

Analysis of English language teachers' opinions on metaverse

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ABSTRACT

Today, technological developments contribute to educational research and practice. Metaverse, one of these technologies, is a multidimensional digital universe that includes the real universe and the virtual universe. The main purpose of this study is to reveal what English teachers think about Metaverse and to investigate which skill areas Metaverse can contribute to in language teaching. In the study, case study design, one of the qualitative research designs, was used. The study group of the research consists of nine volunteer English language teachers working in Terme district of Samsun province in the academic year 2022–2023. The study group was determined by convenient sampling method, one of the purposeful sampling methods. The data of the study were obtained through a semi-structured interview form. The data collection process was carried out over a period of 4 weeks. The research data were analyzed using both descriptive and content analysis methods in accordance with qualitative research and findings were determined. While determining the findings, themes, categories and codes were obtained and direct quotations were used to reflect the views of the teachers. As a result of the study, it was found that English teachers had positive opinions about Metaverse and that Metaverse would contribute more to speaking and listening skills.

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Introduction

In the 21st century, rapid technological advances are increasingly being designed, implemented and researched in the context of virtual learning environments as they offer games, immersive and interdisciplinary experiences that support students' motivation and learning (Foster, 2008; Kamarainen et al., 2015). The use of virtual worlds in educational contexts has been slowly but steadily increasing since the early 2000s (Harris & Rea, 2009), and the unique learning experience offered by these virtual reality environments adds a different dimension to traditional and distance education (Dickey, 2005; Sheehy, Ferguson, & Clough, 2007; Erbay, Şimşek, & Kirişçi, 2019).

The concept of Metaverse is a combination of the terms "Meta" and "Universe". The word "öte evren" can be suggested for this concept, which has no clear Turkish equivalent (Çelik, 2022). As a widely accepted new concept, the Metaverse gradually consists of 5G, virtual reality (VR) and other technologies (Shen et al., 2021; Sparkes, 2021; Jeong et al., 2022).

The Metaverse was first used in 1992 in a science fiction novel called Snow Crash (Stephenson, 1992). In his book, Stephenson (1992) defined avatars as audiovisual bodies that people use to communicate with each other in the Metaverse (Göçen, 2022). In 3D-based Metaverse environments, users can thus meet each other, buy and sell various digital assets, and form a community/group (Lee et al., 2022).

Today, the main users of the Metaverse are Generation Z members born after 1995 (Park & Kim, 2022). It is obvious that the new generation will be more present in digital environments than the previous one (Somyürek, 2017). "Adopt Me!", one of the dozens of games offered on Roblox, ranked first as a platform

with more than 25 billion users (Dean, 2022). "Adopt Me!" is a virtual game where users build buildings with avatars, raise pets and make new friends (Uplift Games, 2022). In the last two decades, Metaverse tools have become remarkably present in our lives. The Metaverse has become one of the most popular topics in recent years, with high-end computers and high-speed internet networks, the proliferation of 5G, and the global pandemic accelerating the precursor processes (Lee et al., 2022).

Joseph Psotka (1995) summarizes the then current state of virtual reality technology and envisions a future in which it can be universally applied in classroom education: "Because [the learner] experiences it and does not think of it only in cognitive, abstract terms, it has a profound and lasting effect on his or her perception of himself or herself and his or her place in the universe without leaving home" (p.422). Consequently, we are witnessing a new paradigm shift in learning from teacher-centered to learner-centered, as learners are no longer passive recipients of information, but actively participate in the learning process supporting real-world-like audiovisual simulations and scenarios (Chung, 2012).

For years, virtual reality in games has promised to herald a major change in educational methods; it has an incredible power to engage students by immersing them in other worlds (Gregory et al., 2016). Learners are motivated to learn everything about these other worlds, including the jargon and terminology associated with these virtual spaces (Gee, 2003). This is a great potential for language learning opportunity.

The metaverse is a trending key that provides students with virtual learning spaces with artificial intelligence (AI), virtual reality (VR), blockchain and other technologies (Foster & Shah, 2021; Herrera-Pavo, 2021). According to research, the use of technology in teaching English as a foreign language motivates students, creates new learning opportunities, provides a more enjoyable learning environment, encourages communication between students, and improves the learning process (Sun & Yang, 2013). The use of Second Life in education, apart from improving motivation, will enhance and promote language and culture learning practices; students can interact with native speakers of the target language and other users, and develop tandem learning practices (learning a foreign language by communicating with native speakers and teaching the native language in return) (Dominguez-Noriega, Agudo, Ferreira, & Rico, 2011). In this context, the purpose of this study can be stated as "to reveal what English teachers think about Metaverse and to investigate which skill areas Metaverse can contribute to in language teaching".

In order to realize this aim, the following sub-questions were sought to be answered in the study:

1. What do English language teachers think about Metaverse?
2. Which of the skill areas of reading, writing, listening and speaking can be contributed most by using Metaverse in English lessons?

Method

Research model

In this study, case study design, one of the qualitative research designs, was used. Case study is used to examine an event, environment or interconnected systems in detail (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2016).

Study group

The study group of this study consisted of nine English language teachers working in Terme district of Samsun province in the academic year 2022–2023. Five of the teachers were male and four were female, and their professional seniority was over five years. The study group was determined by convenient sampling method, one of the purposeful sampling methods.

Data collection tools

In this study, semi-structured interviews were conducted with the English Language Teachers in the study group. An interview form consisting of open-ended questions was developed by the researchers to be used as a data collection tool. The data of the study were obtained through this interview form. At this stage, the questions in the interview form were asked to the teachers on a voluntary basis. First of all, appointments were requested from the teachers by phone and the interviews were conducted face-to-face at the times determined by the teachers. All interviews were conducted outside of the teachers' class hours. During the interviews, all teachers gave permission to be audio recorded.

Data analysis

Content and descriptive analysis techniques were used together to analyze the data in the study. The data obtained were transcribed and codes and themes were created through content analysis. Descriptive

analysis was conducted within the framework of the themes of speaking, listening, reading and writing, which are the four skill areas of language teaching. In order to make the data more comprehensible, the findings were presented in tables. In accordance with the ethical rules, the names of the participants were not mentioned when showing the quotations and the quotations were presented by giving codes such as T1, T2.

Findings

Information on the demographic characteristics of the teachers is presented in Table 1.

Table 1 Demographic characteristics of teachers

Participant	Gender	Professional Seniority	Age	School Type
T1	F	12 years	35	Secondary
T2	M	7 years	32	Secondary
T3	F	15 years	40	Secondary
T4	M	11 years	35	Secondary
T5	M	9 years	32	Primary
T6	F	5 years	35	Primary
T7	F	12 years	37	Secondary
T8	M	26 years	49	Secondary
T9	M	11 years	35	Primary

Five of the teachers were male and four were female. Six of the teachers work in secondary schools and three in primary schools. Teachers' professional seniority ranged between 5 and 26 years.

Metaverse experience

In the study, first of all, it was investigated whether English language teachers have experienced the Metaverse. In this context, two questions were asked to English teachers based on the research question "What do English teachers think about the Metaverse?" and the answers were analyzed, and the themes, categories and codes are given in detail in Table 2.

Table 2 English teachers' Metaverse experience

Theme	Category	Codes
Metaverse Experience	Metaverse Experiencers	Social Interaction (T3, T5, T7)
		Embodiment (T3)
		Sense of Reality (T3, T4)
		Exciting (T4)
	Those who did not experience the Metaverse	No (T1, T2, T6, T8, T9)

The theme of English teachers' Metaverse experience was analyzed in two categories. Those who had metaverse experiences used codes such as social interaction, concretization, feeling of reality; as if they were there, as if they were living, exciting. Those who did not have a metaverse experience did not make a statement and only said that they heard about it in games. The statements of some of the participants are presented below.

"Since the subject of planets is difficult for students, this application made it concrete and provided better learning. I myself wore virtual reality goggles at the technofest. I thought it would be like watching something on TV, but it was very different. I felt as if I was really in it, and I experienced the moment one-to-one" T3.

"I wore virtual reality glasses, and I was very excited. I felt like I was really alive. I found it very fun" T4.

"..... was a very different experience. It was very exciting. It was a very nice experience to get to know other people and to come together with English as a common language" T7.

"...games are played with 3D glasses, I've heard of such things, but I haven't had any experience" T9.

As seen above, it is understood that the feelings of the teachers who experienced the Metaverse were positive. Some of them mentioned that Metaverse was exciting, while others mentioned the sense of reality, embodiment and social interaction features. Those who did not have Metaverse experience mentioned that they had only heard about it as a game.

General Thoughts about the Metaverse

Table 3 English teachers' general opinions about Metaverse

Theme	Category	Codes
General Thoughts	Positive Thoughts	Useful / Effective (T1, T2, T3, T4, T6)
		Interactive (T1, T2, T3)
		Motivating (T3, T5, T7, T8)
		Independence (T6, T7, T8)
		Exciting (T5)
		Social Interaction (T1, T3, T4, T5, T6, T7, T8, T9)
		Access to Unreachable Environments (T6, T9)
		Fun (T7)
		Interesting (T4)
		Economic (T2)
	Negative thoughts	Lack of infrastructure (T1, T3)

In Table 3, the general opinions of English teachers about Metaverse were learned through three questions and analyzed in two categories. Those who expressed positive opinions about Metaverse used codes such as useful/effective, interactive, motivating, independence, independence from time and space, exciting, social interaction, access to inaccessible environments, fun, interesting and economical. Those who offered negative opinions about Metaverse used codes such as lack of infrastructure and the need for teacher supervision. Some of the positive views of the participants are presented below:

"Children can enter environments where native English speakers are present and communicate. In this way, they can learn the language better" T1.

"Pilot cities are selected for projects and programs to be implemented in our country. If good results are obtained after they are implemented there, they are implemented in other cities; but after they are implemented through Metaverse and the results are evaluated, they can be implemented throughout the country. This reduces the cost and speeds up the work" T2.

"I think it is useful because real world applications are transferred in Metaverse. Sometimes we may not be in the same environment with our students, but we can meet and interact on Metaverse as if we were in the same environment" T3.

"Metaverse is a virtual world. We can organize activities for our students on Metaverse and attract their attention. We can play games with them. It can make positive contributions to the teaching process" T4.

"...it can enable students to see things that they cannot visualize in their minds by literally concretizing them. This will make it easier for them to learn many things by making them feel like they are really there, not intellectually" S5.

"The concept of time and space disappears. It is not compulsory to go to school, materials can be rented through Metaverse, and activity-based training can be organized" S6.

"It increases students' motivation. Learning can be provided from anywhere without time and space limitations" S7.

"...it increases motivation. Students can connect from anywhere. There is no concept of time and space" T8.

"...he can go to places he has never been. He can get the impression that he has really traveled there" T9.

The negative opinions of English teachers about Metaverse are as follows:

"It would be very useful but there may be infrastructure problems to use it in schools" T1.

As seen above, it can be said that English language teachers' general opinions about Metaverse are predominantly positive. The teachers who expressed their opinions about Metaverse mentioned the strengths of Metaverse such as useful, interactive, motivating, providing independence, exciting, socially interactive, reaching unreachable environments, fun, interesting and economical. Some participants mentioned that there is not enough infrastructure for Metaverse implementation in schools.

Language skills

Table 4 The effect of Metaverse on language skills

Theme	Category	Codes
Language Skills	Speaking	Social Interaction (T1, T3, T4, T6, T7, T8, T9)
		Independence (T7)
	Reading	Simulation (T6, T9)
		Sense of Reality (T2, T5)
	Writing	Sense of Reality (T2, T5)
	Listening	Social Interaction (S1, S3, S4, S6, S7, S8, S9)
		Independence (S7)
		Simulation (S6, S9)
		Sense of Reality (S2, S5)

In Table 4, teachers' views on which skill areas Metaverse can improve in English language teaching are shown with themes, categories and codes. In this context, an answer was sought to the research question "Which of the skill areas of reading, writing, listening and speaking can Metaverse use in English lessons contribute to the most?". The views of the participants are presented below:

"I think it will improve speaking and listening skills the most, because as they communicate, they will improve their speaking skills with the people there" T1.

"I think it can improve reading, listening, speaking and writing skills. Avatars appeal to all skills because you can really be in it" T2.

"I think it will contribute to speaking and listening skills. Since they will communicate with each other through the metaverse, their speaking and listening skills will improve" T3.

"I think it can improve listening and speaking skills as an environment. They use more verbal communication in Metaverse application" T4.

"...I think it will improve especially listening and speaking skills. Our country is far behind in giving speaking skills to students. But thanks to Metaverse, I think this can come to very good places" T5.

"It develops speaking and listening skills more. They can wear the headsets and dive into the environment and establish a mutual dialog" T6.

"I think it can improve listening and speaking skills. We teach foreign languages, but we have problems because our students cannot speak that language in daily life. But thanks to metaverse, our students can come together without the concept of time and space and establish dialogues" T7.

"It improves listening and speaking skills. The child will both speak and listen in dialogs" T8.

"...can improve listening and speaking skills. We have role-play in the classrooms. We want them to feel as if they are in that situation" T9.

As seen above, most of the English teachers think that Metaverse can improve reading and listening skills. They argued that the features of Metaverse such as social interaction, independence from time and space, simulation and sense of reality would have a positive impact on speaking and listening skills.

Content development

Table 5 Content development through Metaverse

Theme	Category	Codes
Language Skills	Speaking	Simulation (T1, T2, T7, T8, T9)
		Real Life Problems (T1, T4, T7, T8, T9)
		Social Interaction (T1, T3, T4, T5, T6, T7, T8, T9)
	Reading	Simulation (T2)
		Social Interaction (T6)
	Writing	Simulation (T2)
		Social Interaction (T6)
	Listening	Simulation (T1, T2, T7, T8, T9)
		Real Life Problems (T1, T4, T7, T8, T9)
		Social Interaction (T1, T3, T4, T5, T6, T7, T8, T9)

Table 5 shows the themes, categories and codes related to developing content for which skill areas through Metaverse. The opinions of English teachers were taken in this direction and codes such as simulation, real life problems and social interaction emerged. The views of the participants are presented below:

"For example, in the 5th grade Health unit, I would create a pharmacy through the metaverse, they would go there and buy medicine. I would create a hospital; they would go there and get examined. Thus, by establishing dialogues, their English would improve, and I would have given the outcomes more effectively" T1.

"I would develop content on the topics that students have difficulty in learning. First, I would identify a few topics and make a test. Then, according to the result of the test, I would concretize and teach those topics through Metaverse. They themselves would be involved with avatars" T2.

"There can be content about mutual acquaintance, introduction of cultures, sharing songs, food and festivals of different countries. Content can be prepared for each unit outcome in the English curriculum. Listening and speaking skills can be improved" T3.

"I would develop content that children can use in daily life and communicate. Thus, it would be a solution to the problem of students not speaking English, which we always complain about. Since they would be in communication with foreign students there, their speaking and listening skills would improve" T4.

"...I would create a platform where they can communicate, because when we say Metaverse, nothing concrete comes to mind. I would like to make Metaverse applications like Zoom, WhatsApp, etc. People would come together in a practical way" T5.

"I would like to organize content to improve four skills, but mostly speaking and writing skills. Since children think in Turkish, they have great difficulty in writing English words. I would create environments where they can establish mutual dialogues to gain speaking skills. I would also ask them to write to each other" T6.

"I would like to design content that would enable them to express themselves, to live their daily lives using a foreign language, to talk to someone on the road, to buy a ticket, to go to the hospital and say what they want. I would create situations for these, so that students can immerse themselves in life with their own avatars as if they were really there. In this way, they can really use English in spoken language" T7.

"I would create situations that they can use in daily life, that will enable them to learn the language. I would like to create content for the acquisitions in each unit in English where they can speak and practice the language. Because language is not learned without being used and exposed to it" T8.

"...I would want them to learn daily life expressions. They can use them on a touristic trip, go to the movies and buy a ticket, go to the park, go shopping. For these, I would create situations through metaverse. In this way, speaking and listening skills would improve" T9.

As seen above, English language teachers think that content can be developed for all four skills: speaking, listening, reading and writing. However, most of the teachers want to design content for the development of speaking and listening skills. The Metaverse is structurally suitable for content development as it provides real-life problems and social interaction through simulations.

Discussion and conclusion

In this study, which aims to reveal what English language teachers think about Metaverse and to investigate which skill areas Metaverse can contribute to in foreign language teaching, it was seen that the participants generally think positively about Metaverse and that Metaverse will contribute more to speaking and listening skills in foreign language teaching.

It is understood that the feelings of the teachers who experienced Metaverse were positive. While some of them mentioned that Metaverse was exciting, others mentioned the sense of reality, embodiment and social interaction features. Metaverse refers to an engaging digital environment where one can interact with avatars in a virtual universe (Suh & Ahn, 2022). Those who did not have metaverse experience mentioned that they had only heard of it as a game. Somyürek (2017) stated that it is obvious that the new generation will have more space in digital environments than the previous one.

In terms of general opinions about Metaverse, it can be said that English teachers' general opinions about Metaverse are predominantly positive. The teachers who expressed their opinions about Metaverse mentioned the strengths of Metaverse such as useful, interactive, motivating, providing independence, exciting, socially interactive, reaching unreachable environments, fun, interesting and economical. According to research, the use of technology in teaching English as a foreign language motivates students, creates new learning opportunities, provides a more enjoyable learning environment, encourages communication among students and improves the learning process (Sun & Yang, 2013).

Some participants mentioned that there is not enough infrastructure for Metaverse implementation in schools. For Radoff (2021), the most basic layer is the infrastructure, stating that without adequate infrastructure and framework, none of the other developments will be realized.

Within the scope of Metaverse's contribution to language skills, it was argued that Metaverse can improve reading and listening skills the most. Metaverse's features such as social interaction, independence from time and space, simulation and sense of reality are thought to have a positive effect on speaking and listening skills. The use of Second Life in education, apart from improving motivation, will develop and promote language and culture learning practices; students can interact with native speakers of the target language and other users, and develop tandem learning practices (learning a foreign language by communicating with native speakers and teaching the native language in return) (Dominguez-Noriega, Agudo, Ferreira, & Rico, 2011).

In terms of developing content through Metaverse, the participants think that a Metaverse application can be developed that includes all four of the skills of speaking, listening, reading and writing in English language teaching. However, most of the teachers want to design content for the development of speaking and listening skills. Metaverse is structurally suitable for content development as it provides real-life problems and social interaction through simulations. Tamai et al. (2011) created an e-learning platform for students coming to Japan in the virtual world of Second Life to study Japanese language and culture, and the authors concluded that metadatabase-based learning can be effective in learning Japanese customs, language and culture compared to traditional learning with textbooks or regular classroom. Our research results also support this study.

As a result, English language teachers emphasized that the use of Metaverse in foreign language teaching can be effective and that it will be a solution to the problem that speaking skills cannot be developed in our country. Students will be able to talk to native speakers through Metaverse and the learning outcomes will be more concrete through Metaverse. The opinions of English teachers about Metaverse are positive and it is seen that it can contribute to speaking and listening skills the most in foreign language teaching.

Recommendations

English teachers pointed out the positive effects of using Metaverse and suggested that this platform could be a solution to the problem of developing speaking skills in our country. At this point, suggestions can be as follows:

- There should be collaboration between educational institutions, English teachers and technologists. English teachers should be trained to understand the potential of the Metaverse and how to use it.
- English teachers should be offered specific training programs on the use of Metaverse. These programs should provide teachers with guidance on how to integrate Metaverse, effective lesson planning and encouraging students' active participation.
- Metaverse can increase students' motivation by enabling them to communicate with native speakers. Teachers can engage students through interactive activities and project-based assignments on Metaverse.
- Metaverse offers students the opportunity to practice their language skills in a concrete way. Using this platform, teachers can create real-life scenarios for students, encourage role-playing and role acting.
- Interactions through Metaverse allow teachers to assess students' speaking and listening skills. Teachers can give individual feedback to students to track their progress and encourage their improvement.
- Appropriate technological infrastructure must be in place for Metaverse to be used effectively. Educational institutions should provide resources such as hardware and internet connection for students and teachers to access Metaverse.

In conclusion, it is important to encourage the use of Metaverse, which is positively evaluated by English language teachers, in foreign language teaching and to support educational studies in this field. These suggestions can increase the effectiveness of Metaverse in improving students' speaking and listening skills and provide a more effective learning experience in English language teaching.

Disclosure statement

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