THE INTERACTION BETWEEN VIRTUAL REALITY GLASSES TRACKING TYPES AND COGNITIVE STYLE TO DEVELOP ENGLISH VOCABULARY SKILLS AND IMMERSION AMONG PRIMARY STAGES PUPILS WITH LEARNING DIFFICULTIES

Marwa Ahmed Hussein
The National Egyptian E-Learning University (EELU), Faculty of Educational Studies (FES), Egypt.

Dr Mohamed Elsayed Elnagar
Associate professor of Education Technology, Faculty of Educational Studies, EELU, Egypt.

Prof. Haggag Mohamed Haggag
Associate professor of English language Teaching Methodology Applied Linguistics, Faculty of Education& South Valley University

Doi:10.19044/esipreprint.7.2022.p103

Approved: 6 July 2022
Posted: 8 July 2022

Cite As:
Hussein M.A., Elnagar M.E., Haggag H.M., (2022) The interaction between Virtual reality glasses tracking types and cognitive style to develop English Vocabulary skills and Immersion among primary stages pupils with learning difficulties ESI Preprints. https://doi.org/10.19044/esipreprints.7.2022.p103

Abstract:

This research aimed at measuring the impact of the interaction between virtual reality glasses tracking types (Positional- Rotational) and cognitive styles (impulsivity- reflectivity) to develop English vocabulary skills among primary-stage pupils with learning difficulties. Five instruments were utilized in the research process, and the results reported the test. English vocabulary checklists to identify the vocabulary that the course will use in the research, an English test to identify the learning difficulties of students in the English language, the test of mental ability to identify the IQ mean scores of students, a standard test of Kagan to measure the cognitive style (impulsivity- reflectivity), Pre and post-English vocabulary achievement test, immersion scale and the suggested English vocabulary skills program depends on (positional- rotational tracking type. The participants were students in grade five their number is (89) from the primary stage at Tarek Ibn Zaid school, Minia, Egypt. Using four groups of quasi-experimental design, the research followed applying tests of Mental ability, English tests to identify difficulties, Cognitive style test of Kagan, Then followed a pre and post-testing procedure before and after applying for the virtual reality program and apply the immersion scale at the end of the program. The quantitative results of the study indicated that there was no interaction between virtual reality glasses tracking type (positional - rotational) and cognitive style (Impulsivity-Reflectivity). This is due to the lack of a direct relationship between cognitive style and virtual reality glasses tracking type, especially in immersion with learning and acquiring English vocabulary skills, and that there is no preferred pattern for virtual reality glasses tracking type with one of the cognitive methods that he dealt with in the research, especially in learning and acquiring English vocabulary skills.

Keywords: Virtual Reality- (VR), VR Glasses-Pupils with Learning difficulties (Impulsivity- Reflectivity) cognitive style, tracking type, English vocabulary, Immersion

Introduction

1. English is the second official language in Egypt, and every pupil has to study it. Learning the English language depends on four skills. However, if the student wants to learn and use these skills, the learner has to learn vocabulary and grammar to build the sentence structure during speaking, listening, reading, and writing. Learning English vocabulary is a challenge for average students, and it is an excellent

dilemma for students who suffer from learning difficulties students. Academic vocabulary studies give great attention to learners' learning difficulties, and the general academic vocabulary is reflected in AWL. Vocabulary is the most significant component in learning it as a second language which is one of the crucial parts along with phonetics, pronunciation, and grammar, which are considered a base for learning this new language. (Yang&Dai, 2012)

It was evident that learning difficulties students have suffered from learning in the traditional environment. One of the most effective Educational environments in Virtual Reality. Research on VR was initially conducted. VR would be just another form of presenting multimedia educational content. As long as the principles for multimedia design are applied to its features, learning is likely to happen, regardless of the effects of Immersion and motivation. Despite being one of the few models used to understand vocabulary learning in a multimedia environment, presenting significant advances in the area, Mayer's model is quite simple and limited for having excluded learners' individual characteristics, such as attention, motivation, learning styles, among others, which directly influence information processing. Exploring these characteristics in the VR medium can be facilitated by its features.

To illustrate more, the learning difficulties are caused by possible disorders in the brain's functions, so it is not considered retardation, educational deprivation, or any type of disabilities, whether visual, auditory, or physical. However, it will appear incapable of reading, writing, spelling, listening, speaking, and mathematical processes.

One of the primary things the users have to give considerable attention to is tracking because the physical movements are basic to VR headsets. Otherwise, it is considered an obstacle to the consumer electronics world because of the hardware components, measurement units (IMUs), cameras, and the cost due to the smartphone industry. There are three types of VR tracking systems based on what is being tracked.

This research has (positional-rotational) tracking types that depend on the student's movement. The teacher is responsible for directing and illustrating the student in the classroom through several questions.

Human personalities have different attitudes that reflect on behavior in some cases, and one of the standard cognitive styles is impulsivity and reflectivity. Psychological studies have given both of them a specific

definition according to the degree of behavior in cognitive domains. For example, a person who tends to make and give quick gambling (impulsive) is a person who takes calculated answers or makes a slower decision (reflective).(Brown,1994) Furthermore, in this research, the students were divided into two of (impulsivity- reflectivity) to measure the differences between them.

An immersive virtual environment (IVE) is defined as the space where the users can be inside, and at the same time, we can increase the sense of presence being with it (J. Bailenson.N.Yee & Laundlad and M.Jin, 2008). Furthermore, this contains synthetic sensory information that gets a continuous stream of stimuli which involves the illusory perception of being enclosed with and interacting with the natural environment

(J. Smith, 2015 & J. Loomis, 1999).According to D.Fallman & A.Backman & K.Holmlund, 1999, Virtual Reality is classified by the user's level of Immersion and interaction.

2. The problem of the research:

The problem was derived from the following two resources

A) Researcher's experience:

The researcher has worked as an English language teacher for three years in the primary stages. During this period, she has faced many problems related to English Vocabulary skills, especially those students who suffered from learning difficulties. The pupils could not connect between the word and its picture. It was difficult to answer the questions or use these words in speaking or writing.

b) Literature studies:

Learning vocabulary usually causes a heavy burden on the learners. In other words, languages are productive, and they continually create and add new words to their vocabulary stock. Oxford (1990) argues that generally, no rules are followed in learning the vocabulary used in grammar. Students usually encounter hundreds of words that they need to learn and practice during their studies. Rohmatillah (2017) investigated the difficulties faced by students in learning English vocabulary. Internal factors explained by (Slameto 2013, cited in Alfilail, 2015) consist of several factors like intelligence, aptitude, and

others. Besides internal factors that influence learning, external factors also significantly influence, such as family, school, and environmental factors.

3. Objectives of the research:

This research aims to solve the problems of cognitive and implement English vocabulary skills in the pupils of primary stages and according to

1/ To identify the English vocabulary skills of the primary students.

2/ To identify the proposed design of using virtual reality glasses based on (positional –Rotational) styles.

3/To investigate the effectiveness of using virtual reality glasses in developing the cognitive sides of English vocabulary skills in primary stages.

4/ To investigate the effectiveness of using virtual reality glasses in developing the implement sides to solve English vocabulary skills of primary stages and the effectiveness of Immersion

4. Significance of the problem :

For the Student: This research aimed to design a model of virtual reality glasses that helps students link between the vocabulary they have learned and the natural world through Pictures, videos, games, presentations, and the sound of these words. Identify the relationship between English vocabulary skills and cognitive style (impulsivity-reflectivity) for students' primary stages.

For the teacher: The most important thing for teachers is the way of teaching because they can identify exciting ways of teaching. To illustrate, when students like a classroom and the different teaching methods, they will communicate and do their best to collect information and vocabulary.

For curriculum designers: It gives the ability to curriculum designers to design effective and new ways because the traditional curriculum does not give them considerable ability to create something. However, for VR glasses, it will be different to immerse into the educational process.

For EFL research: It may provide future studies on the development of language skills through an adaptive learning system.

5. Questions of the research:

1. What English vocabulary skills are needed for pupils with learning difficulties in the primary stages?
2. What is the proposed design of virtual reality glasses based on (Rotational – Positional) glasses tracking types and cognitive style (impulsivity- reflectivity) to develop English vocabulary skills and Immersion among primary stages pupils with learning difficulties?
3. What is the effect of Virtual reality glasses tracking types (positional -rotational) pattern differences to develop English vocabulary skills among primary stages pupils with learning difficulties?
4. What is the effect on developing Cognitive style (Impulsivity-Reflectivity) differences in developing English vocabulary skills needed among primary stages pupils with learning difficulties?
5. What is the core interaction between Virtual reality glasses tracking types (positional -rotational) and Cognitive style (Impulsivity-Reflectivity)to develop English vocabulary skills among primary stages pupils with learning difficulties?
6. What is the effect of Virtual reality glasses tracking types (positional -rotational) pattern differences to develop Immersion among primary stages pupils with learning difficulties?
7. What effect does cognitive style (Impulsivity-Reflectivity) differ in developing Immersion among primary stages pupils with learning difficulties?
8. What is the interaction between Virtual reality glasses tracking types (positional -rotational) and Cognitive style (Impulsivity-Reflectivity) to develop Immersion among primary stages pupils with learning difficulties?

6. Hypotheses of the research:

1. There would be no statistically significant level of (0.05) between the mean scores of primary stage pupils with learning difficulties for the group which studied with positional virtual reality glasses tracking and the group which studied with rotational virtual reality glasses tracking in the post-English vocabulary skills test.
2.There would be no statistically significant level of (0.05) between the mean scores of primary stage pupils with learning

difficulties in the Impulsive group and reflective group in a post-English vocabulary skills test.
3. There would be no statistically significant level of (0.05) between mean scores of primary stage pupils with learning difficulties in post-English vocabulary skills test for the four experimental groups due to the interaction between Virtual reality glasses tracking type and cognitive style.
4. There would be no statistically significant level of (0.05) between mean scores of primary stage pupils with learning difficulties for the group studied with positional virtual reality glasses tracking. The group studied with rotational virtual reality glasses tracking in post Immersion Scale application.
5. There would be no statistically significant level of (0.05) between mean scores of primary stage pupils with learning difficulties in the Impulsive group and reflective group in post Immersion Scale application.
6. There would be no statistically significant level of (0.05) between mean scores of primary stage pupils with learning difficulties in post Immersion Scale application test for the four experimental groups due to the interaction between Virtual reality glasses tracking type and cognitive style.

7. Research design:

The research followed a quasi-experimental that identified comparison groups which identified four groups who received the same treatment, and the differences returned to the tracking type and cognitive style. Each group took a pre\post test, and the immersion test was for all groups at the end. The research sample was chosen after the mental ability exam and English Language test, which identified students who had learning difficulties from Tarek Ibn Zeyad Primary Stages School. They were from grade five and were chosen from all grade five classes of the school. Then, they took Kagan to identify the c Matching Familiar Figures test cognitive style. The last stage is randomly dividing the cognitive style groups into four groups. Using the results of the instruments and the scores of participants were compared and statically analyzed using SPSS program (Mean differences measurement using T-test) to verify the differences in the mean scores before and after running the program. The instructional design model is ADDID.

10. Theoretical Framework:
1. The learning theories and VR in Education

Firstly, constructivism theory are defined as applying learning theory and Epistemology. The main aim of these two theories is about learning to students, but it is essential to start by defining constructivism.
This theory is about organizing the teaching environment with the objects suitable for engaging the learner with content that is the main crucial thing in the learning process. There are some main principles of learning.

1. Learning is an active process in which the sensory of the learner input and constructs meaning out of it, so it leads us that learining puts the learner and engages him/her in the world of teaching.
2.The constructivist theory includes constructing system and constructing meaning. For example, if the learner wants to learn about the definitions of something in Science, so it is possible to give them the meaning, then provide them with the system of using it and applying the information in Science
3.Learing includes language because there is research approved that people, while studing and learining, talk and use this education (Vigotsky).
4.The learning process takes time, and to illustrate that, the teacher or parents cannot put a specific time; it cannot happen in 5 or 10 minutes because it depends on individual differences. The learner can feel this when it reflects his/her attitude in life.

From the previous references, it has been understood that this theory aims to organize the environment, which puts both teacher and student in the correct world to interact with each other.

2.VR in language Education

Virtual Reality is considered one of the most critical technologies in education; otherwise, it needs some steps for the learners to achieve their learning goals.
Institutions are the primary place where this process will be applied, but at the same time, we should admit that VR is expensive. When we

decide to start work with it, we have to invest money to buy these instruments, such as VR glasses, and the programming we can apply.
Teachers need a great effort to import this technology into the classrooms; their work will start from preparing the material in its traditional ways to programming and introducing it so that students can interact with it. The second and most crucial step is when the instructor gets into the classroom, he/ she should prepare the arrangement of teaching the lesson to make students excited about what they will learn.
Learners in the educational process are the receivers of the information. Still, in the case of VR, they cannot be only who receive but can also interact and immersive themselves into the new environment.

3. Virtual Reality Glasses in teaching

Five programs prepare teachers to help them use virtual reality technology in schools, colleges, and educational institutions at the end of the program. These programs have introduced more than 100 teachers.
1.VRRV/Nebraska, PhaseIII
2.Educators' VR Series
3.Virtual Reality in the
schools
4.Virtual Education – Science, and Math called (VESAMOTEX)
5.VR Concentration, M.A in Education

At the beginning of the third phase in Nebraska, they aim to support and prepare the teachers to use VR for constructivist learning activities. This place has introduced workshops for educators and teachers based on desktop computing.
The teachers should choose the correct method which is suitable to their aims in the classroom, and these goals depend on the curriculum in which the pupil is going to study and understand.

4.. Virtual Reality and motivation

The learning process depends on how to motivate students because they demonstrate high learning efficiency, and the primary target for most teachers to motivate their students is because if they like learning, they will understand and accomplish the content that they have studied, so many teachers prepare techniques, active learning and games to motive

them. In order to increase these techniques, they use Virtual Reality. There are specific techniques to design and achieve an excellent curriculum and Virtual Learning Environment (VLE), and this approach helps people or individuals acquire knowledge (Mayar,2003).

11. Procedures

The researcher is going to follow these procedures:-

1. Studying and reviewing the related studies to English vocabulary skills, virtual reality, virtual reality glasses, positional and rotational methods.
2. The researcher designed a checklist of English vocabulary skills according to the English curriculum for the primary stages who suffer from learning difficulties.
3. Prepare Mental Ability of (Farouk Mousa, 1984) test to ensure the research sample that are learning difficulties pupils.
4. Applying English Tests to identify the learning difficulties of students in the English Language
5. Designing pre/post-test, which should test the checklist of English vocabulary skills.
6. Designing the English vocabulary curriculum will represent the technical part of the research, and the researcher has to choose a suitable educational model to follow
7. The researcher divided the research sample into four groups experimental and controlled groups.
8. conducting the pre/post-test tests for these groups
9. Conducting the treatment on the experimental groups.
10. Conducting the post-test for these groups.
11. Conducting immersion scales for these groups
12. Analyzing results.

<table>
<tr><td>Variables</td><td rowspan="5">Pre-test
Achievement test</td><td>Group 1</td><td>Group 2</td><td rowspan="5">Post Achievement Test</td></tr>
<tr><td>Trackingtypes
(Rotational-positional)</td><td>Reflective positional</td><td>Reflective
rotational</td></tr>
<tr><td rowspan="3">Cognitive styles (impulsivity-reflectivity)</td><td>Group 3</td><td>Group 4</td></tr>
<tr><td>Impulsive
Positional</td><td>Impulsive
Rotational</td></tr>
</table>

(Table 2) Experimental Design

8. Instrumentation :

1. Mental ability test :

this test aimed to identify students' learning difficulties through the number of questions which contained ninety questions from different subjects which depended on the age of students and, in that case, the age of students from 9 to 11 years. This test was validated in terms of validity and reliability coefficient. The reliability of the IQ test has a high degree of reliability, Where the reliability coefficient of alpha Cronbach was (0.958), which is a high-reliability value that indicates the validity of testing IQ for application.

2. Matching familiar Figures Test:

Matching Familiar Figures Test (MFFT). The vocabulary of this test generally consists of shapes familiar to the subjects. Each item consists of a standard form and a group of shapes that differ from the basic shape. Minutes except for one of them that completely matches it. This test aimed to determine the impulsive and reflective students. This test was validated in terms of validity and reliability coefficient.

The reliability of the Elfaramawy Learning Style test has a high degree of reliability, Where the reliability coefficient of alpha Cronbach was (0.888), and this is a high-reliability value that indicates the validity of testing Learning Style for application.

3. English vocabulary checklist:
This checklist has been designed to collect the words and divide them into four parts of a speech nouns, verbs, adjectives and prepositions, which the researcher wanted to put in the program. The resource of this vocabulary is the Time for English curriculum

4.English Vocabulary achievement test
The researcher prepared the English vocabulary test, and the primary purpose was to measure the students' achievement in English vocabulary skills. The researcher has used this test as a pre-test which was applied before the experiment, and as a post-test which has been applied after the experiment. The source of this test is the curriculum of time For English for grade five. This test was validated in terms of validity and reliability coefficient. The reliability of English Vocabulary skills test has a high degree of reliability. The reliability coefficient of alpha Cronbach was (0.867), and this is a high-reliability value that indicates the validity of testing English Vocabulary skills for application.

5. The immersion scale
aimed to measure the students' Immersion in the virtual reality glasses program to develop English vocabulary skills for learning difficulties students with tracking type (rotational- positional) to know the program's reflection on the students and how they immersed in this program. This test was validated in terms of validity and reliability coefficient. The reliability of Immersion Scale has a high degree of reliability. The reliability coefficient of alpha Cronbach was (0.911), and this is a high-reliability value that indicates the validity of testing the Immersion Scale for application.

9. Participants:
The number of participants was eighty-nine students who were chosen from Tarek Ibn Zeyad primary school from grade five; after testing mental ability test was given to one hundred and twenty, and the

number of students who had learning difficulties was seventy students. Then, the students took taken Matching Familiar Figures test for Kagan for primary school children. Dr. Hamdy Elfarmawy translated the copy. They were assigned to two groups.

No. Participants	The experimental group
22	Reflective - positional
21	Reflective- Rotational
23	Impulsive-positional
23	Impulsive- Rotational

(Table 1)

12. Results and discussion:

The obtained results are the findings of the research, which aimed to identify The interaction between Virtual reality glasses tracking types (positional -rotational) and Cognitive style (Impulsivity-Reflectivity) to develop English vocabulary skills and Immersion among primary stages pupils with learning difficulties, throw post-application of English vocabulary skills test and Immersion Scale for the research groups, This is after measuring students IQ through Mousa (1984) mental ability test and determining their Cognitive style (Impulsivity-Reflectivity) through Elfaramawy Shapes pairing test, And using the appropriate statistical methods based on the SPSS statistical processing program to verify the integrity of the research tools and draw conclusions. The following is a presentation of the research results in some detail:

The following are the results of the statistical analysis of the effect of interaction between Virtual reality glasses tracking types and Cognitive style to develop English vocabulary skills; Table (1) shows the mean scores of the different groups in the post application of the English vocabulary test, in addition to the standard deviation for each group.

Table (3) Mean scores and Standard Deviation of primary pupils in post application of English Vocabulary skills test (Maximum Grade = 40)

Variable		Virtual reality glasses tracking types		Total
		positional	rotational	
Cognitive style	Impulsivity	Mean= 33.52 St.dv.= 1.082 N= 23	Mean= 31.30 St.dv.= .926 N= 23	Mean= 32.41 St.dv.= 1.499 N= 46
	Reflectivity	Mean= 34.18 St.dv.= 1.140 N= 22	Mean= 32.48 St.dv.= .750 N= 21	Mean= 33.35 St.dv.= 1.289 N= 43
Total		Mean= 33.84 St.dv.= 1.147 N= 45	Mean= 31.86 St.dv.= 1.025 N= 44	Mean= 32.87 St.dv.= 1.471 N= 89

It is evident from Table (3) that:

The mean score of the positional group is higher than The mean score of the rotational group in the English Vocabulary skills test

The mean score of the Reflectivity group is higher than The mean score of the Impulsivity group in the English Vocabulary skills test.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Virtual reality glasses tracking type	85.486	1	85.486	87.420	.000
Cognitive Style	18.641	1	18.641	19.063	.000

Virtual reality glasses tracking type * cognitive Style	1.455	1	1.455	1.488	.226
Error	83.120	85	.978		
Total	96321.000	89			
Corrected Total	190.382	88			

Table (4) contains the data necessary to know the significance of each of the:

The difference between the mean scores of primary school pupils in the positional Virtual reality glasses tracking group and the mean scores of primary school pupils in the group of rotational Virtual reality glasses tracking.
The difference between the mean scores of primary school pupils in the group of Impulsivity cognitive style and the group of Reflectivity cognitive style the interaction between Virtual reality glasses tracking types (positional -rotational) and Cognitive style (Impulsivity-Reflectivity) to develop English vocabulary skills among primary stages pupils with learning difficulties

Table (4) Two-way analysis of variance of the impact of the interaction between Virtual reality glasses tracking types (positional -rotational) and Cognitive style (Impulsivity-Reflectivity) on English vocabulary skills test

From table (4), It is evident that the value of "F" is (87.420) for the Virtual reality glasses tracking type variable, and this is statistically significant at the level of (0.05), which the significance value is (0. 000), and this is smaller than (0.05), so there is a statistically significant difference at the level of (0.05) between mean scores of primary stage pupils with learning difficulties for the group which studied with positional virtual reality glasses tracking and the group which studied with rotational virtual reality glasses tracking in post-English vocabulary skills test and reject the first hypothesis.

Also, from the Table (4), It is evident that the value of "F" is (19.063) for the cognitive style type variable, and this is statistically significant at the level of (0.05), which the significance value is (0. 000), and this is smaller than (0.05), so it has been proven a statistically significant difference at the level of (0.05) between mean scores of primary stage pupils with learning

difficulties in Impulsive group and reflective group in post-English vocabulary skills test and reject the second hypothesis.

Also, from the Table (4), It is evident that the value of "F" is (1.488) for the interaction between virtual reality glasses tracking type and cognitive style, and this is not statistically significant at the level of (0.05), which the significance value is (0. 226), and this is greater than (0.05), so there are no statistically significant differences at the level of (0.05) between mean scores of primary stage pupils with learning difficulties in post-English vocabulary skills test for the four experimental groups due to the effect of interaction between Virtual reality glasses tracking type and cognitive style and accept the third hypothesis.

To determine the direction of differences between groups and in favour of any of the groups, the "Scheffe test" was used for dimensional comparison. The following Table shows the results:

Table (5) The significance of the differences in the interactions between the mean scores of the four groups in the English Vocabulary skills test

Scheffe	positional	rotational
Impulsivity	33.52	31.30
Reflectivity	34.18	32.48

The results presented in Table (5) indicate that The mean scores of Reflectivity cognitive style pupils who studied through positional Virtual reality glasses tracking occupy the first highest grade group, then in the second-highest group the Impulsivity cognitive style pupils who studied through positional Virtual reality glasses tracking, then in the third highest group the Reflectivity cognitive style pupils who studied through rotational Virtual reality glasses tracking, then in the fourth and last highest group the Impulsivity cognitive style pupils. They studied through rotational Virtual reality glasses tracking.

The following are the results of the statistical analysis of the effect of interaction between Virtual reality glasses tracking types and Cognitive style to develop immersion, Table (5) shows the mean scores of the different groups in the post-application of immersion scale, in addition to the standard deviation for each group.

Table (6) Mean scores and Standard digression of primary pupils in post application of immersion scale (Maximum Grade = 58)

Variable		Virtual reality glasses tracking types		Total
		Positional	rotational	
Cognitive style	Impulsivity	Mean= 51.74 St.dv.= 1.096 N= 23	Mean= 50.35 St.dv.= 1.112 N= 23	Mean= 51.04 St.dv.= 1.299 N= 46
	Reflectivity	Mean= 52.14 St.dv.= 1.552 N= 22	Mean= 51.05 St.dv.= 1.117 N= 21	Mean= 51.60 St.dv.= 1.450 N= 43
Total		Mean= 51.93 St.dv.= 1.338 N= 45	Mean= 50.68 St.dv.= 1.157 N= 44	Mean= 51.31 St.dv.= 1.395 N= 89

It is evident from Table (6) that:
The mean score of the positional group is higher than that of the rotational group on the Immersion Scale.
The mean score of the Reflectivity group is higher than The mean score of the Impulsivity group on the Immersion Scale.
Table (6) contains the data necessary to know the significance of each of:
The difference between the mean scores of primary school pupils in the group of positional Virtual reality glasses tracking and the mean scores of primary school pupils in the group of rotational Virtual reality glasses tracking.
The difference between the mean scores of primary school pupils in the group of Impulsivity cognitive style and the group of Reflectivity cognitive style.
The interaction between Virtual reality glasses tracking types (positional - rotational) and Cognitive style (Impulsivity-Reflectivity) to develop English vocabulary skills among primary stages pupils with learning difficulties.

Discussion:

The results indicated the superiority of the groups studied through positional Virtual reality glasses tracking; the researcher explained that positional Virtual reality glasses tracking helps pupils to navigate freely, and he was curious when he saw the presentation in virtual reality glasses, was so excited that he felt like he was part of the VR show, and he always looks forward to going back and watching if something interrupts him, so pupils find an actual width to learn more, and Virtual reality glasses helped him to express about things around him in English language, then pupils prefered in immersion using positional virtual reality glasses tracking, This result agreed with the results of the study of Bailenson, et al., 2008; Smith, 2015;

Regarding the cognitive style (Impulsivity-Reflectivity) variable and its impact on developing immersion, The research found the superiority of groups with reflective cognitive style rather than groups with cognitive impulsivity style; this result can be attributed to the need for concentration for the pupils with learning difficulties and taking time in the learning processes and engaging and immersion in learning English vocabulary, Thus, making fewer mistakes and continue in progress achieving high grades and intense competition with colleagues, Unlike impulsive pupils who do not take longer time, but quickly fall into many mistakes that hinder their learning process, and quickly drop out from the interactivity, especially in English vocabulary; also reflective pupils had no difficulties watching the presentation with VR glasses due to their characteristics in thinking and mental style, This result agreed with the results of the study of Sternberg. & Grigorenko, 1997.

Regarding the interactivity between virtual reality glasses tracking type and cognitive style, The results of the study indicated that there was no interaction between virtual reality glasses tracking type (positional - rotational) and cognitive style (Impulsivity-Reflectivity). This is due to the lack of a direct relationship between cognitive style and virtual reality glasses tracking type, especially in immersion end engaging with learning and acquiring English vocabulary skills, and that there is no preferred pattern for virtual reality glasses tracking type with one of the cognitive methods that he dealt with in the research, especially in learning and acquiring English vocabulary skill.

13. Conclusion and research recommendations:

Implementing Virtual reality glasses tracking types and cognitive style to develop English Vocabulary skills and Immersion among primary stages pupils with learning difficulties. Following four groups of
quasi-experimental design, the obtained results indicated that there was no interaction between virtual reality glasses tracking type (positional -

rotational) and cognitive style (Impulsivity-Reflectivity). This is due to the lack of a direct relationship between cognitive style and virtual reality glasses tracking type, especially in immersion with learning and acquiring English vocabulary skills, and that there is no preferred pattern for virtual reality glasses tracking type with one of the cognitive methods that he dealt with in the research, especially in learning and acquiring English vocabulary skills.

Considering the results, the research recommends:

1. Pay attention to employing technologies, especially virtual reality glasses, for pupils with learning difficulties.
2. Provide teachers training on virtual reality glasses tracking apps in their classrooms.
3. Encourage teachers to use a variety of technology, including virtual reality glasses tracking, to improve their teaching abilities and skills

References:

1. Bailenson, J. N., Yee, N., Blascovich, J., Beall, A. C., Lundblad, N., & Jin, M. (2008). The use of immersive virtual reality in the learning sciences: Digital transformations of teachers, students, and social context. The Journal of the Learning Sciences, 17(1), 102-141.
2. Chen, C. J. (2010). Theoretical bases for using virtual reality in education. Themes in Science and Technology Education, 2(1-2), 71-90.
3. Connell, W. F. (1987). Book Review: The International Encyclopedia of Education (10 Vols).
4. Fällman, D. (1999). VR in Education: An Introduction to Multisensory Constructivist Learning Environments, Universitetspedagogisk konferens, Umeå universitet. In Projects of the UCLA Cultural Virtual Reality Laboratory." Virtual Retrospect 2003 or Virtual Concept 2003, November, 5-7 http://www. cvrlab. org Technè 10: 3 Spring 2007 Jacobsen and Holden, Virtual Heritage/61.
5. HAMBALI, M. (2018). STUDENTS'VOCABULARY LEARNING DIFFICULTIES AND TEACHERS'STRATEGIES (A CASE STUDY AT MTs. AL-AZIZIYAH PUTRA KAPEK IN ACADEMIC YEAR 2017/2018) (Doctoral dissertation, Universitas Mataram).
6. Jonassen, D. H. (1994). Thinking technology: Toward a constructivist design model. Educational technology, 34(4), 34-37.
7. Mayer, R. E. (2003). The promise of multimedia learning: using the same instructional design methods across different media. Learning and instruction, 13(2), 125-139.

8. Rahimi, M., & Pourshahbaz, S. (Eds.). (2018). English as a Foreign Language Teachers' TPACK: Emerging Research and Opportunities: Emerging Research and Opportunities.
9. Rohmatillah, R. (2014). A STUDY ON STUDENTS'DIFFICULTIES IN LEARNING VOCABULARY. English Education: jurnal tadris bahasa Inggris, 6(1), 75-93
10. Smith, J. W. (2015). Immersive virtual environment technology to supplement environmental perception, preference and behavior research: a review with applications. International journal of environmental research and public health, 12(9), 11486-11505.
11. Yang, W. D., & Dai, W. P. (2012). Vocabulary memorizing strategies by Chinese university students. International Education Studies, 5(1), 208-214.