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Effects of Self-Regulation, Goal Orientation, and Anxiety on EFL Speaking in Metaverse and Face-to-Face Contexts

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This study aimed to compare the effects of self-regulation, goal orientation, and speaking anxiety on speaking performance between metaverse and face-to-face contexts. We randomly assigned 253 Korean middle school students to either metaverse or face-to-face groups for 12 weeks of English-speaking lessons. Before and after the experiment, students completed speaking tests and submitted a post-questionnaire. Structural equation modeling and multi-group analysis revealed that student attributes had a similar impact on speaking performance in both settings. Specifically, self-regulation and mastery goal orientation positively influenced speaking performance, while speaking anxiety had a negative effect, regardless of the context. Furthermore, self-regulation played a mediating role in reducing speaking anxiety in both settings. This implies that metaverse-mediated and face-to-face classes offer similar learning environments, where students can leverage their goal orientation and self-regulation skills to manage speaking anxiety. Ultimately, students can enhance their speaking performance by employing self-regulation strategies and nurturing a mastery goal orientation, irrespective of the learning context.

Keywords: metaverse, face-to-face learning, self-regulation, goal orientation, speaking anxiety, speaking performance, EFL middle school students

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1. INTRODUCTION

The COVID-19 pandemic has instigated profound transformations across various spheres of our lives, especially in education. UNESCO (2020) reported that 80% of global students were unable to physically attend schools due to the pandemic, which subsequently resulted in the closure of educational institutions in 138 countries, as confirmed by the World Economic Forum (2020). This crisis prompted a substantial shift from traditional face-to-face instruction to online learning, facilitated by significant technological innovations (Fitria, 2021; Park & Kim, 2022). Currently, it appears that the pandemic has ended, at least for the time being, and education is returning to its regular in-person format (Stoian, Fărcaşiu, Dragomir, & Gherheş, 2022). Nevertheless, given the ongoing digital transformation of education and rapid societal changes, it is prudent to anticipate other possible ways to teach besides the conventional face-to-face teaching formats (Shu & Gu, 2023). Scholars indicate that online learning will persist even in the post-pandemic era, suggesting that virtual education will constitute approximately 11% of all regular classes by 2026 (Lee, Jung, & Jung, 2021). Hence, it is essential to explore various forms of online learning and evaluate their characteristics to adequately prepare for future education (Stoian et al., 2022).

Recently, the metaverse technology is being viewed as a promising alternative for future education. The term *metaverse* refers to a virtual space that encompasses immersive virtual environments and enables real-time user interaction (Mystakidis, 2022). Metaverse technology promotes learner-centered education because avatars, representing learners, freely navigate virtual spaces, interact with fellow avatars, and establish social relationships (Han, 2022; Kye, Han, Kim, Park, & Jo, 2021). Metaverse technology also addresses shortcomings observed in video-conferencing platforms (e.g., Zoom, Microsoft Teams), such as limited interaction, passive learner attitudes, and poor attentiveness (Han, 2022; Kye et al., 2021; Li & Yu, 2023). In particular, metaverse emerges as a valuable tool for foreign or second (L2) language learning because it can replicate real-world interactions, allowing learners to immerse themselves in authentic contexts and facilitate real-time, interactive conversations (Li & Yu, 2023). Fitria (2021) reported that Indonesian students who experienced metaverse-mediated English classes expressed feeling as if they were attending a real classroom, although they were unable to attend an actual campus due to the pandemic. Li and Yu (2023) also claimed that the metaverse technology can significantly enhance learner engagement in immersive virtual environments and ultimately academic success.

Nonetheless, the scope of research concerning foreign language instruction within the metaverse remains notably limited. Existing studies, if present, predominantly assume an exploratory nature, yielding preliminary findings that necessitate subsequent investigation, reflective of the early developmental stage of metaverse research. Particularly obscure is the understanding of how student attributes, such as self-regulation, goal orientation, and anxiety,

interplay with achievement in metaverse environments, as compared to traditional contexts.

Prior research demonstrated that the nature of the learning environment itself, whether in-person or online, influences learners' psychological states (Xiangming, Liu, & Zhang, 2020; Zhang, Liu, & Lee, 2021). Thus, it is important to examine whether learners' attributes function similarly in both in-person and online learning environments. In particular, students' traits like self-regulation, goal orientation, and anxiety deserve thorough investigation within metaverse-based learning. This is because self-regulation strategies play a pivotal role in directing online learning processes (Hunutlu, 2023) and have the potential to reduce learner anxiety (Martirossian & Hartoonian, 2015), with these strategies being influenced by learners' goal orientation (Cellar et al., 2011; Pintrich, 2000). Nevertheless, there is a scarcity of research concerning these factors in metaverse environments. To fill this gap, our study investigated the impact of self-regulation, goal orientation, and anxiety on the speaking performance of Korean middle school students learning English as a foreign language (EFL) in metaverse settings compared to conventional face-to-face teaching.

2. LITERATURE REVIEW

2.1. Metaverse-based Language Learning

Metaverse, with its engaging visual simulations and immersive experiences, is gaining attention as an alternative to address the limitations of existing online learning and traditional teaching methods. In a recent international survey by Onggirawan, Kho, Kartiwa, and Gunawan (2023), involving nearly 3,000 faculty members and 30,000 students from universities worldwide, results showed that 87% of students enjoyed using virtual spaces for distance learning. Additionally, despite the common issues (e.g., limited interaction) that are frequently mentioned in online learning formats, 70% of students using the metaverse reported no difficulties in communication and interaction with others. Similarly, McClure and Williams (2021) reported that the majority of students at an Irish university expressed a preference for Gather.Town, a proximity-based metaverse, over other online learning software such as Zoom. Furthermore, Hwang, Shin, and Lee (2023) discovered that Korean undergraduates found metaverse-based learning immersive and comfortable. The students also reported a heightened sense of social presence and reality across three metaverse platforms (ifland, FrameVR, and Gather.Town), with no significant differences among them.

The increasing focus on metaverse platforms in education has prompted research investigating their integration into language learning. However, the majority of L2 learning studies primarily concentrate on either its advantages or limitations and only some studies extend their scope to general perceptions of using metaverse (Han, 2022; Pfützner, 2021;

Zhao & McClure, 2022). To ensure evidence-based decisions in education and foster continuous improvement in teaching practices, empirical research within school settings is essential. However, the utilization of metaverse in experimental studies remains limited and exploratory to date. For instance, in a pilot study involving nine Korean EFL students (ages 12-13), Bae, Seok, Jun, and Lee (2022) found significant improvements in digital literacy after four metaverse-based English classes using Gather.Town and ifland. Students also reported a high level of immersion and interests. In another study involving 72 Korean EFL elementary school students, Lee (2023) developed a narrative-based metaverse activity using Gather.Town. After three metaverse classes, students demonstrated notable increase in vocabulary knowledge and found metaverse-based English learning enjoyable. Despite the merits of these studies, the short duration (3 or 4 classes) may not fully assess the long-term impact of metaverse technology. They also lack a comparison group to determine if changes in students can be attributed to the metaverse rather than external factors.

In this regard, two studies are notable for examining metaverse-based language classes in comparison to traditional instruction. Kim, Kim, and Cha (2023) explored the effects of 8-week metaverse and face-to-face speaking practices on English proficiency and attitudes in 45 Korean EFL college students. Interestingly, they found no significant difference in English proficiency, but metaverse participants expressed negative attitudes regarding motivation and self-directed learning. In contrast, Shu and Gu (2023) studied a semester-long metaverse instruction, in comparison to traditional teaching with 60 Chinese EFL university students. The results demonstrated significant advantages for the metaverse group in various language skills. However, these studies had certain methodological shortcomings. In Kim et al. (2023), metaverse group students practiced dialogues via text chat, while the traditional group practiced face-to-face speaking. Additionally, the assessment method, a 70-question proficiency test, may not have perfectly aligned with the speaking practice conducted in the classes. In Shu and Gu's (2023) study, the metaverse classes encompassed numerous components, including multimodal resources, AI, VR, and face-to-face teaching, making it difficult to determine exactly what contributed to the positive impact. To investigate the differential dynamics of student attributes in metaverse and traditional classes, a study employing rigorous methodology and an extended duration is essential.

2.2. Self-Regulated Learning

Various models of self-regulated learning have been proposed by researchers, each offering diverse constructs and conceptualizations (Pintrich, 2000; Pintrich & De Groot, 1990; Schunk & Zimmerman, 2012; Zimmerman, 2002). Following an extensive review of self-regulation models and definitions, we define self-regulated learning as an active and constructive approach. In this, learners proactively set learning goals and endeavor to

monitor, regulate, and direct their cognitive processes, motivation, and behaviors (Pintrich, 2000). In general, self-regulation has three components (cognitive, metacognitive, and resource management), although the terms referring to each component may differ across the studies. The cognitive aspect pertains to the diverse cognitive strategies individuals employ for learning and task performance, such as rehearsal, critical thinking, organization, and elaboration (Artino Jr & Stephens, 2009; Duncan & McKeachie, 2005; Wang, Shannon, & Ross, 2013). The metacognitive aspect involves various strategies for goal setting, planning, and self-monitoring, all of which facilitate the learning process and goal achievement (Duncan & McKeachie, 2005; Wang et al., 2013). Resource management focuses on strategies that individuals use to handle the learning environment and external resources, such as time management, seeking assistance, regulating effort, and peer learning (Duncan & McKeachie, 2005; Wang et al., 2013).

It is well known that self-regulation strategies, such as effort regulation, metacognition, and time management, enable individuals to engage effectively with their learning and ultimately improve their academic performance (Broadbent & Poon, 2015; Pintrich, 2000; Zhou & Wang, 2019). The significance of self-regulation is also evident within L2 learning. Self-regulation strategies foster profound and efficient language learning, resulting in improvement in speaking (Al-Hawamleh, Alazemi, & Al-Jamal, 2022), reading comprehension (Maftoon & Tasnimi, 2014), writing (Mbato & Cendra, 2019), and overall EFL achievement (Ghanizadeh & Mirzaee, 2012). Furthermore, several studies (Andrade & Bunker, 2009; Hunutlu, 2023) have emphasized the significance of self-regulation strategies in online L2 learning contexts. However, the impact of self-regulation in metaverse environments remains unexplored, which constitutes the primary focus of our study.

2.3. Goal Orientation

Goal orientation theory explores how individuals' motivation to learn and their behavior are influenced by their goals. Despite the several models, most of goal orientation models propose two primary types of goal orientations: mastery and performance (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000; Pintrich, 2000). Harackiewicz and her colleagues (Harackiewicz et al., 2002; Harackiewicz et al., 2000) expanded the understanding of goal orientation theory by proposing four distinct types: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance. Although these distinctions significantly contributed to the development of goal orientation theory (Harackiewicz et al., 2002), our current study narrowed its focus to two orientations: mastery-approach and performance-approach goals. Mastery-approach goals direct learners to focus on acquiring new knowledge, enhancing their level of competence, and developing a deep understanding of the subject matter (Ames, 1992). In contrast,

performance-approach goals prompt learners to showcase their abilities by comparing themselves with others, surpassing their peers, and receiving public recognition for their superior performance (Ames, 1992). We chose to concentrate on these two goal orientations because they exhibit distinct relationships with self-regulation in broader educational settings, and distinguishing between mastery and performance goals holds greater significance than the approach-avoidance distinctions (Middleton & Midgley, 1997). Accordingly, our study aims to investigate potential variations in these relationships between metaverse and face-to-face contexts.

2.4. Speaking Anxiety

Foreign language anxiety refers to the emotional experience of unease, fear, apprehension, and concern associated with learning a foreign language (Horwitz, Horwitz, & Cope, 1986). Scholars argue that language learners commonly experience language learning anxiety at different stages of their language learning process (Thompson & Lee, 2014). Recognizing this phenomenon, Horwitz et al. (1986) devised the Foreign Language Anxiety Scale as a tool to measure this construct. Subsequently, researchers have adapted and utilized this scale to investigate the presence of language anxiety and its adverse effects on L2 performance (Gardner & MacIntyre, 1993; Horwitz, 2001). Specifically, Ganschow and her associates (Ganschow & Sparks, 1996; Ganschow et al., 1994) demonstrated that students with higher anxiety levels exhibited inferior language performance, whereas those with lower anxiety levels surpassed their highly anxious peers in overall language proficiency.

In particular, speaking abilities have received considerable attention, as they are most commonly reported challenges of foreign language learners. Notably, Phillips (1992) and Hewitt and Stephenson (2012) found a negative correlation between university students' foreign language anxiety and their oral performance. Woodrow (2006) discovered that both in-class and out-of-class speaking anxiety negatively predicted oral performance among university English learners. Additionally, Zheng and Cheng (2018) observed that EFL Chinese students expressed anxiety when speaking in English in classroom settings, although these students did not consider themselves anxious learners overall. In learning a language, anxiety can significantly hinder L2 speaking proficiency by impairing focus and cognitive control (Pekrun, 2019). Furthermore, anxiety can disrupt thinking processes, making it harder to understand, process information, and remember things; consequently, anxiety can weaken productive language skills such as speaking (Piechurska-Kuciel, 2012). To address possible ways of reducing speaking anxiety, our study investigates the relationships among speaking anxiety, self-regulation, and goal orientation in both metaverse and face-to-face contexts.

2.5. Links Among Self-Regulation, Goal Orientation, and Speaking Anxiety

Previous research has explored the connection between self-regulation and goal orientation, with mastery and performance goals showing distinct patterns. On the one hand, studies have shown that mastery-approach goals have a beneficial impact on different aspects of self-regulated learning (Cellar et al., 2011; Pintrich, 2000) and subsequently academic achievement (Zhou & Wang, 2019). Specifically, students with a mastery-approach goal orientation proactively control their cognitive processes by employing diverse cognitive strategies, such as elaboration, organization, and rehearsal, as well as metacognitive strategies like self-monitoring and self-evaluation (Bouffard, Boisvert, Vezeau, & Larouche, 1995; Cellar et al., 2011; Pintrich, 2000; Wolters, Shirley, & Pintrich, 1996). Additionally, mastery goal-oriented students excel in resource management, including effective time management and seeking help when needed (Bouffard et al., 1995; Pintrich, 2000). On the other hand, the link between performance goals and self-regulation remains inconclusive. While some studies have reported negative associations between performance goals and self-regulation strategies (Ames, 1992; Pintrich, 2000), others have found either positive (Bouffard et al., 1995; Harackiewicz et al., 2002; Wolters et al., 1996) or almost no relation between performance-approach goals and self-regulation strategies (Cellar et al., 2011; Kaplan & Midgley, 1997; Middleton & Midgley, 1997). Students driven by a desire to outperform others may be less inclined to employ deeper cognitive strategies or seek assistance, as doing so could potentially reveal their perceived incompetence to their peers (Pintrich, 2000).

Furthermore, several studies have investigated the relationship between self-regulation and anxiety. Martirossian and Hartoonian (2015) discovered negative correlations between self-regulated learning strategies, including self-regulation and cognitive strategy usage, and various forms of anxiety such as test anxiety, communication apprehension, and fear of negative evaluation. In contrast, Bademcioglu, Karatas, and Ergin (2017) identified a positive correlation between foreign language classroom anxiety (FLCA) and self-regulation and a non-significant correlation between FLCA and cognitive strategies. Additionally, their regression analysis revealed that neither self-regulation nor cognitive strategies significantly influenced university students' FLCA. Instead, factors like self-efficacy, test anxiety, speaking anxiety, and attitude toward English emerged as significant predictors of FLCA. To reduce or cope with elevated anxiety levels in learners, activating their self-regulation skills appears essential. Nevertheless, conflicting study results imply that the utilization of self-regulation strategies might not necessarily alleviate the adverse impacts of anxiety. In our study, we sought to examine whether self-regulation could mitigate anxiety and, subsequently, improve speaking performance, while also exploring potential variations in these dynamics between metaverse and face-to-face contexts.

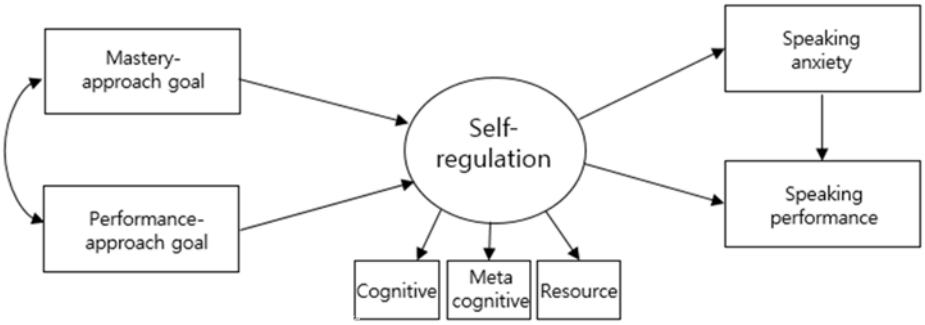
2.6. The Current Study

The primary objective of this study was to investigate the interconnections among self-regulation, goal orientation, and speaking anxiety in metaverse versus conventional face-to-face classes. To guide our research, we formulated the following research questions:

1) What are the relationships among self-regulation, goal orientation, speaking anxiety, and speaking performance among EFL Korean middle school students?
2) To what extent do these relationships vary between metaverse and face-to-face contexts?

FIGURE 1

Hypothesized Model



To explore the associations between these variables, we constructed a structural model (depicted in Figure 1) grounded on previous research. Overall, we assume that individuals' self-regulation, goal orientation, and speaking anxiety are connected and contribute to EFL students' speaking performance. Specifically, it was hypothesized that mastery-approach goals would positively influence self-regulated learning (Cellar et al., 2011; Pintrich, 2000) and ultimately speaking performance through self-regulation strategies (Zhou & Wang, 2019). Conversely, performance-approach goals would have a negative (Ames, 1992; Pintrich, 2000) or negligible (Cellar et al., 2011; Kaplan & Midgley, 1997; Middleton & Midgley, 1997) association with self-regulation and speaking performance. Mastery and performance goals were assumed to be positively correlated with each other (Pintrich, 2000). Furthermore, self-regulation was hypothesized to positively influence speaking performance directly or indirectly (Broadbent & Poon, 2015; Pintrich, 2000). Finally, speaking anxiety was hypothesized to decrease speaking scores, but self-regulation strategies may reduce the negative effects of anxiety (Martirossian & Hartoonian, 2015) and ultimately enhance speaking performance.

3. METHODOLOGY

3.1. Participants and Research Context

The participants consisted of 253 EFL students (137 boys, 116 girls; 12-13 years old) enrolled in two public middle schools in South Korea. Originally, 275 students participated, but 22 were excluded from the analysis because some students transferred to other schools or did not complete a speaking test or a questionnaire. The participants were from ten intact homeroom classes across two schools and randomly assigned to either metaverse or face-to-face groups. They formed a homogeneous group in regards to their age, level of English proficiency, and prior experience with the English language. The participants were all 7th graders, having received 4 years of English instruction in elementary schools. Their English proficiency levels encompassed a spectrum from low to moderate. According to a background questionnaire, 92.9% of the students had no experience staying in English-speaking countries, and only 7.1% experienced in English-speaking countries less than 1 month. Also, two English teachers, Teacher A and Teacher B, participated in the study. Teacher A taught a total of seven classes at School A, comprising four metaverse classes and three face-to-face classes. Teacher B taught four classes at School B, with two being metaverse classes and the remaining two being face-to-face classes.

We chose these two schools because of three reasons. The two schools implemented the Free Learning Year Program, which allowed students to experience a variety of learning modalities, career-related activities, and non-cognitive learning opportunities (Ministry of Education, 2017). During the free learning year, there are no formal written tests at schools, and teachers evaluate students' growth based on their participation and progress. As there was no burden of exam-centric curricular pressures for teachers and students in the free learning year program, it was possible to implement metaverse-mediated classes. Also, during the pandemic, these schools distributed individual Chromebooks, which were essential laptop computers for conducting metaverse-mediated classes. Moreover, these two schools represent typical low and middle socioeconomic neighborhoods in Korea and exemplify the limited exposure of Korean students to native English speakers and formal speaking instruction. For these reasons, we selected these schools as our research contexts.

3.2. Learning Contexts: Metaverse vs. Face-to-Face Classes

All students participated in English lessons lasting 45 minutes three times per week. On two of these days, regular English instruction was provided using an English textbook, focusing on practicing short dialogues, comprehending 200 to 250-word reading passages, and explaining vocabulary and grammar rules found in the texts. The third session was

dedicated to the experiment, either metaverse or face-to-face speaking classes, for 12 weeks.

In metaverse-mediated classes, students (n = 140) readied their Chromebook devices and earphones with microphones on their desks prior to this class. At the commencement of the class, teachers provided a metaverse link forwarded by researchers. Subsequently, students and teachers logged in using avatars and undertook diverse speaking tasks. These tasks encompassed 12 themes, each offering relevant English expressions, vocabulary, and pictorial aids in a workbook. Most speaking tasks required collaboration and communication among group members or in pairs. Despite being in the same classroom, students within the same group were physically separated and had to interact with their group members' avatars to complete tasks. Throughout these tasks, teachers monitored group engagement, actively motivating participation in the speaking activities.

In face-to-face classes, students (n = 113) were divided into two sub-groups: one using a workbook and the other using a textbook. The content of the workbook closely resembled that of the metaverse group in terms of themes and speaking tasks. The key distinction lay in how these tasks were carried out: metaverse versus face-to-face. For students using a textbook, face-to-face interactions were facilitated using speaking tasks provided in the textbook. While the metaverse group communicated with each other within the metaverse platform, the face-to-face group interacted in person using a workbook or a textbook.

3.3. Instruments

3.3.1. Gather.Town and workbooks

Gather.Town is a virtual platform that enables users to communicate and collaborate in a virtual environment. Gather.Town employs a proximity-based system wherein the camera and microphone are automatically activated or deactivated as avatars approach or move away from each other, facilitating immersive experiences similar to real-life conversations (Han, 2022). As Gather.Town allows users to move around their avatars, this function gives students a sense of presence, the feeling of being physically or emotionally present in a virtual space (McClure & Williams, 2021). Moreover, Gather.Town provides users with pre-set virtual social settings, such as restaurants and shopping malls, which facilitate situated learning opportunities that are crucial for fostering students' oral proficiency and social communication skills (Zhao & McClure, 2022).

Using Gather.Town, we devised 12 different virtual spaces and corresponding workbooks centered around 12 themes, including avatar introductions, discussions about personal experiences, camping, shopping, cooking, movies, and K-pop stars. To facilitate students' engagement and progress in metaverse-mediated speaking classes, we deemed it essential to provide comprehensive workbooks for both teachers and students. Surprisingly, there was

very little research on metaverse-based speaking classes for young EFL students. As a result, there was not much information available to help develop workbooks for these settings.

To bridge this gap, we extensively consulted various books and educational websites and developed workbooks for both students and teachers. Student workbooks, comprising twelve speaking chapters, were designed to empower students in accomplishing speaking tasks in the metaverse environment. Teachers' workbooks included a comprehensive set of possible answers to the posed questions and activities. These responses served as valuable references and exemplars for teachers, aiding them in guiding their students effectively during the metaverse-mediated speaking classes. Similarly, both student and teacher workbooks were created for the face-to-face group, sharing identical content and themes with minor variations. For example, in the face-to-face group's workbook, 'avatar introduction' was replaced with 'friend introduction.'

3.3.2. The questionnaire

The questionnaire had four sections. The first section required information about demographic data, including age, gender, years of English study, and length of stay in English-speaking countries. The next three sections (presented in Appendix) measured students' self-regulation, goal orientation, and speaking anxiety with 36 items on a six-point Likert scale (1 = strongly disagree, 6 = strongly agree).

The first section on self-regulated learning comprised 16 items, further divided into three sub-sections. The first sub-section, cognition, encompassed five strategies employed by students to enhance their learning process. These strategies included rehearsal, critical thinking, organization, and elaboration (Artino Jr & Stephens, 2009; Duncan & McKeachie, 2005; Wang et al., 2013). The second section, metacognition, comprised five items designed to assess whether students utilized specific strategies, such as goal setting, planning, self-monitoring, and self-evaluation, to effectively facilitate their learning process and achieve academic goals (Duncan & McKeachie, 2005; Wang et al., 2013). The third section, resource management, consisted of six items aimed at evaluating students' implementation of strategies like time management, seeking assistance, regulating effort, and engaging in peer learning. These strategies help students manage the learning environment and utilize external resources to support the learning process (Duncan & McKeachie, 2005; Wang et al., 2013).

Adapted from previous research (Ames, 1992; Harackiewicz et al., 2002; Harackiewicz et al., 2000; Pintrich, 2000), the goal orientation section contained 12 items. The mastery-approach goal orientation (6 items) aimed to assess whether students demonstrated intrinsic motivation to learn and emphasized the development of their abilities. Additionally, these items gauged whether students employed deep learning strategies, indicative of their proactive efforts to improve their understanding in the subject matter. Conversely, the

performance-approach goal orientation (6 items) measured whether individuals were driven by external factors, such as grades, rewards, or recognition. These items also examined whether students adopted surface learning strategies, indicative of their focus on outperforming others, rather than seeking a deeper comprehension of the content.

The last section measured speaking anxiety with 8 items, adapted from Horwitz et al. (1986), Woodrow (2006), and Cheng, Horwitz, and Schallert (1999). The items focused on the communicative situations in English classrooms because there is almost no chance of speaking in English for the target population outside of class in the EFL context.

3.3.3. Pre- and post-speaking tests

Two tests, pre- and post-speaking, were designed to evaluate the students' speaking proficiency. Drawing on prior research (Hirai & Koizumi, 2009; Lee, 2007; Payne & Whitney, 2002), the tests comprised five tasks and one practice item, starting from easy tasks and proceeding to more difficult ones (see Table 1). Rather than relying on a single task, we used multiple tasks to avoid over-influence of one task on the overall language ability score (Khabbazbashi & Galaczi, 2020).

TABLE 1

Descriptions of Speaking Test Items

No.	Items	Task Types	Planning Time (*sec*)	Response Time (*sec*)
1	Warm-up exercise	Reading aloud	15	60
2	Picture-related task	Providing directions using a map	15	60
3	Picture-related task	Describing people, things, or places	15	60
4	Topic-based task	Narrating a person/a day	15	60
5	Topic-based task	Supporting an opinion about using cell phones/ watching TV	15	60
6	Picture-related task	Telling a story using a series of pictures	15	60

In the warm-up exercise, students were asked to read aloud a paragraph, listen to their recording, and subsequently upload the audio file to a designated link for practice. The following tasks, numbered 2, 3, and 6, centered around picture prompts, focusing on skills like giving directions, describing images, and narrating a story. Tasks 4 and 5, involving topic prompts, gauged students' speaking skills in narrating personal experiences and

expressing opinions. To ensure appropriateness for the participants' language proficiency level, three English teachers reviewed the test items and offered feedback, leading to modifications. Except for the content, the pre- and post-test items were identical in terms of their task types, requiring vocabulary and grammar, as well as cognitive levels.

Each question was assigned a preparation time of 15 seconds, followed by an allocated speaking time of 60 seconds. To ensure precise timing and consistency, teachers assumed the responsibility of managing a timer, prominently displayed in front of the class. At the designated time, students were instructed to activate the "record" function on their Chromebooks and begin speaking. After 60-second speaking, all students were required to stop their speech promptly. Subsequently, the students were instructed to upload their recorded audio files to a designated link that had been prearranged and shared by the teachers.

Student speaking performances were rigorously assessed using an analytic rubric that considered four key criteria: task fulfillment, fluency, language (including vocabulary and grammar), and pronunciation. Drawing inspiration from assessment rubrics like CEFR, TOEFL and IELTS, we adopted CEFR as the core principle (Davidson & Fulcher, 2007). Proficiency levels were divided into 6 tiers, each assigned a score from 0 (no proficiency) to 6 (full command of spoken language). Consequently, students received a score for each of the five tasks, with a maximum total score of 30 points for the speaking test.

Two researchers independently graded three classes for practice, resolving discrepancies through discussions. Subsequently, each rater individually assessed 2,530 audio files (from 253 students, each answering 5 questions for the pre- and post-test). In cases of disagreement, the raters conducted further audio file reviews to reach a mutual consensus. This process was replicated for each test item. Importantly, the calculation of inter-rater reliability was deemed unnecessary because final scores were determined based on complete agreement between the two raters. To ensure impartiality, students were assigned unique identifiers, maintaining the raters' blindness to student identities.

3.4. Procedures

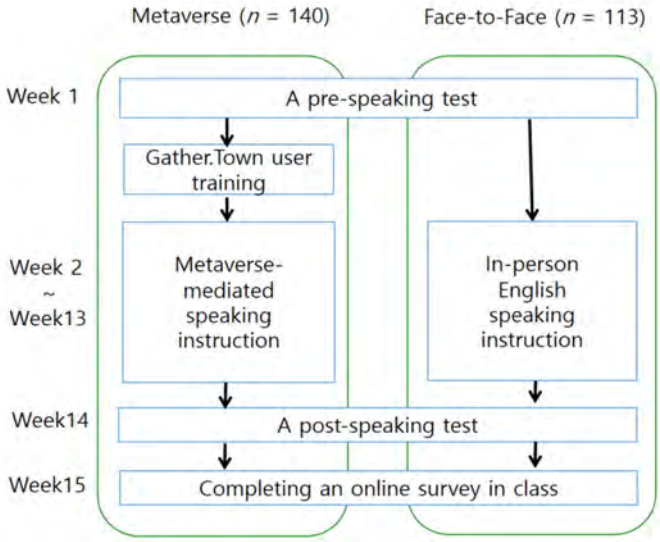
Before the study, the researchers developed virtual spaces on Gather.Town, along with corresponding workbooks for both teachers and students. To ensure effective preparation, the researchers engaged in several virtual meetings with two teachers, seeking their feedback on the virtual spaces and workbooks. During these meetings, the researchers also provided a comprehensive explanation of the overall study procedure, aiming to familiarize the teachers with the Gather.Town virtual environment and the study's implementation process. To further support the teachers and students in navigating Gather.Town, the researchers provided user training sessions and a printed manual detailing the platform's usage.

Figure 2 outlines the study procedure. In the first week, students completed a 45-minute

pre-speaking test using Chromebooks with teacher supervision. Simultaneously, the metaverse group received user training and manuals, while both groups received workbooks. Over 12 weeks, the metaverse group engaged in 45-minute speaking tasks on Gather.Town in small groups, with researchers providing weekly metaverse links. Concurrently, the face-to-face group also worked in small groups but in person, using workbooks or textbooks. In the 14th week, both groups took a post-speaking test following the pre-test format. During the 15th week, a 45-minute online questionnaire via Qualtrics was administered during a regular class session.

FIGURE 2

Overall Procedure of the Study



3.5. Data Analysis

We employed three stages of analyses utilizing SPSS 21.0 and Amos 21.0. Initially, measurement models were established, and composite scores were computed for the study variables. Subsequently, a structural model was constructed, integrating latent variables with observed variables, to test whether the model reflected the data appropriately. Model modifications were conducted based on the modification indices and the standardized expected parameter change to enhance the model fit (Whittaker, 2012). We also used multi-group structural equation modeling (SEM) analysis to compare the differences in the links between metaverse and face-to-face groups. Multi-group SEM is a valuable tool to compare structural models across different groups. To evaluate the overall fit of the models, several

indices were utilized with predefined acceptable thresholds: the chi square/*df* ratio was expected to be less than 3, while the comparative fit index (CFI) and the Tucker-Lewis index (TLI) were both required to be greater than or equal to 0.90 (Byrne, 2009). Additionally, the root-mean-square error of approximation (RMSEA) was expected to be less than or equal to 0.07, and the standardized root mean square residual (SRMR) was expected to be less than or equal to 0.08 (Bentler, 1990; Brown, 2015).

4. RESULTS

4.1. Preliminary Analysis Results

Table 2 shows descriptive statistics of all the variables. The reliability of the questionnaire demonstrated a satisfactory range, from .69 to .90. Notably, the resource management construct of self-regulation slightly fell below the recommended threshold of .70. However, the self-regulation factor, encompassing all 16 items, demonstrated higher levels of reliability. Also, there was no significant difference between the metaverse and face-to-face groups at the outset of the study, as indicated by the pre-speaking test, $t(251)=1.90$, $p > .05$.

TABLE 2
Descriptive Statistics for All Variables ($N = 253$)

Measure	No. of Items	Cronbach's alpha	*M*	*SD*
Self-regulation	16	.90	4.01	.82
Cognitive	5	.80	4.09	.93
Metacognitive	5	.77	3.70	.97
Resource management	6	.69	4.21	.83
Mastery-approach goal	6	.88	4.60	.96
Performance-approach goal	6	.89	4.36	1.12
Speaking anxiety	8	.84	3.57	1.01
A pre-speaking test	5	—	7.04	5.07
A post-speaking test	5	—	9.58	5.66

Table 3 reveals the correlation among the variables, ranging from -.08 to .66. The correlation table includes only post-speaking test scores, aligning with our study's goal to examine how student attributes relate to speaking proficiency after engaging in different learning modes. Additionally, a confirmatory factor analysis (CFA) was conducted for the self-regulation variable. The CFA analysis demonstrated all standardized factor loadings to

be significant, surpassing the recommended threshold of .60, thereby confirming acceptable construct validity (Nunnally, 1978).

TABLE 3

Correlations Among the Variables (N = 253)

Variables	Self-Regulation	Mastery Goal	Performance Goal	Speaking Anxiety
Self-regulation	—			
Mastery goal	.66*	—		
Performance goal	.47*	.66*	—	
Speaking anxiety	-.23*	-.12	-.08	—
Post-speaking test scores	.42*	.36*	.31*	-.35*

*p < .05

4.2. Structural Models

The evaluation of the hypothesized model yielded favorable results, with four out of six fit indices supporting the model's suitability (Table 4). Subsequent examination of modification indices and standardized expected parameter change (Whittaker, 2012) indicated that adding two error covariances (e3 and e4; e1 and e3) would enhance the model fit. These adjustments were theoretically justified, considering the interrelation between the variables. After these modifications, the revised model exhibited satisfactory fit with the data, meeting all the threshold levels (Bentler, 1990; Hu & Bentler, 1999).

TABLE 4

Comparison of Model Fit Indexes for the Hypothesized and the Revised Model

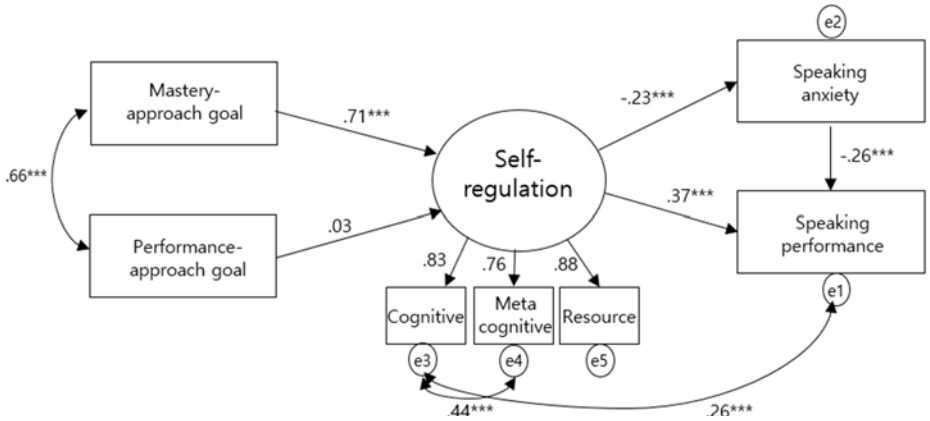
	Model Fit Indexes					
	χ^2/df	TLI	CFI	NFI	SRMR	RMSEA
Acceptable fit	<3	>.9	>.9	>.9	<.08	≤.07
Hypothesized model	3.36	.94	.97	.95	.03	.10
Revised model	1.27	.99	1.00	.99	.03	.03

As illustrated in Figure 3, all path coefficients were statistically significant, with the exception of the path from performance-approach goal to self-regulation. Specifically, mastery-approach goal (standardized path coefficient = .71, p < .001) exerted a strong and positive influence on self-regulation, whereas the impact of performance-approach goal on self-regulation was minimal. Notably, self-regulation demonstrated significant effects on

both speaking anxiety (coefficient = -.23, $p < .001$) and speaking performance (coefficient = .37, $p < .001$). These findings suggest that the implementation of self-regulation strategies can lead to reduced levels of speaking anxiety and improved speaking performance among students. Additionally, it was observed that speaking anxiety had a significantly negative effect on speaking performance (coefficient = -.26, $p < .001$), implying that higher levels of speaking anxiety can detrimentally affect students' speaking performance.

FIGURE 3

Revised Structural Model for All Students ($N = 253$)



***$p < .001$; **$p < .01$; *$p < .05$

4.3. Metaverse vs. Face-to-Face

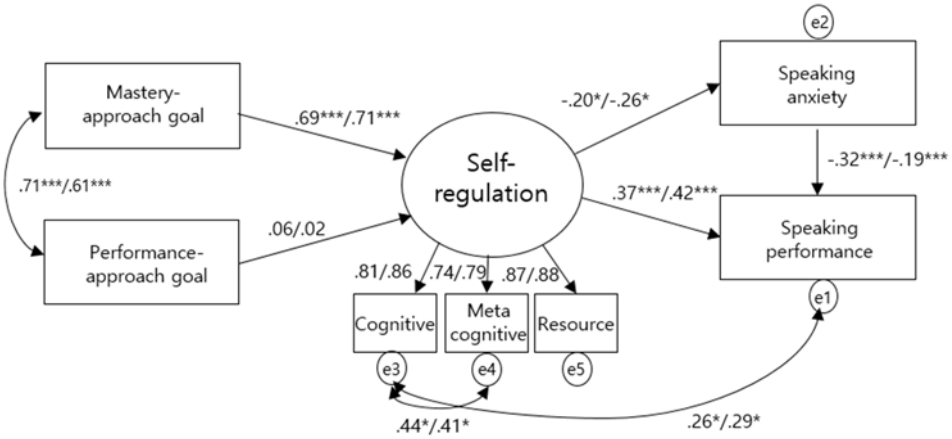
Figure 4 illustrates the relationships between student attributes in metaverse (values on the left of each path) and face-to-face (values on the right of each path) settings. Results from the multi-group analysis revealed no significant difference in the interaction patterns of student attributes between the two modes of learning ($\chi^2 = 17.30$, $df = 12$, $p > .05$).

In both environments, students demonstrated a notable influence of a mastery-approach goal on self-regulation, while the pursuit of performance-approach goals did not exhibit such connections in either learning mode. This suggests that individuals intrinsically motivated to excel in English tend to employ self-regulation strategies more effectively. Conversely, learners oriented towards outperforming peers may not experience comparable advantages from self-regulation strategies. Furthermore, self-regulation exhibited a significantly favorable impact on speaking performance and speaking anxiety across both settings. This implies that the adoption of self-regulation techniques can enhance speaking scores and alleviate speaking anxiety in both metaverse and non-metaverse settings. Although speaking

anxiety's impact on speaking performance was more pronounced in the metaverse (coefficient = -.32) than in face-to-face contexts (coefficient = -.19), this difference did not statistically differ from each other (parameter estimate difference = .61, $p > .05$).

FIGURE 4

Coefficients for Metaverse (on the left) and Face-to-Face (on the right) Settings



***$p < .001$; **$p < .01$; *$p < .05$

Table 5 shows the standardized effects of goal orientation, self-regulation, and anxiety on speaking performance for the two groups. Self-regulation emerged as the most influential factor in controlling speaking performance, followed by mastery goal and speaking anxiety. Mastery goal orientation had a strong indirect effect, while performance goal orientation had a negligible one. Speaking anxiety exhibited a significant direct effect on speaking performance. Notably, the metaverse and in-person groups showed comparable direct and indirect effects on speaking performance.

TABLE 5

Standardized Effects of Variables on Speaking Performance

Effects	Mastery Goal	Performance Goal	Self-regulation	Anxiety
Direct	—	—	.37* / .42*	-.32* / -.19*
Indirect	.30* / .34*	.03 / .01	.06* / .05*	—
Total	.30* / .34*	.03 / .01	.43* / .47*	-.32* / -.19*

Note. Left values are for the metaverse group, and right values are for the in-person group; *$p < .01$.

5. DISCUSSION

5.1. Metaverse Versus Face-to-Face Contexts

This study investigated whether student attributes and speaking performance exhibit divergent patterns in metaverse and face-to-face contexts. The results of the multi-group analysis revealed no significant differences between the two learning modes. This suggests that metaverse-mediated language classes may facilitate real-world conversations as closely and effectively as conventional in-person classes. Recent research lends support to these findings. In a global survey (Onggirawan et al., 2023), 70% of university students using the metaverse reported no problems in communication or interaction. Similarly, Hwang et al. (2023) observed high levels of social presence, reality, and immersion among Korean university students using the metaverse. Additionally, consistent with our study, Kim et al. (2023) found no significant differences in English proficiency between metaverse-based language classes and traditional face-to-face instruction for Korean EFL college students.

One reason for the minimal distinction between metaverse and face-to-face groups could be attributed to the efficacy of the metaverse technology, specifically Gather.Town, in facilitating authentic speaking interactions. Within Gather.Town, students operated avatars, necessitating physical proximity and interaction to fulfill English-speaking tasks. In this context, students' avatars effectively served as surrogates for their minds and bodies (Gee, 2005), as the virtual environment of Gather.Town closely mirrors a real-world space, shaping real-world actions. This phenomenon aligns with Gee's (2008) concept of the three-way interaction, where a virtual character's mind/body connects with both the character's goals and the player's objectives in the virtual world.

Another contributing factor may be the shared virtual space aspect. In parallel with conventional face-to-face classes, metaverse students were distributed into several sub-groups and engaged in communication within their designated virtual rooms. Although the students were physically separated in the real classroom, they occupied the same virtual space, relying on collaboration and engagement in Gather.Town, to accomplish their assignments. This shared virtual space with group members likely fostered a sense of presence and emotional connection akin to that experienced in face-to-face group settings.

Despite the growing body of research on the metaverse, there is limited investigation into its effectiveness compared to face-to-face language learning. Our study is significant because it empirically demonstrated that both metaverse and face-to-face contexts offer similar learning environments by assessing the consistency of student attributes between the two settings. Given the importance of self-regulation, goal orientation, and speaking anxiety in influencing EFL students' speaking performance, the alignment of these student attributes between the two contexts highlights the comparability of the learning environments.

Moreover, the study's results provide a rationale for adopting a hybrid approach that combines both metaverse and in-person instruction. Notably, metaverse technology can enhance language learning quality, particularly when in-person learning is impractical. Despite the necessity and educational trends favoring metaverse use, teachers might exhibit hesitancy due to uncertainties about its effectiveness. Drawing on the current study as empirical support, educational institutions and educators can purposefully integrate metaverse-based language classes into their curricula. This integration will allow students to engage in real-world conversations with peers from diverse geographic locations, thereby enhancing the flexibility of language learning.

5.2. Connections Between Student Attributes and Speaking Performance

This study demonstrated that irrespective of the learning context (metaverse or in-person), all three student attributes (self-regulation, mastery goal, and speaking anxiety) significantly predicted EFL students' speaking performance. Among them, self-regulation (including cognitive, metacognitive, and resource management strategies) emerged as the most influential factor positively affecting speaking performance. This aligns with previous research in educational psychology (Broadbent & Poon, 2015; Pintrich, 2000; Zhou & Wang, 2019) and the field of second language acquisition (Al-Hawamleh et al., 2022; Ghanizadeh & Mirzaee, 2012; Maftoon & Tasnimi, 2014; Mbato & Cendra, 2019), which consistently highlights the positive association between self-regulation and academic success. It is worth noting that self-regulation is particularly important in technology-mediated learning environments, such as the metaverse or online settings. The presence of digital tools and diverse technologies can lead to students' distractions and independent navigation, hindering task completion (Cho & Shen, 2013). Additionally, online learning lacks immediate instructor support, monitoring, and social presence (Zheng, Liang, Li, & Tsai, 2018). To stay focused on tasks and uphold discipline in the absence of constant supervision in metaverse environments, students are encouraged to cultivate and apply self-regulation strategies effectively. In order to facilitate this, educators should develop and implement programs that promote self-regulation skills among EFL students. These programs should offer practicing opportunities of how to use cognitive, metacognitive, and resource management strategies, empowering students to exert greater control over their learning and speaking abilities. Encouraging students to actively embrace these strategies will promote a sense of ownership over their learning process.

Furthermore, students' mastery-approach goal orientation, in line with previous studies (Cellar et al., 2011; Pintrich, 2000; Zhou & Wang, 2019), significantly influenced their speaking performance through the mediation of self-regulation. This aligns with scholarly assertions that intrinsically motivated students, driven by a desire to deepen their

understanding and enhance their learning, are more inclined to proactively manage their cognitive processes, engage in self-monitoring, and effectively allocate their time and resources using various strategies (Bouffard et al., 1995; Cellar et al., 2011; Pintrich, 2000; Wolters et al., 1996). While previous research identified a positive link between mastery goal orientation and self-regulation exclusively in face-to-face settings, our study extends this association to both face-to-face and metaverse environments. This discovery reinforces the idea that mastery-oriented goals play a crucial role in guiding self-regulation strategies, including cognitive and metacognitive approaches, thereby significantly enhancing academic outcomes (Cellar et al., 2011).

Conversely, our study found a minimal direct impact of performance goal orientation on self-regulation, along with its minimal indirect effect on speaking performance, irrespective of the learning context (face-to-face or metaverse). Consistent with this finding, prior research has similarly reported a negligible relationship between performance-approach goals and self-regulation in face-to-face contexts (Cellar et al., 2011; Kaplan & Midgley, 1997; Middleton & Midgley, 1997). This implies that the pursuit of outperforming peers through a competitive performance goal orientation may not promote the use of self-regulation strategies or improve academic achievement (Middleton & Midgley, 1997). Scholars generally agree that mastery goals are more conducive to learning than performance goals. Brophy (2005) argued that concerns about peer comparisons and competition could distract students from task completion, potentially leading those with performance-approach goals to shift to performance-avoidance goals, characterized by a fear of performing worse than others. Ames (1992) asserted that goal-related messages in a context influence learners' personal goal orientations. In Korean secondary schools, characterized by grades based on relative performance, peer comparisons and competition are ingrained. When a classroom is perceived as performance-goal oriented, students tend to adopt performance-oriented goals (Ames, 1992). Educators should discourage goals centered on peer comparisons and instead encourage a focus on skill development and understanding the subject matter.

Finally, speaking anxiety was identified as a significant and negative predictor of speaking performance. This observation corresponds with previous research, where the detrimental influence of anxiety on L2 speaking performance has been consistently documented (Hewitt & Stephenson, 2012; Phillips, 1992; Woodrow, 2006; Zheng & Cheng, 2018). This adverse impact is understandable as anxiety disrupts cognitive processes, impairs memory functioning, and hinders information processing, thereby undermining overall speaking performance (Piechurska-Kuciel, 2012). Furthermore, our study aligns with Martirossian and Hartoonian's findings (2015), providing additional support for the relationship between self-regulation and anxiety. Utilizing self-regulation strategies appears effective in reducing speaking anxiety, regardless of the learning context (face-to-face or metaverse). Consequently, fostering the development of these self-regulation strategies can prove

advantageous not only for enhancing overall learning but also for alleviating the negative effects of speaking anxiety.

Our findings hold important pedagogical implications. Educators and researchers should focus on fostering students' mastery goal orientation and promoting self-regulation strategies, regardless of whether classes are conducted in the metaverse or face-to-face. Emphasizing the intrinsic value and enjoyment of learning a foreign language can nurture mastery goal orientation. Additionally, instead of fostering competition among peers, educators should encourage a focus on deep comprehension and personal growth in L2 learning to cultivate mastery goal orientation. Moreover, introducing self-regulation strategies and demonstrating their advantages for improving speaking performance is crucial. Teachers should diversify their instructional activities, incorporating group discussions, collaborative projects, inference-making exercises, and reflective tasks that necessitate the use of self-regulation techniques. Furthermore, offering students autonomy in their learning process can facilitate the application of these strategies (Zimmerman, 2002).

Furthermore, curriculum developers and instructional designers can use the study's findings to enhance the language learning materials and activities that focus on self-regulation, goal orientation, and anxiety management, thereby improving students' speaking performance. Moreover, it is necessary to offer professional development opportunities for educators to enhance their understanding of how to nurture self-regulation, mastery goal orientation, and address anxiety in language classrooms.

6. CONCLUSION

Metaverse technology represents a paradigm shift in future education. While recent studies have extensively documented its educational benefits, few have explored how student attributes affect learning in the metaverse compared to traditional in-person settings. This study reveals that self-regulation and mastery-approach goal orientation positively impact speaking performance consistently across both learning modes. Similarly, speaking anxiety exhibited a consistently negative predictive impact on performance, regardless of the learning mode. Consequently, this study suggests that metaverse-mediated classes offer learning environments akin to in-person classes, with student attributes functioning consistently across these contexts.

To effectively utilize metaverse technology, it is essential to provide teachers with training on how to design teaching content, activities, and materials tailored for metaverse environments. Aydin (2023) revealed that EFL teachers often have limited familiarity with using metaverse for foreign language instruction and possess neutral self-confidence perceptions. Given that the success of metaverse integration hinges on teachers' perceptions

and knowledge, educational institutions and teacher educators should organize workshops and training programs to support metaverse adoption in classrooms. Additionally, it is crucial to enhance learners' awareness of metaverse's effectiveness and cultivate a tech-friendly school environment within educational settings.

This study possesses certain limitations. Although our study compared metaverse and face-to-face learning settings, the metaverse-based instruction occurred within a classroom, rather than the students' homes. Consequently, the physical proximity of metaverse students within the same classroom may have influenced their emotions and attitudes, potentially impacting the study's outcomes. Nonetheless, it is important to acknowledge that various metaverse-related experimental studies, including this one, have adopted a classroom-based approach with both elementary school students (Bae et al., 2022; Han, 2022; Lee, 2023) and university students (Hwang et al., 2023; Kim et al., 2023). Another limitation to consider is our reliance on self-reported data, which, as cautioned by Dunning, Health, and Suls (2004), opens the door to potential biases stemming from inaccurate self-assessments that could affect the study's outcomes. Employing a multi-method data collection approach, encompassing classroom observations and student interviews, could offer a more holistic comprehension of the impact of the two distinct learning modes. Addressing these aspects in future research may be warranted.

Despite these limitations, this study offers valuable contributions to the existing research. A significant strength lies in the comparative aspect, evaluating metaverse and traditional in-person learning formats with a substantial student cohort (n = 253) over an extended period (12 weeks). Earlier studies making such comparisons often featured methodological deficiencies, like inappropriate speaking assessments (Kim et al., 2023) or amalgamated metaverse experiments (Shu & Gu, 2023). Moreover, this study represents one of the pioneering efforts to scrutinize potential variations in student attributes between metaverse and face-to-face contexts. The application of SEM and multi-group analysis enabled researchers to simultaneously assess complex theoretical models involving multiple variables and relationships, while also facilitating group comparisons. This approach not only added depth and rigor to result interpretation but also enhanced the uniqueness of this study within the field of metaverse research.

Applicable level: Secondary

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APPENDIX

Questionnaire Items

Mastery Goal Orientation (6 items, α = .89)

1. I want to learn as much as possible in this class.
3. The most important thing for me in this English class is trying to understand the content as thoroughly as possible.
5. I like it best when something I learn makes me want to find out more.
8. Understanding and expressing in English is important to me.
10. In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.
12. In a class like this, I prefer course material that challenges me so I can learn new things.

Performance Goal Orientation (6 items, α = .89)

2. The opinions others have about how well I can do certain things are important to me.
4. Getting a good grade in this class is the most important thing for me right now.
6. It is important for me to do better than other students.
7. My goal in this class is to get a better grade than most of the other students.
9. I want to do well in this class to show my ability to my family, friends, teachers, or others.
11. It is important for me to establish a good overall grade-point average, so my main concern in this class is getting a good grade.

Self-regulation: Cognitive (5 items, α = .77)

1. I often found myself questioning things I hear in this course to decide if I find them convincing.
3. I treated the course workbook as a starting point and tried to develop my own ideas about it.
4. When I participate in English-speaking activities in this class, I pull together information from different sources, such as online English dictionary, my prior knowledge of the subject.
11. When speaking in English in this class, I tried to relate the activity to what I already know.
13. Whenever I hear English vocabulary and expressions in this class, I thought about possible alternatives.

Self-regulation: Metacognitive (5 items, α = .79)

5. Before I start a new chapter in the workbook, I often skimmed it to see how it is organized.
6. I asked myself questions to make sure I participate well in English-speaking activities in this class.
7. I tried to change the way I study in order to fit the instructional methods used in this class.
10. I tried to think through a topic and decided what I am supposed to learn from it when participating in English-speaking activities in this course.
15. When I participate in this class, I set goals for myself in order to direct my activities in each class.

Self-regulation: Resource Management (6 items, α = .69)

2. I tried to work with other students from this class to complete the course assignments.
8. I asked the instructor about English vocabulary or expressions I don't understand well.
9. When speaking in English is difficult, I either gave up. (reversed)
12. When I can't understand English vocabulary or expressions in this course, I asked another student in this class for help.
14. Even when English-speaking activities are dull and uninteresting, I manage to keep working until I finish.
16. When I didn't understand English words or expressions during the Gather.Town class, I looked them up in an online English dictionary.

Speaking Anxiety (8 items, α = .84)

1. I never feel quite sure of myself when I am speaking in my English class.
2. I don't worry about making mistakes in English class. (reversed)
3. I start to panic when I have to speak without preparation in English class.
4. It embarrasses me to volunteer answers in my English class.
5. I always feel that the other students speak English better than I do.
6. I feel very self-conscious about speaking English in front of other students.
7. I get nervous and confused when I am speaking in my English class.
8. I am afraid that the other students will laugh at me when I speak English.