (2015) and Mohammed and Ab-Sahid (2017). The former observed that EFL learners face several problems in the reading process such as ambiguous words, unfamiliar vocabulary and limited available time to cognitively process the text. The latter noticed that EFL learners have problems in reading comprehension performance at the level of pronunciation, and coming – across ambiguous words that prevent them from understanding the text. Also, students background about the reading text has an impact on the reading achievement.

To document the problem, the researcher conducted a pilot study on 20 students from first year students enrolled in Itsa secondary school. The pilot study consisted of a reading comprehension test where students were asked to answer some questions: true or false questions that measure literal comprehension level and Wh questions that measure inferential and critical/evaluative comprehension levels (see appendix 1). The results of the pilot study revealed that the majority (75%) have poor reading comprehension skills.

### **Statement of the problem**

Though reading comprehension has a crucial role in language learning, it is observed that the majority of secondary school students face significant difficulties which prevent them from understanding the text. That is why the present study attempts to help them develop their reading comprehension skills through using flipperentiation as well as their attitude towards it.

### **Questions of the study**

The main question could be stated as follows:

What is the effect of using flipperentiation on developing secondary school students' reading comprehension skills and their attitude towards it?

This main question can be divided into the following sub-questions:

1. What is the effect of using flipperentiation on developing secondary school students' literal level of reading comprehension skill?
2. What is the effect of using flipperentiation on developing secondary school students' inferential level of reading comprehension skill?

3. What is the effect of using flipperentiation on developing secondary school students' critical /evaluative level of reading comprehension skill?
4. What is the effect of using flipperentiation on developing secondary school students' attitude towards it?

### **Hypotheses of the study**

To achieve the aim of the study, the following hypotheses were formulated:

1. There is a statistically significant difference between the experimental and the control groups' mean scores in overall reading comprehension skills post test in favor of the experimental group.
2. There is a statistically significant difference between the experimental and the control groups' mean scores in the literal level of reading comprehension skill post test in favor of the experimental group.
3. There is a statistically significant difference between the experimental and the control groups' mean scores in the inferential level of reading comprehension skill post test in favor of the experimental group.
4. There is a statistically significant difference between the experimental and the control groups' mean scores in the critical/evaluative level of reading comprehension skill post test in favor of the experimental group.
5. There is a statistically significant difference between the experimental and the control groups' mean scores in the post administration of the attitude scale in favor of the experimental group.

### **Significance of the study**

The present study develops secondary school students' participation and engagement in classroom because class time is free from didactic lecturing, allowing for a variety of activities, group work , and discussions. Also, it addresses students' interests and needs through using various versions of reading texts and activities based on their learning styles. Moreover, it directs teachers to use flipperentiation in teaching reading comprehension. In addition, it might help researchers in finding avenues of research in the field of flipperentiated instruction.

### **Delimitation of the study**

The present study is delimited to:

1-Some reading comprehension levels :literal, inferential and critical/evaluative.

2- Some students (N=5) enrolled in Itsa secondary school at Fayoum governorate.

3-The first semester of the academic year 2018-2019.

### **Definition of terms**

#### **Flipperentiation**

The term flipperentiation is used in the present study to refer to the teaching method that blends flipped learning and differentiated instruction to facilitate students' learning according to their learning styles and preferences.

#### **Reading comprehension :**

The term reading comprehension is used in the present study to refer to the process of eliciting and making meaning through the interaction with the written text and understand it at the various literal, inferential and critical levels.

#### **Attitude:**

The term attitude is used in the present study to refer to the disposition or tendency of students to respond positively or negatively towards flipperentiation.

### **Method**

#### **A. Participants**

The participants of the current study consisted of two groups: experimental (N = 30) and control (N = 30). They were randomly selected from first year students enrolled in Itsa secondary school, Fayoum governorate, Egypt.

#### **B. Design**

The researcher used the quasi experimental with experimental/control pre/post test design.

#### **C. Instruments and material**

To fulfill the aim of the current study, the following instruments were designed:

- 1- An EFL reading comprehension pre/post test
- 2- An attitude scale
- 3-A manual and video

## **1-The EFL Reading Comprehension Skills Pre-Post Test**

After making the reading comprehension skills checklist (see appendix 2) and validating it by a panel of TEFL jury members (N=5), the EFL reading skills pre/post test was prepared.

### **1.1- The aim of the EFL Reading Comprehension Skills Pre-Post Test**

The aim was to measure first year Itsa secondary school students' reading comprehension skills. It was used as a pre- post test . As a pre test, it was used to determine the participants' level in the reading comprehension skills. As a post test, it was used to investigate the effect of flippertation on developing the participants' reading comprehension skills.

### **1.2- Description of the test**

The reading comprehension skills pre-post test consisted of two main parts: The first part is true or false sentences that measures students' literal reading comprehension skill .The second one includes some Wh questions that measures students' inferential and critical/evaluative reading comprehension skills (see appendix 3).

### **1.3- Validity of the test**

To validate the EFL reading comprehension test, it was submitted to five TEFL jurors who confirmed that the test is valid (see appendix 4). To ensure the content validity of the test, it was developed in the light of a systematic and accurate literature and previous studies. This accurate and systematic review determined the general form of the test, and how it should be graded and/or scored. Therefore, the content of the test was representative of the skills that were intended to be measured. Thus, the test was valid.

### **1.4- Reliability of the test**

The reliability of the test was measured by using the test – retest method. The test was administered to ( 15) students enrolled in the first year Itsa secondary school, Fayoum governorate, Egypt. Then, it was readministered to the same group after two weeks . Pearson correlation between the two administrations was (0 .8) at the 0.01 level reflecting that the test was reliable.

### 1.5-Piloting the test

Piloting the test aimed at determining clarity, readability and estimating the time needed for taking the test. The test was piloted on (15) students other than those of the main intervention. The reading comprehension test time was 30 minutes. This took place by computing the time taken by each student divided by the number of the students(15).

$$\frac{450}{15} = 30$$

## 2- The attitude scale

### 2.1- The aim of the attitude scale

The scale aimed at collecting data concerning students' attitude towards flipperentiation.

### 2.2- Description of the scale

The attitude scale consists of 15 items where students were asked to tick (√) in the suitable place which best describe their attitude (see appendix 5)

### 2.3- Validity of the scale

To estimate validity, the scale was submitted to a panel of jury members (N=5). They indicated that the scale is valid after making the modifications required.

## 3- A manual to guide teacher teaching reading comprehension through flipperentiation

### 3.1 Aim and objectives of the manual

The manual aimed to help secondary school teachers develop reading comprehension skills through flipperentiation and guide them while teaching reading to secondary school students (see appendix 6).

#### Objectives

By the end of the manual sessions, students will be able to:

- skim the passage to find the general idea
- scan the passage to find specific information
- produce oral sentences correctly to summarize the reading passage

- express their opinions about various situations in the reading passage
- suggest a topic to the lesson
- get the implicit meaning of the passage
- guess what may happen in similar situations
- find out different ends to the reading passage/story
- criticize different characters in the reading passage
- evaluate different events in the reading passage

### 3.2-Content

The researcher adapted the English lessons of the first semester of the academic year 2018/2019 to be taught via flippertation. The researcher sent two versions of the didactic videos to the students e-mails before the class time to choose one to go through at home. Thus, they had the opportunity to choose the preferred version based on their learning styles. Also, they had enough time to study them depending on their own pace and be ready for classroom discussions.

The lessons were shown in the following table:

**Table (1) sessions of the teacher's guide**

Lesson	Title
1	An introductory session
2	The cricket on the hearth
3	The national census
4	The gardener
5	Cars without oil
6	King Lear
7	Hellen Keller

These sessions were preceded by a session devoted to pre testing and followed by another devoted to post testing. The total sessions were 9.

### 3.3-Activities and techniques

Various pair and group work activities were used. In each session, the researcher asked students to check their answers to the assigned activities in pairs. Some other activities were group-based where groups of students were asked to carry out some group activities. Some individual students were encouraged to participate in classroom activities. In each session the researcher dealt with students' mistakes and provided them with the appropriate feedback.

### 3.4-Evaluation

The researcher used formative and summative types of evaluation. Formative evaluation was represented in the questions and exercises students were asked to answer during the lessons whereas summative evaluation was represented in the reading comprehension skills post test.

### Experimental procedures

#### 1-Pre-testing

Students' pre-testing of the reading comprehension skills test took place on 30th September 2018. This was done to identify the students' entry level before the intervention. Also, the attitude scale was administered to measure students' attitude towards flipperentiation.

#### 2- Teaching sessions

The experimental group students were taught using flipperentiation. There were 7sessions devoted to enhancing the experimental group students' reading comprehension skills. They began on 1st October 2017and ended on 12th November 2018.

In the first session the researcher introduced flipperentiation to the students and explained what they are going to do. Then, she trained them in the use of flipperentiation. She confirmed that she would send the videos to students' e-mails before each session to be studied by students at home. The researcher devoted the class time for discussion, pair and group work and feedback .Students were encouraged to initiate, speak and interact actively

#### 3-Post-testing

At the end of the intervention, the researcher evaluated students' reading comprehension skills through administering the reading comprehension post-test and the attitude scale. This was done to investigate the effect of

flipperentiation on developing secondary school students' reading comprehension skills as well as their attitude towards flipperentiation.

Data were treated statistically and the results and discussion will be dealt with in the following section.

Findings of the study:

The findings of the present study are presented in the light of the hypotheses using the statistical package for social sciences (SPSS) version 22.

### 1-The first hypothesis

The first hypothesis states that " There is a statistically significant difference between the experimental and the control groups' mean scores in overall reading comprehension skills post test in favor of the experimental group ".

Table (2)" t" value of the experimental and control groups in the post administrations of overall EFL reading comprehension skills.

Group	N	Mean	S.D	T-Value	D.F	Sig.
Experimental	30	113.10	10.03	8.96	59	0.01
Control	30	92.3.	12.94			

Table (2) shows that experimental group students' posttest scores are significantly higher than the control group ones in overall reading comprehension skills. They attained a higher mean score in the posttest(113.10) than that of the control group (92.3.). T – value is (8.96) and this difference is significant at (.01) level .Thus, the first hypothesis of the study was supported.

### 2-The second hypothesis

The second hypothesis states that " There is a statistically significant difference between the experimental and the control groups' mean scores in the literal level of reading comprehension skill post test in favor of the experimental group".

Table (3)" t" value of the experimental and control groups in the post administration of the literal level of reading comprehension skill.

Group	N	Mean	S.D	T-Value	D.F	Sig.
Experimental	30	38.62	4.12	7.68	59	0.01
Control	30	29.35	5.77			

Table (3) shows that experimental group students' posttest scores are significantly higher than the control group ones in the literal level of reading comprehension skill. They attained a higher mean score in the posttest(38.62) than that of the control group (29.35). T – value is (7.68) and this difference is significant at (.01) level .Thus, the second hypothesis of the study was supported.

### 3-The third hypothesis

The third hypothesis states that " There is a statistically significant difference between the experimental and the control groups' mean scores in the inferential level of reading comprehension skill post test in favor of the experimental group".

Table (4)" t" value of the experimental and control groups in the post administration of the inferential level of reading comprehension skill.

Group	N	Mean	S.D	T-Value	D.F	Sig.
Experimental	30	37.42	4.12	3.92	29	0.01
Control	30	33.92	5.18			

Table (4) shows that experimental group students' posttest scores are significantly higher than the control group ones in the inferential level of reading comprehension skill. They attained a higher mean score in the

posttest(37.42) than that of the control group (33.92). T – value is (3.92) and this difference is significant at (.01) level .Thus, the third hypothesis of the study was supported.

#### 4-The fourth hypothesis

The fourth hypothesis states that " There is a statistically significant difference between the experimental and the control groups' mean scores in the critical/evaluative level of reading comprehension skill post test in favor of the experimental group ".

Table (5)" t" value of the experimental and control groups in the post administration of the critical/evaluative level of reading comprehension skill.

Group	N	Mean	S.D	T-Value	D.F	Sig.
Experimental	30	37.05	4.42	6.49	29	.001
Control	30	29.05	6.83			

Table (5) shows that the experimental group students' posttest scores are significantly higher than of the control group ones in the critical/evaluative level of reading comprehension skill. They attained a higher mean score in the posttest(37.05) than that of the control group (29.05). T – value is (6.49) and this difference is significant at (.01) level. Thus, the fourth hypothesis of the study was supported.

#### 4-The fifth hypothesis

The fifth hypothesis states that " There is a statistically significant difference between the experimental and the control groups' mean scores in the post administration of the attitude scale in favor of the experimental group ".

Table (6)" t" value of the experimental and control groups in the post administration of the attitude scale.

Group	N	Mean	S.D	T-Value	D.F	Sign.	Size of effect
Experimental 1	30	37.05	6.73	6.49	28	.01	1.41
Control	30	29.05	6.90				

Table (6) shows that the experimental group students' scores are significantly higher than the control group ones in the post measuring of attitude scale. They attained a higher mean score in the post measuring (37.05) than that of the control group (29.05). T – value is (6.49) and this difference is significant at (.01) level. The size of effect accounts for 1.41 proving high effect. Thus, the fifth hypothesis of the study was supported.

### Discussion of the Results

The aim of the present study was to develop first year secondary school students' reading comprehension skills using flipperentiation and their attitude towards it. The experimental group improvement in the reading comprehension skills was not only in the overall reading comprehension skills, but also in each reading comprehension skill/component of the reading skills. This is due to the nature of flipperentation that has the advantages of both flipped learning and differentiated instruction. Students had to work at home and be responsible for their own learning. They also had to work according to their pace, learning styles, preferences; thereby maximizing their learning. In addition, they were involved in pair as well as group work activities and receive various types of feedback.

Moreover, The results of the study showed that the experimental group students have positive attitude towards flippertation as it makes the learning process more enjoyable, motivating and interesting. Flippertation helps them to reduce their fear, anxiety and stress in classroom as they had time to study the new lesson at home before coming to class. They express their hope to learn all school subjects using flippertation

The researcher observed that flippertation provides a student – centered learning environment, based on their interests and needs, to enhance their learning. Through providing students with various versions of reading texts and activities, allowing them to select their own reading texts and activities, they become more inquisitive, motivated, and successful learners.

Flippertation proved to be beneficial for both teachers and students. It liberates teachers from the traditional ways of teaching, applying new approaches to teaching. The role of the teacher is a guide or facilitator rather than an authority. Moreover, it encourages contact between the teacher and students and allows the shift from teacher centered classroom to student – centered classroom. In addition, flippertation ensures students' self-learning and autonomy through accessing to the content prior to classroom time. They are provided with educational videos to go through at home, applying previously learned knowledge before classroom discussions.

The results of the study revealed that flippertation proved to be effective in developing students' overall reading comprehension skills and

their attitude towards it. These results are in line with the study of Mahmoud (2018) that aimed at investigating the use of flipperentiation in enhancing students' reading comprehension skills. Results of her study showed that flipperentiation significantly enhanced the students' reading comprehension skills.

### **Conclusion**

The results of the study showed that experimental group students' reading comprehension skills were improved after the use of flipperentiation. Therefore, the significant differences found in favour of the experimental group of the reading comprehension skills test can be ascribed to the implementation of flipperentiation.

### **Recommendations of the study**

In the light of previous results, the following recommendations could be presented:

1. Curriculum designers should make use of flipperentiation when designing English courses.
2. Enriching the curriculum with similar methods that enhance students' use of English inside and outside class.
3. EFL teachers should receive professional training workshops to help them use flipperentiation in teaching different language skills.
4. Flipperentiation should be emphasized in different educational stages.
5. Training students on flipperentiation helps them to develop overall language skills.

### Suggestions for further research

Based on the findings of the current study the following suggestions are presented.

- 1- Investigating the effect of flipperentiation on developing other language skills such as writing and speaking.
- 2- The effect of using flipperentiation on learners' self- learning skills and autonomy.
- 3- Using flipperentiation to develop college students' higher order thinking skills.
- 4- Using flipperentiation to enhance college students' meta-cognitive strategies and self-awareness.
- 5- Using flipperentiation to integrate several language skills.

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