Understanding English language teachers' digital literacies and their willingness to change

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ABSTRACT

Recent technological advancements have notably changed educational methods, necessitating language teachers to adopt technology to improve the learning process. This includes not only familiarization with the Metaverse but also the proficient use of digital tools to captivate learners. However, the effect of these technological advancements on teachers' ability to adapt is still largely unexamined. This study, therefore, focuses on examining how language teachers' digital literacy, engagement with Web 2.0 applications, understanding of the Metaverse, and their inherent willingness to change affect their readiness to adopt new teaching methods. The study was quantitative and data was gathered from 191 language teachers in North Cyprus High schools and analyzed using Partial Least Square-Structural Equation Modeling (PLS-SEM) with WarpPLS 8.0 software. The findings indicate a significant correlation between teachers' digital literacy, their use of Web 2.0 and Metaverse applications, with their willingness to embrace new technologies. The findings also indicate that a significant number of language teachers exhibit resistance to change and lack familiarity with recent technological advancements. The study concludes by offering insights into the implications of these findings.

Introduction

Technological advancements have deeply impacted education in this century. Since today's students already possess digital skills, educational institutions need to integrate these technological advances into their curricula. The study of Teaching English as a Second Language (ESL) or English as a Foreign Language (EFL) is not an exception in this context. To stay up with the shifting environments, pre-service English teachers need to adapt themselves to these changes (Balbay & Erkan, 2018: Eryilmaz, 2018; Oni et al., 2018). Uslupehlivan et al. (2017) argue that traditional teaching materials no longer suffice due to technological advancements. They advocate for the integration of new and innovative methods into education systems, moving beyond classical approaches.

Language instructors and academicians are expected to adapt themselves to changes in the world. In the education system, the Metaverse is a new term, and adapting Metaverse in language classrooms can support social interactivity among students (Dede, 2009). Metaverse

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in education can provide interaction among students through avatars (Cai et al., 2022). Language instructors should be aware of new instructional methods and need to adapt them according to their educational settings. Although the existing studies define Metaverse and its usage (Mystakidis, 2022), there has not been any specific study that shows pre-service language instructors' perceptions about using Metaverse in language classrooms and its relation to adapting to change.

Language students need more help with their language skills, and they should practice four skills through technological applications to achieve deep learning (Ybarra & Green, 2003). While language instructors play a significant role in language education, they need to be educated in a way that they can follow the recent trends in their pre-service teaching period. In the existing research studies, researchers aim to check the perceptions of language teachers or language teacher candidates–about digital literacy, Web 2.0 tools, Metaverse, and their willingness to change (Cai et al., 2022; Çelik, 2020; Süğümlü & Aslan, 2022). However, there has not been any study that combines all of these terms under a conceptual framework and checks their relationship. Language teachers who are trained extensively in theory and practice at university face the challenge of integrating technology into education. Porat et al., (2018) identify a significant issue in ICT training that impedes teachers' effective use of digital tools. While many studies examine pre-service language teachers' perceptions of ICT, there is a research gap in understanding their digital proficiency, actual tool usage, Metaverse comprehension, and adaptability to change. Many research studies investigate the perception of pre-service language learners' ICT usage in education from different dimensions. However, there has not been any study conducted to search the beliefs of pre-service language teachers about their digital ability, their actual use of digital tools, their understating of the Metaverse, and their resistance to change. This study, therefore, focuses on examining how language teachers' digital literacy, engagement with Web 2.0 applications, understanding of the Metaverse, and their inherent resistance to change affect their readiness to adopt new teaching methods.

Digital literacy

Digital Literacy (DL) is defined in two main categories: the conceptual definition and a set of operations definition (Knobel & Lankshear, 2006). The conceptual definition comprises the capacity to utilize, assess, and apply technological tools to lifelong learning processes (Gilster, 1997). In this definition, the necessary competencies for DL are not described. This original definition has been expanded to include other skills. Eshet-Alkalai (2004) state that DL is primarily used in formal education to support lifelong learning in the digital era. Similarly, Martin and Madigan (2006) describe digital literacy as the capacity to deal effectively with electronic gadgets. They also extend its definition by connecting it with other fields such as media literacy, visual literacy, etc. As a result of the rapid development of digital technologies and new media, Ng (2012) reflects that DL is the diversity of literacies that go hand in hand with thereafter and the use of technology. He also integrates modern technologies into his definition as whiteboards and web 2.0 technologies. Digital literacy is considered to be the potential of reading and writing (McArthur et al., 2018). The most recent research defines literacy broadly as the information and abilities required for modern sociocultural interactions

including those that involve digital products such as touchscreen tablets and analog instruments such as paper books (Leu et al., 2007; Cai et al., 2022).

The use of Web 2.0 tools in education

Rapid technological advancements nowadays have an impact on daily life and have made technology essential to people. As a result, technology now permeates every part of our daily lives. Technological progress has an impact on all systems that affect people. These technical advancements have made a significant difference in the education. After these innovations in education, language experts have developed technology-based tutoring and learning approaches. Web 2.0 tools reside in an important position in these approaches (Sugumlu & Arslan, 2022) because these tools are frequently used in daily life. Web 2.0 tools empower participants to engage in multiple activities simultaneously, such as sharing new content and providing feedback (Buffington, 2008). Additionally, these technologies facilitate easy access to information for participants. Considering that learners in this era are digital natives, it is imperative to adapt the approach to address their educational needs (Chaiyo & Nokham, 2017). Clements and Boyle (2018) assert that Web 2.0 tools stimulate active student participation in the classroom. Numerous studies affirm that the utilization of Web 2.0 technologies brings several advantages, including supporting active involvement in the class, boosting students' motivation, providing swift access to information, and extending the learning process (Armstrong & Franklin, 2008; Enonbun, 2010, Liza & Andriyanti, 2019).

Metaverse and language education

The word Metaverse is made up of the combination of two phrases 'meta' and 'verse.' The meta comprises the meaning of beyond and the term verse is derived from the universe (Cai et al., 2022). According to the report of Metaverse Developmental Research (2020-2021), the Metaverse is an online platform which acts as a mirror of the real world and it combines the real with the virtual. Through this platform, users can produce a context and make editions. Similarly, Wikipedia defines the Metaverse as a virtual system that will be part of human lives and will be stable in the future. As a result, the term Metaverse comprises two dimensions (Zhu et al., 2023). The first one is that Metaverse is an online independent platform that integrates the real world itself. The second dimension includes multiple senses. The users of the Metaverse can experience the sense of both virtual and real worlds. They cannot only hear sounds but also touch the objects around them. So, through this virtual world, it is possible to do various activities such as discussing a topic, completing a project, learning through experiences, or solving problems (Egliston & Carter, 2021; Jeong et al., 2022, Tsybulsky & Levin, 2017). The characteristics of education are flexibility and decentralization (Cai et al., 2022).

In language classes, students often learn through videos and pictures, yet traditional technology sometimes falls short of providing realistic imagery. The Metaverse, a burgeoning platform in education, offers a solution with its immersive and interactive capabilities (Churchill, 2016; Burdick, 2007; Esin & Özdemir, 2022). It allows users to experience and interact in simulated social contexts, transcending the limitations of conventional virtual learning environments. In the Metaverse, learners and teachers can communicate through avatars, facilitating a sense of presence and social connection that goes beyond physical classrooms. This platform's immersive nature creates an environment that closely mirrors the

real world, enriching the educational experience by making it more engaging and realistic (Cai et al., 2019).

Review of empirical studies

Many research studies focus on the perceptions of language instructors about Metaverse and using digital tools. Lee and Hwang (2022) aim to check the pre-service language instructors' beliefs about producing digital materials similar to Metaverse activities. In their study, 51 participants from South Korea were trained to produce digital materials. The results reveal that pre-service language instructors' ICT knowledge has increased in fifteen weeks. Moreover, in-service language teachers' age, competence and their experiences affect their usage of digital tools. Li and Yu (2022) state that digital teaching increases the effectiveness of language instruction. It has been emphasized that many in-service teachers do not prefer to use ICT resources in education because many of them have insufficient knowledge of technological competence (Tang & Chaw, 2016). Kong and Zhao (2017) and Lee et al. (2022) point out that it is essential to educate pre-service language instructors to encourage them to use technology in their classrooms. Consequently, many teachers are not adequately prepared in their university training to meet contemporary challenges. Therefore, educational programs must be updated and redesigned to align with recent advancements and evolving educational needs.

To sum up, there have been many studies that investigate the perception of pre-service language instructors' of assumed digital literacy, their actual use of Web 2.0 tools, and their understanding of the Metaverse. However, there has not been any study that combines these concepts under the roof of the same study. The rationale behind combining concepts of English Language teachers' familiarity with web 2.0 tools, the Metaverse, digital literacy, and their resistance to change lies in the unexplored intersectionality of these elements. While numerous studies have individually investigated aspects such as digital literacy, resistance to change, and familiarity with emerging concepts, there is a gap in the existing literature regarding the simultaneous examination of these critical factors. This study adopts a conceptual framework model to investigate the effect of ELT digital literacy, use of Web 2.0 tools, Metaverse, and resistance to change on the ELT willingness to change. In other words, the study seeks to find out the language teachers' beliefs about their digital literacy skills and their real digital abilities toward their willingness to change.

This study aims to explore English Language teachers' perceptions and abilities by combining various concepts. It seeks to reveal connections and dependencies among these factors, providing a detailed view of the challenges and opportunities teachers encounter in the changing educational landscape. Based on this, the study will test the following hypotheses:

H1: There is a relationship between ELT digital literacy and language teachers' willingness to change.

H2: There is a relationship between ELT the usage of Web 2.0 tools in ELT and language teachers' willingness to change.

H3: There is a relationship between Metaverse and language teachers' willingness to change.

H4: There is a relationship between resistance to change of ELT and language teachers' willingness to change.

Method

The present study adopted a quantitative approach to investigate the influence of technological factors on language teachers' adaptability to new teaching methods. Specifically, it focused on assessing teachers' digital literacy, their engagement with Web 2.0 and Metaverse applications, their understanding of these technologies, and their resistance to change. Data collection was accomplished through a structured survey, designed to gauge the aforementioned variables. The survey included questions on the teachers' proficiency with digital tools, their use and understanding of Web 2.0 and Metaverse technologies, and their openness to adapting to new educational methodologies. The analysis of the collected data was conducted using Partial Least Square-Structural Equation Modeling (PLS-SEM), employing WarpPLS 8.0 software. This statistical method was chosen for its efficacy in identifying correlations and causal relationships in complex models. Through this analysis, the study aimed to uncover significant patterns linking teachers' digital skills, their use of contemporary technological tools, and their adaptability to changes in teaching methods. Additionally, it sought to determine the extent of resistance to change among language teachers and their familiarity with recent technological developments, providing insights into the challenges and opportunities within the current educational landscape.

Figure 1 shows the research framework that demonstrates connections between digital literacy, the use of Web 2.0 tools, Metaverse, resistance to change, and willingness of the language teachers to change. According to the model presented in Figure 1, there is a clear relationship between digital literacy, the use of Web 2.0 tools, Metaverse, resistance to change, and willingness of language teachers to change.
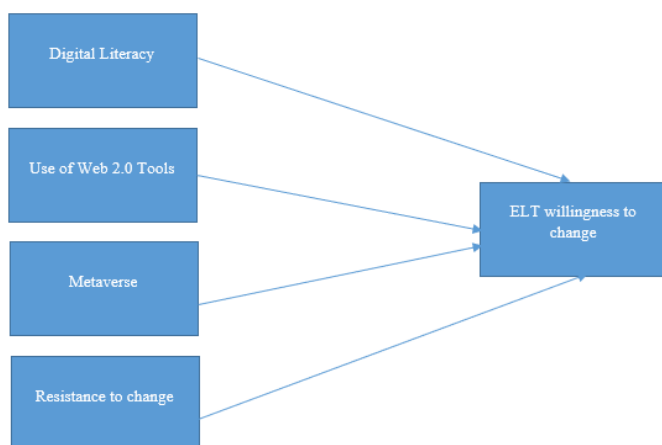

Figure 1. Conceptual Framework of the Study

Four pieces of the questionnaire were created to measure the study variables: demographic factors, digital literacy, the use of web 2.0 tools, Metaverse, resistance to change, and willingness to change (Ferrari, 2013; Celik, 2020; Çoban, 2020; Üstündağ et al., 2017; Tsybulsky & Levin, 2017).

Data collection and sample size

English Language Teachers of high schools in North Cyprus make up the study's sample. The researcher ensured to achieve a sufficient sampling size and stratified proportionate sampling in the lens of Krejcie and Morgan (1970)'s study model. The researcher contacted all the heads of the chosen schools before the distribution of the questionnaire to explain the study's goal and obtain their consent to gather data from their English language teachers. Furthermore, in accordance with the ethical and validated standards, the established and accepted study protocols were meticulously followed. The researcher encouraged participants to participate while ensuring their voluntary contribution to this research and guaranteeing them the confidentiality of their personal information. As a result, 200 questionnaires were distributed of which 196 were returned and used for further analysis.

Results

To prepare the data and analyze respondents' demographic traits, IBM's SPSS statistical program was employed; meanwhile, "Partial Least Square Structural Equation Modeling (PLS-SEM)" was used with WarpPLS (8.0) to create linkages proposed in the model. The PLS-SEM model is mainly used in exploratory research. While the present research aims to check the correlation between different variables, this model of analysis suits better for the study. According to Kock (2020) and Adetola et al. (2021), "a partial least squares regression approach that is effective for examining both linear and non-linear relationships simultaneously." WarpPLS (8.0) was used to analyze the model structure of this study. Adetola et al., (2021), Kock (2020), Odugbesan et al. (2022), and Moguluwa et al. (2021) feel that PLS-SEM is effective in examining the relationship between constructs and the resulting predictions that reflect the complexity of real-life circumstances. Additionally, because it is independent of data normality, it is effective in addressing a tiny sample.

Assessment of model measurements

Table 1 displays the evaluation of the model measures. According to the results, all of the items related to digital literacy, Web 2.0 tools, Metaverse, resistance to change, and willingness to change had loadings that were higher than the cutoff point of 0.5. Additionally, the *p-values* for these loadings were found to be statistically significant at a confidence level of less than 1%. According to certain studies (Adetola et al., 2021; Kock, 2014, 2015; Kock & Lynn, 2012), this is a sign that the assessment tool used for the constructs has strong "convergent validity." Furthermore, as shown in Table 1, the "composite reliability" and Cronbach alpha" coefficients for digital literacy (0.833 and 0.769), web 2.0 tools (0.806 and 0.731), Metaverse (0.859 and 0.753), resistance to change (0.802 and 0.721) and willingness to change (0.840 and 0.841) were all above the conservative threshold value of 0.7 (Kock, 2014, 2015), indicating that the measurement tool has a high degree of reliability. Additionally, all the variables as presented in Table 1 have an "average variance extracted" values that are larger than or equal to the threshold value of 0.5 (Adetola et al., 2021; Kock, 2015;), which is a sign of good internal consistency. Last but not least, the associated "full collinearity variance inflation" are 1.803, 2.832, 3.905, 4.513, and 3.396 for digital literacy, web 2.0 application, Metaverse, resistance to change and willingness to change respectively are all under the advised threshold of not greater than 5. The

coefficient of FVIF is a "model-wide measure of multi-collinearity, calculated in a way that incorporates variations in the other variables in the model, and that allows us to test whether respondents viewed our constructs as conceptually different from all of the other constructs," according to Kock and Lynn (2012).

Table 1. *Measurement's properties assessment*

Constructs	Loadings	Cronbach alpha	Composite reliability	Average variance extracted	FVIF
Digital Literacy		0.769	0.833	0.590	1.803
AQ1	0.663				
AQ2	0.510				
AQ3	0.808				
AQ4	0.719				
AQ5	0.619				
AQ6	0.476				
AQ7	0.575				
AQ8	0.559				
AQ9	0.304*				
AQ10	0.396*				
Use of Web 2.0		0.731	0.806	0.521	2.832
BQ1	0.590				
BQ2	0.598				
BQ3	0.645				
BQ4	0.608				
BQ5	0.378*				
BQ6	0.395*				
BQ7	0.396*				
BQ8	0.296*				
BQ9	0.595				
BQ10	0.617				
BQ11	0.606				
BQ12	0.814				
Metaverse		0.753	0.859	0.670	3.905
CQ1	0.850				
CQ2	0.834				
CQ3	0.770				
CQ4	0.391				
CQ5	0.589				
CQ6	0.784				
Willingness to Change		0.764	0.841	0.516	3.396
DQ1	0.568				
DQ2	0.399*				
DQ3	0.726				
DQ4	0.792				
DQ5	0.742				
DQ6	0.697				
DQ7	0.624				
Resistance to Change		0.802	0.721	0.544	4.513
EQ1	0.627				
EQ2	0.498				
EQ3	0.312*				
EQ4	0.215*				
EQ5	0.236*				
EQ6	0.668				
EQ7	0.526				
EQ8	0.455				
EQ9	0.477				
EQ10	0.661				
EQ11	0.767				
EQ12	0.657				
EQ13	0.577				
EQ14	0.814				

Note: * denote excluded from final analysis

We investigate the discriminant validity of the constructs in addition to the measurement instrument reliability. The findings in Table 2 demonstrate agreement with the claim made in the literature that "the square root of the average variance extracted and given in the diagonal of each construct must be bigger than the correlations between that construct and other constructs" (Fornell & Larcker, 1981). Our findings suggest that in the context of our model, student needs, linguistic barriers, preparation, self-efficacy, implementation strategies, and cultural competency exhibit strong discriminant validity.

Table 2. *Correlations among 1.vs with sq. rts. of AVEs*

	Diglit	Webapp	Meta	Restoch	Wiltoch
Digli	**.768**				
Webapp	.568	**.721**			
Meta	.095	.467	**.818**		
Restoch	.346	.701	.777	**.738**	
Wiltoch	.059	.539	.817	.586	**.718**

Note: Diglit = digital literacy, Webapp = Web 2.0 application, Meta = Metaverse, Restoch = resistance to change, Wiltoch = willingness to change. Square roots of average variances extracted (AVEs) shown on diagonal.

Common bias method (CMB)

Additionally, it was demonstrated in the work by Kock (2015) that, in methodological conditions similar to those discovered in this study, the coefficients of "complete collinearity VIF" are highly sensitive to "pathological common variations" across the constructs. In this, the phrase "common method bias" (CMB) is used. As a result, CMB can be discovered in a model that still satisfies the requirements for convergent and discriminant validity as verified by a "confirmatory factor analysis" (CFA), as we have in this study. Numerous studies have found that 3.3 is the ideal value for full collinearity VIF coefficients, while a threshold value of 5 is also acceptable (Adetola et al., 2021; Kock, 2015; Kock & Lynn, 2012; Moguluwa et al., 2021). In light of this, none of the full VIF coefficients obtained using the entire VIF presented in Table 1 surpass the permitted cutoff (<= 5). Additionally, the "Stone-Geisser" (Q^2) coefficients developed by Geisser (1974) and Stone (1974) are employed to assess the prediction validity (Kock, 2015). This coefficient is only accessible to endogenous latent variables, or latent variables with arrows pointing at them. Kock (2015) asserts that a measurement model's acceptable predictive validity is indicated by a Q^2 score > 0. The results in Table 3 show that our model meets this requirement.

Table 3. *Q-squared coefficients*

Diglit	Webapp	Meta	Restoch	Wiltoch
				0.810

Note: Diglit = digital literacy, Webapp = Wep 2.0 application, Meta = Metaverse, Restoch = resistance to change, Wiltoch = willingness to change.

Hypotheses testing

Table 4 summarizes the results of an analysis of the structural model's quality and model fit indexes. All of the indicators met their respective thresholds or were statistically significant, which shows that our structural model is good (Hair et al., 2010; Kline, 2005; Kock, 2020).

Table 4. *Model fit and quality indices*

Indices	Coefficient	Decision
Average path coefficient (APC)	0.293	P<0.001
Average R-squared (ARS)	0.843	P<0.001
Average block VIF (AVIF)	2.588	Acceptable if <=5, ideally <= 3.3
Average full collinearity VIF (AFVIF)	3.890	Acceptable if <=5, ideally <= 3.3
Tenenhaus GOF (GOF)	0.615	Small >= 0.1, medium >= 0.25, large >= 0.36
R-squared contribution ration (RSCR)	1.000	Acceptable if >= 0.9, ideally = 1
Standardized root mean squared residual (SRMR)	0.069	Acceptable if <= 0.1

After confirming the model's fitness, the significance of the linear relationships between our constructs was investigated. According to Hair et al. (2019), the R squared (R^2) value as shown in Figure 2 indicates that the digital literacy, use of web 2.0 application, Metaverse, resistance to change accounts for a high amount of the variance explanation in the English language teacher willingness to change ($R^2 = 0.84$).

According to Henseler et al.'s (2016) contention that the evaluation of effect size (f^2) should be used to determine the weight of the path coefficient, Table 5 demonstrates that Metaverse and resistance to change has strong effect on willingness to change, while web 2.0 application and digital literacy have moderate and weak effect of willingness to change respectively, which is in line with Cohen's (1977) recommendation.

Table 5. *Effect size (f^2)*

Interaction	f^2
Diglit → Wiltoch	0.014
Webapp → Wiltoch	0.046
Meta → Wiltoch	0.388
Restoch → Wiltoch	0.395

Note: Diglit = digital literacy, Webapp = Web 2.0 application, Meta = Metaverse, Restoch = resistance to change, Wiltoch = willingness to change.

The results of the model testing shown in Table 6, indicate that there is a substantial and positive link between digital literacy and teacher's willingness to change. The coefficients of interaction of digital literacy and willingness to change is "H1" (β = 0.158, *P* = 0.012). H1 is therefore supported, and it is concluded that the digital literacy of English language teachers in North Cyprus high schools has a considerable impact on their willingness to change. Similarly, the coefficient of interaction between web 2.0 application and willingness to change "H2" (β = 0.083, *P* = 0.020) and the relationship between Metaverse and willingness to change "H3" (β

=0.458, p < 0.001) both show to be positive and significant at less than 5% the significance level. As a result, hypotheses 2 and 3 were verified, leading to the conclusion that the use of web 2.0 application and Metaverse significantly affects English language teachers' willingness to change. Additionally, H4 hypothesized that resistance to change has a relationship with willingness to change. The results in Table 5 shows a positive and significant value (β =0.472, p < 0.001), which suggests that resistance to change significantly influence willingness to change. The conclusion that resistance to change significantly influence the English language teachers to change follows from the fact that hypothesis 4 is supported.

Table 6. *Path coefficients and P values*

Hypothesis	Interaction	Path coefficient (β)	P value	Decision
H1	Diglit → Wiltoch	0.158	0.012	Supported
H2	Webapp → Wiltoch	0.083	0.020	Supported
H3	Meta → Wiltoch	0.458	<0.001	Supported
H4	Restoch → Wiltoch	0.472	<0.001	Supported

Note: Diglit = digital literacy, Webapp = wep 2.0 application, Meta = Metaverse, Restoch = resistance to change, Wiltoch = willingness to change.
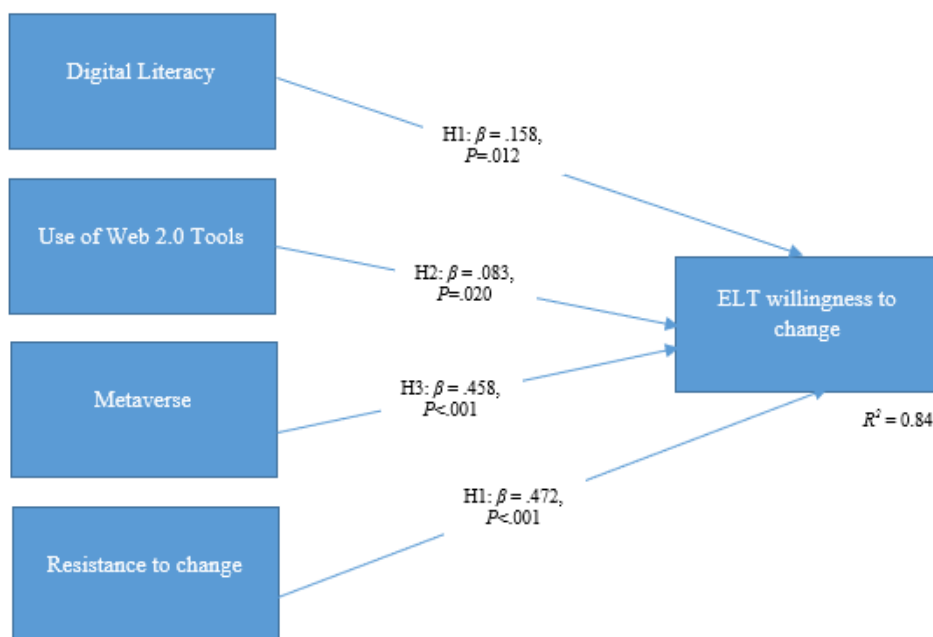

Figure 2. Hypotheses Testing Results

Discussions and Conclusion

This study aimed to examine teachers' digital literacies, their use of Web 2.0 tools, and their knowledge of Metaverse about their willingness to change. Digital tools are used in language education to foster effective learning (Zhao et al., 2016). According to Judkins (2017), creative people can come up with memorable ways to convey messages to others effectively. Language instructors who are equipped with digital skills can provide lifelong learning skills. In this study, it was reflected that the knowledge of digital literacy had a positive impact on the willingness to change. Therefore, it has been concluded that when language teachers' digital skills increase, their willingness to change also increases (Gürkan, 2017; Tsybulsky & Levin 2017). Similarly, Bahadır (2020) states that there is a positive relationship between teachers' perceptions about using technology and their willingness to change.

Moreover, the present study sought to find out the relationship between teachers' ability to use digital tools and their willingness to change. The results revealed that there is a positive relationship between language instructors' digital capacities and their willingness to change but this is not statistically significant (p=0.20). Although %32 participants can use padlet and such applications in educational settings, %69,3 participants can use social media applications. Thus, there is a positive relationship between language instructors' usage of Web 2.0 tools and their perceptions to change. The importance of pedagogical and technological knowledge is generally acknowledged, and Thomas (2016) concluded that teachers' technological knowledge is essential for their professional development. According to Wang and Vásquez's (2012) study, using Web 2.0 tools for computer-based learning activities helps foreign language teachers to increase their language skills rapidly. Despite this, according to Tuzlukova and Hall (2017), Web 2.0 technologies merely serve to inspire students to attend lessons and have no direct impact on students' acquisition of fundamental skills. Based on all of these studies and research results, it was determined that teachers should use Web 2.0 technologies carefully, taking into account the ages, cognitive abilities, and linguistic proficiency of their students. Additionally, caution should be exercised while incorporating these tools into the classes to avoid achieving gains that will harm the students' life, such as critical thinking, teamwork collaboration, and problem-solving, in addition to the academic success. Moreover, language instructors who use Web 2.0 tools can easily adapt to the change in their educational environments as this study reflected.

Regarding the language instructors' awareness of Metaverse and their willingness to change, the results indicated, many language instructors are willing to adapt themselves to the changes but they do not have enough knowledge about Metaverse. (p<001). To make learning techniques more engaging and encourage users or students to study effectively, Metaverse technology is a technology that can bring the virtual world into the real world and can transform objects into 3D (three-dimensional) objects (Lee et al., 2022). The Metaverse is a collection of virtual items. The Metaverse technology is based on three ideas. The first is the blending of physical and digital worlds, the second is real-time operation, and the third is the incorporation of three-dimensional objects. While Metaverse provides an effective learning environment for language students, many language instructors are not aware of the usage of this augmented reality.

In summary, this research effectively underscores the intricate connection among language teachers' digital literacies, their utilization of Web 2.0 tools, and their understanding of the Metaverse, particularly concerning their openness to change. As indicated by the results,

as teachers enhance their digital literacy and competence with Web 2.0 tools, their inclination to embrace change and evolve in their teaching methods also grows.

Despite the observed positive correlation between digital competencies and the readiness to embrace change, the research identifies a knowledge and utilization gap concerning the Metaverse among language instructors. This emerging technology, capable of seamlessly merging the digital and physical realms to create three-dimensional learning experiences, holds substantial potential for language education. Nevertheless, its successful integration into educational contexts necessitates teachers to not only possess awareness of its capabilities but also proficiency in its application. Hence, the study proposes a requirement for enhanced training and professional development in digital technologies, aiming to better equip language teachers for the dynamic landscape of education. Such an approach not only enhances their pedagogical strategies but also enriches the learning experience for students in an increasingly digitized world.

Pedagogical implications and suggestions for further research

This research focuses on exploring how language teachers' digital literacy, involvement with Web 2.0 applications, understanding of the Metaverse, and their inherent resistance to change impact their readiness to adopt innovative teaching methods. The findings reveal a significant proportion of language teachers display resistance toward change and a lack of familiarity with recent technological advancements. Consequently, English Language Teaching (ELT) Departments are recommended to introduce courses that actively involve language teacher candidates in developing their knowledge of new technological advances. Additionally, ELT departments should encourage candidates to investigate recent developments and motivate them to incorporate new techniques in their micro-teaching or teaching practice courses. While the present study involved a substantial number of teachers from various high schools, it is suggested that primary school teachers be included to assess their understanding of digital technologies and resistance to change. Furthermore, future research could expand its scope by incorporating schools from diverse regions worldwide to enhance the generalizability of the results.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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