



Effect of a Vision-Based Program on Willingness to Communicate among Iranian ADHD Adolescents Involved in Online English Learning

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Abstract

Attention has been drawn to recent, expanding studies on Second Language (L2) online programs and problems with people with learning difficulties, including Attention Deficit Hyperactivity Disorder (ADHD). This group of learners suffers from feelings of detachment and low self-confidence due to their lack of Willingness to Communicate (WTC) in an online classroom. Thus, the current quasi-experimental study explored the impact of a supplementary intervention targeted at helping learners create, substantiate, and live up to their ideal L2 self-images on multivariate components of ADHD learners' WTC in online English classes. For this purpose, 29 Iranian ADHD learners selected through convenience sampling were divided into two equivalent groups based on their ADHD levels. The groups were then randomly assigned to an experimental (N = 15) and a control condition (N = 14). In the experimental group, the vision ignition intervention was integrated into a 10-week online English course, whereas the control group's learners received no vision-enhancement intervention throughout the course. The learners' WTC was measured through a standard psychometric survey at the outset and conclusion of the course. Multivariable Analysis of Covariance (MANCOVA) was conducted to determine whether a linear combination of the subcomponents resulted in significant differences between groups. Along with an overall significant between-group difference in WTC, the results revealed the intervention's significant impact on WTC's two subcomponents: communicative self-confidence and integrative orientation.

Received: 05/11/2022 Accepted: 14/03/2023

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How to cite this article:

Sharifi, A. A., Heidari Tabrizi, H., & Chalak, A. (2023). Effect of Vision-Based Program on Willingness to Communicate among Iranian ADHD Adolescents Involved in Online English Learning. *Teaching English as a Second Language Quarterly (Formerly Journal of Teaching Language Skills)*, 42(2), 25-50. [HTTPS://DOI.ORG/10.22099/tesl.2023.45107.3158](https://doi.org/10.22099/tesl.2023.45107.3158)



Keywords: ADHD EFL Learners, Online Learning, Vision Ignition Intervention, Willingness to Communicate

With a central focus on online learning systems prevalent during the COVID-19 pandemic and communicative hindrances faced by ADHD EFL learners, learners deal with their academic success or failure as a struggling issue in online classes. Initially, the development of online learning led to improvement in many facets and aspects like online self-regulation, WTC, and motivation, which are at the heart of online learning. This is while, in some situations, this development has encountered many emergency callings. Since there is no teacher and classroom environment, the learner himself must be in charge of controlling the learning stuff. Claiming that an online medium provides students with ideal opportunities to practice and use the target language in a broad and creative environment (Yaali & Chalak, 2015) emphasizes the urge to explore WTC in online classes amid the COVID-19 pandemic. Despite the apparent contradictions in the literature about the superiority of distance learning through modern technology-assisted instruction over conventional classroom learning in terms of effectiveness, online learning is assumed to be the key to learning.

Said et al. (2021) noted that the unconscious eagerness of well-encouraged learners to talk in the online classroom can improve learners' WTC in both online and offline courses. Meanwhile, the consensus is that without proper guidance and preparation, some special-needs learners may become isolated, stay silent, plunge into a deep crisis, and get more easily distracted (Lacey & Scull, 2015). Thus, different factors could impact one's WTC, even internally or externally, leading to positive or negative results at varying levels in a time-sensitive and dynamic fashion.

On the other hand, research shows that the proper strategy to improve WTC in an online setting through thriving motivation and motivational approaches is helpful since a lack of motivation results in fewer strives to elicit respondents' reactions and responses (Chalak & Kassaian, 2010). In this regard, Dornyei's (2009) ideal L2 self was proposed as a crucial component of his L2 motivational self-system (L2MSS). The ideal L2 self is a characteristic of an L2 speaker who aspires to be an L2 learner. The basic assumption is that people are driven to take action in order to become their ideal selves as excellent L2 speakers in the future. Dorniey (2009) argued that L2 learners who vividly expressed their ideal L2 selves could be expected to exhibit higher WTC as well as higher motivation and effort in language learning. Several empirical studies related to WTC (Khajavy et al., 2016; Munezane, 2015) support Dorniey's claim, but they are all self-reported and cross-sectional studies. In order to motivate learners, the ideal L2 self must be fleshed out, stays alive, and be perceived as plausible (Ruvolo & Markus, 1992). These characteristics imply a function for visualization. According to Gawain (2002), visualization is "the ability to create an idea, mental image, or feeling of something one wants to achieve and to focus on it until it becomes a reality" (p. 4). Studies have shown

a positive correlation between visualization and the ideal L2 self (Dörnyei & Chan, 2013), especially between visualization and overall L2 motivation. (You et al., 2016).

By embracing Bandura's (1989) social-cognitive theory, which emphasizes the concept of self-efficacy, the theoretical significance of this research might be strengthened. According to the social cognitive theory, learners are more likely to succeed in their goals if they have a positive self-concept and feel capable of overcoming obstacles. Thus, the novelty and significance of the study contribute to this matter that prior research on WTC treated it as a unitary entity. However, this study is believed to be more helpful by evaluating the effect of vision in enhancing several underlying WTC constructs. Moreover, the current study's primary beneficiaries are students with a particular level or aspect of ADHD. They represent a sizable group of disabled students who have not received adequate attention from instructional policymakers and educational administrators in many EFL contexts, such as Iran. With the help of the research, EFL students with ADHD can overcome a solid reluctance to communicate with others who are helping them learn the language. Therefore, because of its unique additions to the literature, this study may be valuable from a pedagogical perspective.

Lamb (2017) pointed out that research on individual variances in L2 acquisition attests to the undeniable impact of affective factors like vision and motivation on academic success and WTC levels of language instructors. Thus, the current study explored the significance of the changes in WTC levels of a convenience sample of the target population following the administration of a six-step vision ignition intervention integrated into routine multi-skill language training. As learners' perception of learning and their vision play a significant role in keeping them enthusiastic for active involvement and communication (Gasiewski, 2012), the question to probe is:

- To what extent does vision ignition in online classes contribute to improving WTC among Iranian ADHD English learners?

Literature Review

Motivation for L2 learning: A Historical Recap and Evolutionary Changes

In order to clarify second language motivation theory, this section briefly discusses L2 motivation as a long-running field and the foundations of this area going back to the 1960s. Due to the process-based nature of vision and WTC, this study concentrates primarily on a process-oriented and socio-dynamic phase in the history of L2 motivation. Accordingly, all researchers concurred that motivation is a factor of human behavior by molding it towards a direction, even though the definition of motivation in the psychological and historical literature exhibits substantial alterations in scopes and paradigms (Dörnyei, 1998). In L2 learning, a thorough analysis of the field's theoretical evolution is required to comprehensively understand the concept of motivation.

The social-psychological era, which began with Lambert and Gardner's (1972) attempts to raise language proficiency and learner motivation in a bilingual Canadian context, is where the history of L2 motivation commences. In this early stage,

motivational strategies were based on the importance of L2 learners' feelings toward the L2 language and its communities (Dörnyei, 2005). Crookes and Schmidt criticized the socio-psychological method of Lambert and Gardner in 1991, which led to the development of the second period of motivational research—the cognitive situated period. The focus of L2 motivation studies shifted back to cognitive concepts and mental processes at this time (MacIntyre, 2002). In the process-oriented period, the third evolutionary stage of the motivational study, motivation was viewed as an active, constantly-changing behavioral trait instead of a passive factor (Dörnyei, 2005). The current socio-dynamic phase is based on learners' ongoing changes as they engage with society, as suggested by its name. Dynamic integrated motivational approaches have supplanted earlier linear ones rooted in a single motivational construct in the modern era (i.e., emotion, cognition, and behavior). One of the most popular dynamic techniques during this context- and self-based era is the L2MSS.

Vision and Imagery: Major Factors Affecting L2 Motivational Setup

Wurf and Markus (1991) defined vision as a self-conception and place in the future state. Van der Helm (2009) asserts that vision promotes motivation, manipulates ideas and beliefs, and provides cues and directions needed to pursue the path following this concept. The level of a community or a person's ideal stance on religious, political, personal, and professional concerns may theoretically be used to distinguish between various types of humanistic vision (Van der Helm, 2009). It is also important to note that all vision types share three key components: the future, the ideal, and the desire for deliberate change.

In this regard, Dörnyei and Kubanyiova (2014) suggest that students cannot assist themselves in developing a new ideal self from nothing with any motivating intervention. To help learners make motivation and vision available, those in charge of teaching and instructing must make learners aware of various conceivable selves. Learners may have previously been impacted in the past by various factors, including significant others, parents, teachers, and the media. There is also widespread agreement that students' efforts, not instructors', ultimately lead to the formation of ideal language selves.

The six-component framework provided by Dörnyei and Ushioda (2013) is the most often used framework for implementing vision intervention. The framework included six separate steps: (a) creating a vision, (b) strengthening the vision, (c) substantiating the vision, (d) transforming the vision into action, (e) keeping the vision alive, and (f) counterbalancing the vision. In this respect, Hadfield and Dörnyei (2013) suggested that creating a series of assignments might be given out consecutively as a teaching strategy.

Willingness to Communicate (WTC)

McCroskey and his colleagues' L1-communication research endeavors in the late 1980s and early 1990s served as the foundation for the emergence of the WTC topic in the L2 field (Khatib & Nourzadeh, 2015). Nevertheless, the development of WTC began in the 1970s, when Burgoon (1976) coined the phrase "unwillingness to communicate."

The word refers to a person's propensity to avoid social interaction due to various circumstances, including alienation, introversion, and anxiety. Researchers discovered the situational context to be an individual, stable attribute rather than a significant factor in people's WTC in the late 1970s and early 1980s. This discovery led to the evolution of the L1 WTC.

A well-established multidimensional model of L2 WTC is MacIntyre et al.'s (1998) model, which subsumes different variables influencing L2 WTC in a pyramidal fashion (Figure 1). This heuristic model has been proposed to give a new sense to WTC by having six different layers, as shown in Figure 1 in a pyramid-shaped model.

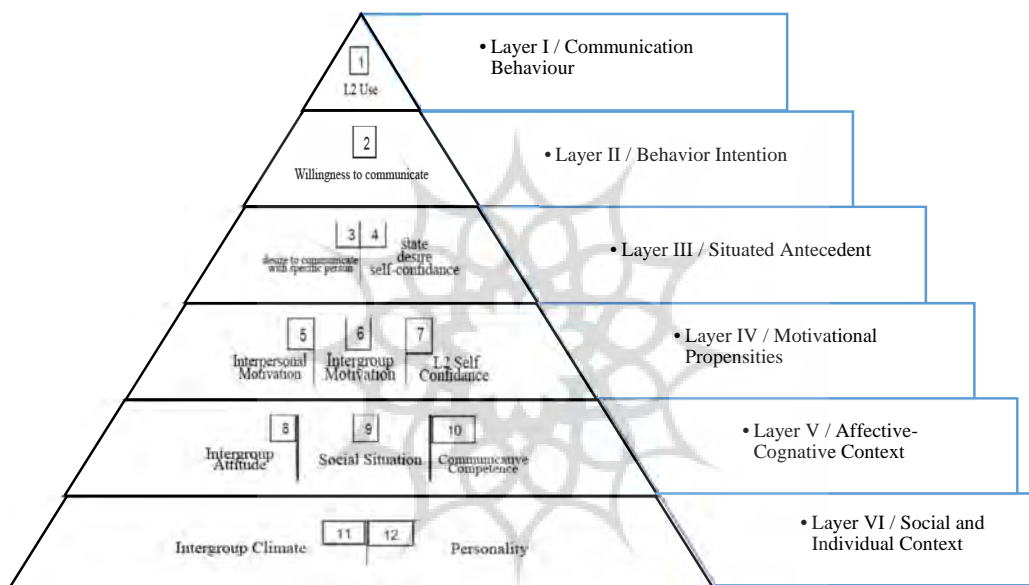


Figure 1. WTC Pyramid Developed by MacIntyre et al. (1998)

According to Figure 1, the first three layers discussing a person's confidence and willingness to communicate with a particular person are situation-specific impacts on L2 WTC. The factors affecting L2 WTC, including personality and communication proficiency, are found in the following three levels. This form incorporates a complimentary connection between these variables, indicating the interaction between each pair of layers. The intricacy of this pyramid model is increased by the L2 WTC's multilayered construction nature, which addresses the psychological and linguistic variables aspect of the structure.

MacIntyre et al. (2001) study's underlying hypotheses postulated that the top layers show linguistic choice regarding speaking in a certain circumstance. The existing impacts on personality and intergroup climate choice receive greater emphasis as one descends the pyramid levels. The WTC is higher in the next-to-last layer than the desire to speak with a specific person and more confidence in doing so (MacIntyre et al., 2001). As a result,

people could desire to chat with a certain person to feel secure, but they might not be open to doing so and lose the opportunity at a time. Consequently, the lower levels of the current pyramid deal with impacts that did not manifest at a certain time and influences that persist for the person over time in various contexts.

With the advent of L2 WTC, efforts to identify the factor affecting WTC in L2 situations continued. As fragments of research by McCroskey and Richmond (1990) demonstrate, obtaining L2 WTC is a significantly more complex procedure than obtaining L1. In contradiction to McCroskey and Richmond's (1987) findings, MacIntyre et al. (1999) identified WTC as a situational construct, which means that WTC possesses both trait and state properties. Despite the differences in context and methodology, Khatib and Nourzadeh (2015) claim that these efforts all came to the same conclusion that the idea is best understood as a complex comprising a wide variety of interconnected cognitive, emotional, situational, instructional, and cultural variables.

The applicability of the measures created based on these models to gauge WTC in L2 instructional contexts (e.g., L2 classrooms) has always been questioned (Peng, 2013; Khatib & Nourzadeh, 2015) due to their broad conceptual scope. Hence, Khatib and Nourzadeh developed a six-level model of instructional WTC after thoroughly reviewing the literature on L2 WTC and its underlying variables. They presupposed that L2 learners' WTC is a function of six interrelated constructs, including (a) communicative self-confidence, (b) integrative orientation, (c) situational context of L2 use, (d) topical enticement, (e) learning responsibility, and (f) off-instruction communication.

Online Learning and ADHD Learners

The quick and inevitable transformation of the education process to e-learning due to the COVID-19 forced most institutes and universities worldwide into this transition. According to Faramarzi et al. (2019), technology and e-learning facilitate the learning process and make it more interesting. Meanwhile, after the pandemic, we are witnessing a decreasing rate of students not participating in conventional classes that urge their presence. The immediate transition of instructional delivery to online courses brought together experts' content and social networking component and offered some opportunities and benefits for students, including the accessibility of different online resources, the availability of what the teacher has instructed, a comfortable environment, etc. (Ali Derakhshan, 2021). In this regard, learners from different backgrounds, cultures, and education techniques probably gain various attainments in online courses (Kauffman, 2015).

Meanwhile, although the appropriation of learning online is not granted to each learner, the main advantages students can take are their development of previous background and skills in learning online. The idea is that online learning resolves transportation, racism, barriers, and other forms of separation like skin color discrimination from marginalized groups (Coronel, 2008). Anyhow, unwillingness to communicate and feeling of being left behind are inseparable parts of the online learning

environment despite learners' strong willingness to choose this classroom format before and after participating in such classes (Barnard-Brak & Sulak, 2010).

By looking deeper through online programs for individuals with disabilities versus traditional programs, the research shows a significant difference between online students and their accommodations attitude requesting than their peers in conventional settings (Barnard-Brak & Sulak, 2010). Through research, Heiman and Olenik-Shemesh (2012) noted that there had been more tendency and frequency of online courses among students with specific learning disorders, which shows comfortable feeling in using assistive technology. Online learning provides more flexibility and individualized learning, which drive the increasing enrollment of students with learning disabilities in online programs. Though online courses are not suitable for every student with a certain level of disabilities, their pros and cons must be considered before using online learning classes to make them ready to perform well in those circumstances.

Conceptual Framework of the Study

The six-step framework developed by Dörnyei and Ushioda (2013) served as the main foundation for the current study's vision ignition intervention. According to this paradigm, developing a vision, bolstering it, supporting it, turning it into action, maintaining it, and counterbalancing it are all necessary for a visualization project to be successful. Additionally, to ensure that the intervention played a significant role in establishing vision ignition, researchers explored the efficacy of vision-oriented instructional programs (e.g., Sato & Lara, 2019), considering the propositions made by Hadfield and Dörnyei (2013). According to Hadfield and Dörnyei (2013), using a sequential series of educational strategies aimed at each of the stages outlined by Dörnyei and Ushioda is necessary to guarantee that visualization is successful. In order to foster learner control, the intervention was also in line with a learner-directed model as an alternative to adaptive system modeling. In a learner-directed model, students choose whether to make decisions for themselves or others (people or systems).

Regarding WTC, the study was based on one of the most thorough and extensively researched theoretical frameworks, one that was put out by MacIntyre et al. (1998) and identified various aspects impacting L2 WTC. The primary characteristics that potentially affect L2 WTC, including a variety of psychological, linguistic, and communication-related elements, are explained by this model as interrelations. Six layers are included in the multi-layer pyramid put out by MacIntyre et al. (1998), including communicative self-confidence, integrative orientation, situated antecedent, motivational propensities, affective-cognitive context, and social and individual context.

Empirical Background

The claim made by Dörnyei (2005) that the ideal L2 self and linguistic self-confidence positively connect with L2 WTC sparked a new inquiry into the relationship between the L2 WTC and motivational disposition. One of the earliest attempts to conceptualize the relationship between motivational constructs (e.g., the ideal L2 self,

ought-to L2 self, and integrativeness) and WTC was the work by Munezane (2013). In Japanese university courses, Munezane (2013) investigated the most significant predictors of WTC and the frequency of L2 communication. He assessed the importance of a predicted structural equation model based on Gardner's (1985) socio-educational model, Dörnyei's (2005) model of the L2MSS, and MacIntyre's (1994) model of WTC after surveying a sample of 373 Japanese university students. According to the findings, the ideal L2 self had a good chance of accurately forecasting L2 WTC.

There has been more research on the relationship between WTC and motivational factors in recent years. Looking back at the research done since 2015, one can see that there is a tendency to assume that motivation is not a simple, linear concept because of its social components (i.e., how comfortable individuals are while embarking on a classroom conversation). Less or more, these more recent investigations have provided further evidence of the association between the motivational disposition components and L2 WTC. Despite the philosophical, methodological, and contextual distinctions amongst these studies, there is one thing they all have in common: WTC improves when self-regulation techniques like goal setting and visualization are coupled and it is commented by Heidari and Rashidi (2020) that high WTC learners perform better than low WTC ones in both two above-mentioned aspects.

Verifying the claims mentioned above, Ghanizadeh et al. (2016) study four components of Dörnyei's (2005) L2MSS, including criterion measure, the ideal L2 self, attitudes toward L2 culture and community, and parental involvement and L2 WTC, is one of the scientific endeavors carried out in the Iranian EFL context. The findings also showed that, except for parental influence, all other motivational constructs positively linked with L2 WTC in reading. Years later, Pasban and Haddad Narafshan (2020) also confirmed a significant, positive relationship between the two constructs under consideration through correlation analysis of motivation and WTC. It is important to note that both extrinsic (i.e., parental expectations, accomplishments, and peer pressure) and intrinsic (i.e., self-made responsibility, self-presentation, and knowledge mastery) aspects were present in academic goal motives.

Concerning the Online method of teaching and learning in Iran, many students and teachers are used to the conventional methods of chalk and discussion, paper and pencil, and the lack of a face-to-face setting in class inevitably lowers students' motivation. It appears that because most online students are left alone to pursue their lessons, they require greater initiative and motivation. Bagheri et al. (2012) claimed that engaging and well-designed materials compensate for the pitfalls so that learning in any mode and manifestation would be maximized.

Methods

Design

Due to the non-random method of participant selection, a quasi-experimental design prepared the ground for exploring the effect of vision ignition (the independent variable) on WTC of Iranian ADHD EFL learners involved in online English classes. The design

entailed gathering the quantitative data before and after implementing a regular instructional program in the control group and a vision ignition intervention integrated into a regular instructional program in the experimental group. The participants' pre-intervention WTC levels were regarded as the covariate variable, whereas the post-intervention levels acted as the dependent variable.

Participants

Due to the research objectives and the restriction against having students of different gender and institutional affiliation in the same class, the study population (i.e., Iranian adolescent male EFL learners with ADHD) was restricted to Iranian adolescent male EFL learners with ADHD studying in a countrywide language learning institute. The chief rationale behind choosing the institute was access to a geographically broad population of Iranian adolescent ADHD learners ready to take an online regular EFL course. Based on the statistics extracted from the institute's database, 0.3 to 2% of new registrants each year were diagnosed with different levels of ADHD. At the data gathering time (the spring semester in the instructional year 2021), 114 ADHD students in the institution were about to start six courses of different proficiency levels. Of all the proficiency-specific groups, the one with the largest size ($N = 43$) served as the study population. Convenience sampling was employed to choose the participant sample; however, the course cost was eligible for a 30% discount to encourage maximum participation. Ultimately, 30 students agreed to take part in the experiment. The researcher asked their parents to complete the Persian version of the ADHD diagnostic questionnaire taken from the Child and Adolescent Symptom Inventory-4 to ensure that the sample actually contains EFL learners with ADHD (CASI-4). Based on the findings, one student whose score fell below the ADHD cut-off (nine) was excluded from the study. Accordingly, 29 male adolescents with ADHD constituted the participant sample. Based on the learners' levels of ADHD, the sample was divided into two homogeneous groups: experimental ($N = 15$) and control ($N = 14$). The two groups received the experimental and control treatments in two virtually held classes. Ranging in age between 12 and 14, the participants enjoyed the proficiency threshold for A2 level, based on the Common European Framework of References (2001).

Instructional Materials

The two study groups were provided with English Time 4, a level-appropriate package that contained a student book, a supplemental book, a workbook, and a second evaluation source called Test Time. However, this particular instructional material combined eight vision-igniting activities in the experimental groups. The tasks were modified versions of Sato and Lara's (2019) six-pillar framework-based interaction-focused vision intervention. Dörnyei and Ushioda's framework is a framework that was developed by Sato and Lara (2013). The interventional tasks from Sato and Lara (2019) were modified for the young adult EFL learners learning general English by a three-person committee because they were created for university-level EFL students taking

English lessons for business management. The Procedure section goes into more detail about the tasks.

Pre- and Post-Intervention Measure

The Instructional WTC (IWTC) scale developed by Khatib and Nourzadeh (2015) was employed to gauge the learners' WTC before and after the study course. The IWTC scale was developed in response to the demand for a valid assessment of WTC that successfully addresses culturally-specific subjects and communication circumstances in EFL teaching environments, specifically in Iran. The scale was designed by considering all of the grand and emergent ideas underpinning WTC; as a result, it was supposed to measure a construct of WTC with a comprehensive scope. The 27-item measure is divided into six main subscales, including communicative self-confidence (five items), integrative orientation (five items), the situational context of L2 use (four items), topical enticement (four items), learning responsibility (four items), and off-instruction communication (five items). The items on the scale are rated using a five-point Likert-type scale. The anchors of the rating scale included 1 (*strongly unwilling*), 2 (*unwilling*), 3 (*neither willing nor unwilling*), 4 (*willing*), and 5 (*strongly willing*). Five of the 27 items from the original edition were dropped because young adult (teenage) learners were not interested in communication-related topics.

Ten male adolescent EFL students between 12 and 14 years of age who declined to participate in the experiment were given the modified, translated version to establish the scale's reliability. The reliability coefficients (Cronbach's alpha) estimated for the whole modified Persian version (see Appendix A) and the coefficients calculated on a domain-specific basis (self-confidence: $\alpha = .73$, integrative orientation: $\alpha = .85$, the situational context of L2 use: $\alpha = .77$, topical enticement: $\alpha = .80$, and learning responsibility: $\alpha = .75$) exceeded the recommended internal consistency threshold (.7) (Fraenkel et al., 2012). The overall reliability index ($\alpha = .81$) was also within the acceptable range (60 to .99).

Pilot Testing Procedure

As mentioned earlier in this chapter, among 43 adolescent ADHD EFL learners that constituted the finite population of the study, only 30 learners consented to participate in the experiment. In an attempt to pilot the survey instruments, those who were reluctant to take part in the main study were offered to take part in the pilot phase in exchange for a 10% discount on tuition fees for their upcoming course. The Persian version of the IWTC scale was administered virtually to 10 adolescent male EFL learners who agreed to participate in the virtual pilot testing procedure. The procedure entailed a web-based survey whereby the learners filled in the questionnaire built by a form builder facility on the Google Form website. The pilot data prepared the ground for the internal consistency estimation.

Data Collection Procedure

By observing ethical issues, standards were met initially for the present study by the ethical committee; all 29 participants were free to quit the tournament of the experiment at any time, but none declined. The researcher also ensured them that their socioeconomic information would not be released and their privacy would be kept safe and secure. With prior notice and consent of the parents, an online consent form built by a form builder facility on the Google Form website was created and distributed to students via WhatsApp, the most accessible instant messaging application in Iran, and then collected after they had filled it out. Next, the instruction for completing the five-point Likert scale items of IWTCS was presented to students by the author. This study was conducted in January 2020, right after the semester commenced. The survey instrument was administered to the control and experimental groups before receiving instruction. The rationale behind this preliminary measurement was to pay proper regard to the pre-existing differences that could hinder the credibility of the analytical outcomes. The researcher used a virtually-designed form to gather the pre and post-intervention survey data.

The instruction entailed 20 90-minute teaching sessions that lasted 10 weeks. Based on an agreement between the researchers and the teacher, one weekly session was appointed for classroom observation. As for the experimental group, however, an extra five to ten minutes was devoted to incorporating the following vision ignition tasks into the regular syllabus. Ultimately, after the completion of the semester, almost in late March 2021, the students were asked to complete the IWTCS form with the links again to understand their IWTC state after the intervention program. As for the experimental group, however, an extra five- to ten-minute period was devoted to incorporating the following vision ignition tasks into the regular syllabus.

For initiating the vision-based program tasks, a six-pillar motivational framework integrated with eight vision ignition tasks proposed by Dörnyei and Ushioda (2013) was incorporated into a 10-week online English learning course. The tasks were transformed into a format that suited learners' special needs by keeping the original structure in solidarity more engaging and interactional. To this aim, the first task, creating the vision, sought to enhance the learners' future self-guides, asking them to create a vision of their ideal L2 self.

The first task requires learners to turn mental images of their ideal L2 self into a detailed scripted manuscript description. It is good to mention that psychotherapists use guided imagery to decrease depression, stress, and anxiety (Apóstolo & Kolcaba, 2009). The second task characterizes the assignments for strengthening the vision. Therefore, tasks two and three were combined as vision-strengthening tasks to avoid frustrating the procedure. In this stage, students were asked to read or listen to their written/oral descriptions or stories about successful people and then retell/read their descriptions to the whole class and think about probable images they had in mind. The third task incorporates substantiating the vision, which has an assignment that entails learners talking about their short- and long-term goals concerning their possible future L2 selves.

They were also provided with reinforcements, and the teacher randomly asked some learners to discuss their goals and consequences in the following session. The fourth task indicates keeping the students' vision alive, which has two assignments—watching short (three to five-minute) video clips about some characteristics of other L2 learners and communities in that students effectively use their language skills in other countries. For the second task in this stage, learners were asked to prepare for a real-setting interview with the English user cast in the role of their future L2 selves. Two tasks were designed to counterbalance and transform the vision into action for the fifth and sixth tasks of vision ignition.

Accordingly, learners were asked to review the descriptions of their future L2 selves (Task 1), prepare a list of tentative solutions for the obstacles they encounter on their way to English use mastery, and prepare for the next task. To fulfill the process of taking the vision into action, one of the most favored situations visualized by the learners simulated role-playing their imageries in a video and sharing videos with their counterparts. Every two sessions were devoted to their successful, collaborative performance in simplified situations of the tasks. Table 1 delineates the whole intervention employed in the study.

Table 1
Vision Ignition Tasks

Title	Function	Short description	Instructional Session
Task 1	Creating a vision	The learners visualized themselves performing competently in English.	1 & 2
Task 2	Strengthening the vision	The learners delineated and clarified their newly-created pictures of their future L2 selves.	3 & 4
Task 3		The learners conducted an interview with their future L2 selves.	5 & 6
Task 4	Substantiating the vision	The learners discussed their short- and long-term goals concerning their future L2 selves.	7 & 8
Task 5	Keeping the vision alive	The learners watched short video clips showing the effective use of English in situations envisioned by themselves.	9, 10, 11, & 12
Task 6		The learners conducted an interview with the person who had been cast in the role of their future L2 selves.	13 & 14
Task 7	Counterbalancing the vision	The learners discussed the obstacles to their future L2 selves and the solutions thereof.	15, 16
Task 8	Transforming the vision into action	The learners performed successfully in the simplified situations stimulating their future L2 selves.	17, 18, 19, & 20

According to the design, gathering the required quantitative data was conducted before learners received any instruction on course and vision ignition tasks, which entailed paying proper regard to the pre-existing differences. After the study course and vision-based program intervention, the survey instruments were administered once again. The post-intervention measuring process was quite similar to the pre-intervention one.

Data Analysis Procedure

To analyze the data, SPSS software version 24.0 was utilized. By taking the pretest as covariates, the posttest as the dependent variable, and the two groups (control and experimental) as a grouping (independent) variable, separate cases of one-way multivariate analysis of covariance (MANCOVA) were performed to determine the effect of the vision ignition intervention on the subcomponents that underlay the dependent variable after controlling for the covariates (pre-existing differences). Post-hoc univariate analysis of covariance (ANCOVA) was conducted to explore the differentiating subcomponents of Khatib and Nourzadeh's (2015) IWTC scale.

Results

The following analyses were performed to see how the vision-ignition activities included in the curriculum may impact Iranian ADHD EFL learners' WTC level. In order to determine the central tendency and dispersion measures for each of the six WTC subcomponents, responses were given during the pre and post-intervention administration of the IWTC questionnaire. The descriptive statistics of the WTC levels in its six underlying subdomains are shown in Table 2.

Table 2
Descriptive Statistics of the WTC Levels

Group	Variable	Pre/Post	N	Min	Max	Mean	SD	Skewness	Kurtosis
Control	Communicative Self-confidence	Pre	14	12	24	18.00	3.573	.118	-.942
		Post	14	10	24	17.93	4.287	-.305	-.885
	Integrative Orientation	Pre	14	6	16	11.00	3.351	.000	-1.068
		Post	14	6	15	10.71	3.074	-.001	-1.304
	Situational Context of L2 Use	Pre	14	8	14	11.57	2.277	-.381	-1.416
		Post	14	9	15	12.07	1.774	-.029	-.825
	Topical Enticement	Pre	14	8	20	14.36	3.478	-.094	-.603
		Post	14	10	20	14.64	3.104	.047	-.969
	Learning Responsibility	Pre	14	9	19	13.29	2.920	.925	.569
		Post	14	10	18	13.00	2.542	1.016	.450
Off-instruction Communication	Pre	14	4	12	8.07	2.401	-.137	-.854	
	Post	14	4	13	8.36	2.790	.165	-.319	
Experimental	Communicative Self-confidence	Pre	15	10	22	17.40	3.501	-.536	-.303
		Post	15	13	25	19.27	3.173	.121	.039
Integrative Orientation	Pre	15	6	15	11.13	2.973	-.206	-1.251	
	Post	15	9	18	13.27	2.738	.087	-.761	

Group	Variable	Pre/Post	N	Min	Max	Mean	SD	Skewness	Kurtosis
	Situational Context of L2 Use	Pre	15	8	15	11.73	1.981	-.210	-.604
		Post	15	9	16	12.40	1.920	.036	-.282
	Topical Enticement	Pre	15	9	19	14.67	2.769	-.276	-.355
		Post	15	10	20	15.13	2.850	.059	-.697
	Learning Responsibility	Pre	15	12	22	15.33	2.690	.987	1.266
		Post	15	13	23	15.73	2.815	1.378	1.871
	Off-instruction Communication	Pre	15	5	13	8.53	2.356	.122	-.380
		Post	15	4	14	8.60	2.586	.283	.313

The results in Table 2 demonstrate that, except for learning responsibility, the average scales reported by the two groups during the pre-intervention survey administration were mostly similar (Control: $M = 13.29$, $SD = 2.920$; Experimental: $M = 15.33$, $SD = 2.690$). However, compared to the pre-intervention measures, most of the post-intervention measures showed more significant between-group differences, particularly concerning integrative orientation, communicative self-confidence, and learning responsibility. The differences between the experimental group's WTC levels and those found in the control group regarding all the underlying components were significantly more pronounced in the experimental group, as shown by pairwise comparison of the pre and post-intervention mean scales between the two study groups. The increases in the integrative orientation levels and communicative self-confidence were the most drastic changes in the experimental group. The skewness and kurtosis values fell within the safe range (i.e., -2 to +2) for normal distribution data (Tabachnick & Fidell, 2007).

It was essential to determine whether or not the differences discovered on a descriptive level acquire statistical significance based on the descriptive results shown above. In order to examine the influence of visual igniting tasks on a linear combination of the six components reflecting the WTC levels of EFL learners while separating the impact of the preexisting variations in the sub-components under research, a one-way MANCOVA was conducted. The presence of more than three variables in a MANCOVA may reduce model power when group size is constrained ($N < 20$) (Dattalo, 2013). According to the results, learning responsibility was the only factor that significantly distinguished the two groups prior to the study course.

After accounting for the initial MANCOVA assumptions, Table 3 shows the outcomes of a one-way MANCOVA conducted on the WTC scales. The assumptions were linearity between the covariate and dependent variables, multivariate normality, lack of multicollinearity, homogeneity of variances and covariance, and homogeneity of the regression slopes.

Table 3

Results of One-Way MANCOVA on the WTC Levels

Effect	Wilks' Lambda Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	.139	21.680	6	21	.000	.861
Learning Responsibility Pre	.593	2.407	6	21	.063	.407
Group	.499	3.511	6	21	.015	.501

Note. Pre stands for pre-intervention scales.

Table 3 implied a non-significant main effect for learning responsibility as the model covariate. Wilk's Lambda test statistic was used to assess the significance of the between-group differences since all prerequisites for conducting a MANCOVA were satisfied. This finding suggested that the influence of visual ignition tasks on the post-intervention measures measuring WTC might be little affected by the underlying disparities in learning responsibility. However, as seen by the statistics in Group row, there was a substantial difference between the two groups on a linear combination of the six WTC measures (Wilk's $\Lambda = .499$, $F(6, 21) = 3.511$, $p < .05$, $\eta^2 = .501$). Given the effect size value, 50.1% of the overall between-group variances could be attributed to the group differences in terms of a linear combination of the six WTC subscales. Univariate between-group tests were performed on each of the six WTC subscales to determine the subscale(s) contributing to the significant multivariate between-group differences (see Table 4).

Table 4

Results of Between-Subjects Effects Tests on the WTC Domains

Subcomponent	Type III Sum of Squares	df	Error df	Mean Square	F	Sig.	Partial Eta Squared
Communicative Self-confidence	26.834	1	26	26.834	14.346	.001	.356
Integrative Orientation	67.270	1	26	67.270	8.635	.007	.249
Situational Context of L2 Use	7.181	1	26	7.181	2.868	.102	.099
Topical Enticement	3.877	1	26	3.877	.430	.518	.016
Learning Responsibility	33.12	1	26	33.12	4.658	.040	.152
Off-instruction Communication	3.371	1	26	3.371	.479	.495	.018

According to Table 4, the between-group differences in WTC could be mainly attributed to the significant differences in communicative self-confidence and integrative orientation. Since multiple cases of ANCOVA were run, there was a need to account for the Type I error. The Bonferroni correction method was employed, dividing the significance value (.05) by the number of dependent variables (6). The between-group differences in learning responsibility accounted for 15.2% of the overall group differences. Nonetheless, learning responsibility could hardly be presumed to be a

significant differentiating factor since its significance value (.040) exceeded the adjusted alpha for six univariate mean-comparison tests (.008).

Discussion

The current study tried to investigate the role of vision-building activities aimed at enhancing visualization strengthening capacity in improving Iranian ADHD EFL learners' WTC. To this end, WTC was operationalized as a multivariate construct encompassing communicative self-confidence, integrative orientation, the situational context of L2 use, learning responsibility, and off-instruction communication. The findings of the two research groups' multivariate comparison showed that, after taking into account the effects of any prior between-group differences, the experimental and control groups varied considerably in terms of a linear combination of the subcomponents underlying WTC. The fact that there was such a significant between-group difference demonstrated the effectiveness of the visual igniting activities in improving the WTC of Iranian ADHD EFL students. The findings showed that young adult ADHD EFL learners' WTC was impacted by vision-based program intervention.

As noted earlier, the six-step paradigm put forward by Dörnyei and Ushioda (2013) involved creating, strengthening, substantiating, and counterbalancing a vision of the ideal L2 self, which served as the foundation for the vision ignition intervention. The model also highlighted the significance of two more stages, such as maintaining the newly developed vision and turning it into action, in addition to these four. Therefore, it naturally follows that the main goal of the intervention included in the normal language learning program of the current study was to assist learners in developing a picture of their ideal L2 selves. In order to participate in the intervention, students had to see themselves using English well in various settings. Interventional activities based on this approach, as suggested by Dörnyei et al. (2015), are thought to increase students' awareness of their learning process and activate emotional patterns controlled by vision-oriented sensitivity, such as WTC. The significant effect of the intervention on the learners' WTC is consistent with a wide range of evidence-based data demonstrating how effective interaction, communication, and participation in various EFL learning contexts are influenced by learner imagination and visualization of their ideal L2 selves (e.g., Al-Murtadha, 2018; Magid & Chan, 2011; Munezane, 2015). The positive influence of vision-ignition programs, designed to improve EFL learners' ideal L2 self, on WTC has also been validated by Mackay (2015) in a Spanish EFL context.

Based on the above justifications, it is possible to attribute the study intervention's significant impact on WTC to the empirically-validated positive correlation between the ideal L2 self and L2 WTC (e.g., Ebn-Abbasi et al., 2022; Ganizadeh et al., 2015; Lan et al., 2021; Rajabpour et al., 2015). The complete spectrum of evidence-based findings that the ideal L2 self has a strong, predictive effect on L2 WTC (e.g., Cheng, 2021; Ekin, 2018; Ghasemi, 2018; Lan et al., 2021; Munezane, 2013; Šafranjan et al., 2021) may also support the additional support to the efficacy of the specifically-designed intervention of the study. It is important to note that in the research listed above, WTC in and outside the

official educational system has been viewed as either an integrated or two separate constructs. WTC in the current study was operationalized based on an integrative approach, presuming that this affective construct incorporates aspects impacting off-instruction communication as well as those determining learner inclination to communicate in the classroom (Khatib & Nourzadeh, 2015; Ghasemi, 2018; Kim, 2009; Yashima, 2012).

According to the findings, another factor contributing to the overall WTC disparities was the considerable between-group difference in integrative orientation. As was already indicated, the researcher could not locate evidence supporting the multivariate operationalization of the components used in the current investigation. However, given the uniqueness of the activities that made up the vision-igniting intervention, the finding that it significantly altered the experimental learners' integrative orientation may be supported. This study concentrated on young Iranian EFL learners who had little contact with English-speaking culture. Less or more frequently, the tasks asked the students to picture themselves engaging in activities dominated by English cultures, such as pursuing higher education in an English-speaking academic setting, watching English-language films in their original versions, and interacting with native exam administrators. These culturally specific visualizing experiences may have allowed developing a greater affinity for the English language and culture.

Additionally, the ideal L2 self and its motivating function in helping learners visualize a good L2 performance in various realistic circumstances (Dörnyei, 2009) may be responsible for the notable shifts in the learners' aspirations to be aware of the quirks of English-speaking society. This hypothesis corresponds with Peng's (2015) research, which demonstrates how the ideal L2 self aids in L2 cultural adaptation and decreases communication anxiety. Ghanizadeh et al. (2016) earlier highlighted the importance of student attitudes toward the cultural themes of the English language as the main criterion for WTC in the Iranian EFL environment.

More specifically, individuals with ADHD, even those motivated cognitively, are likely to face a daunting challenge while tackling time management and self-reflection activities underlying language learning, owing to their executive functioning impairments (Castellanos et al., 2006). Given this deficit in executive functions associated with the abovementioned higher-order goal-directed processes among individuals with ADHD (Sonuga-Barke, 2003), it was supposed that the participants show difficulties with self-regulatory cognitive constructs required to progress towards full integration of the vision ignition activities. Hence, the intervention incorporated several executive functioning tasks into the regular online instruction, such as role-playing and skillful English use in simplified, simulated contexts, to foster online self-regulatory resources required to keep the participants active in the interventional process. The learners' motivated cognition, together with self-regulatory skills evoked as a result of creating and living up to the ideal L2 self, may have acted as a trigger point for stimulating affective construct resulting in higher degrees of WTC.

Lastly, the visual and auditory stimuli employed to support the learners' images might be partially accountable for the intervention's considerable effects on WTC. The researchers used brief video clips to assist ADHD learners in substantiating their ideal L2 self-guides with an appropriate degree of vividness and easiness, knowing that a restricted imaging capacity impairs clear visualization of the ideal L2 self. It is hypothesized that ADHD students who struggle to focus on picturing their future selves in L2 used a scaffolding visualization strategy to identify and close the gap between their real and ideal selves, feeling more motivated to engage in successful English-mediated communication. Empirical data showing the interconnectedness between the ideal L2 self and vision capacity (e.g., Kim, 2009; Kim & Kim, 2011), as well as those revealing the significant contribution of vivid visions (Ekin, 2018) and the ideal L2 self (e.g., Ganizadeh et al., 2015; Ghasemi, 2018; Šafranĳ et al., 2021) to WTC, could be used to underpin the contribution of the two constructs to WTC attainments.

Regarding pedagogy, the results may offer fresh perspectives on addressing the apparent clues of reluctance to speak among the diverse population of ADHD EFL students predisposed to problematic functioning in online learning environments. The wide range of practitioners and specialists involved in TEFL may be urged to replicate the current study's findings to raise WTC level because adding a few vision ignition tasks to the regular curriculum of mainstream online English classes not only may produce favorable learner attitudes but also results in significant gains in motivational cognitive constructs, such as WTC.

Conclusion

This intervention study aimed to determine how the vision-based program could improve L2 WTC. According to the findings, visualization interventions through the vision-based program to improve WTC were successful, and students demonstrated positive opinions and impressions. The experimental group's WTC levels significantly changed from Time 1 to Time 2, but the control group's WTC nearly held steady behavior, the same as the pre-intervention. The study also lends credence to the hypothesis that L2 learners who have more vivid ideal L2 selves and are capable of establishing language learning goals have greater L2 WTC levels. Thus, rather than only identifying the elements that influence L2 WTC, this study contributes to L2 WTC research by improving L2 WTC in online classrooms through visualization and goal-setting.

The results raised concerns about the intervention's effects on higher-order cognitive-metacognitive constructs like conscious self-regulation, complicated stable cognitive structures like vision/imagery ability, and emotional (L2 learning experiences) motivation. Nonetheless, the changes in future L2 self-images, especially the ideal L2 self-image, seem so drastic that they may account for significant changes in the overall motivational disposition levels. Iranian ADHD EFL students may be more motivated to live up to their imagined L2 self-images and inclined to use their limited command of English to create in-class and off-instruction communication if they are pleased by such

motivational thoughts. Thus, with modifications for local situations, the techniques utilized in this study could be used in different EFL/ESL contexts.

In conclusion, including certain specially created vision-igniting tasks in an online English teaching course might positively impact the motivated cognition of ADHD students and help them close the gap between their real and ideal L2 selves. Although effective in boosting immediate motivational emotions (i.e., satisfaction with the immediate learning experiences), a vision ignition intervention necessitates ongoing administration and evolutionary improvement to produce noticeable improvements in the feelings of L2 learners about the entire L2 learning process. However, the contribution of vision ignition to motivated behaviors and higher-order cognitive-metacognitive constructs such as online self-regulation depends on foresight for more compensatory training elements. Reinforced motivational thoughts evoked by vision-based self-guides will be sufficient to influence an affective construct such as WTC. These components are intended to address neurodevelopmental abnormalities, such as a lack of flexibility, executive functioning deficiencies, and behavioral inhibition, that limit the effectiveness of a vision-igniting intervention for ADHD learners. Thus far, an interventional program capable of including compensatory training components to the overall instruction to address the executive functioning deficits detrimental to visual ignition may be easily developed due to such a joint initiative. Iranian ADHD EFL learners, whose unique motivational and communicative demands have been largely disregarded, are the main benefactors of these evolutionary scientific initiatives, content development businesses, and action research instances.

There are several ramifications of this study. One implication is that it sheds light on the significance of assisting EFL learners in envisioning their ideal L2 selves in order to improve their WTC, even for students who need special treatments and programs, plus typical of many others studying EFL compulsorily around the world in online classes with no teacher-fronted lessons in which student speaking may be restricted or neglected. Furthermore, by assisting students in developing and creating preferred images of themselves, the action plans demonstrated to students how to become more independent and overcome the obstacles that may lead to the feeling of failure and being unsuccessful. Such exercises are simple to include in classes, and syllabuses without assistance may encourage learners to work harder and feel more comfortable speaking out in class.

For various reasons, this study was not without its limitations. This academic research suffers mostly from the limited number of participants and solo gender specification of a public school, in addition to the shortage of instructional time, which limits its generalizability capacity and compromises our results. For verifying the results, further replication is necessary using a large sample of participants with mild ADHD from both genders in various educational contexts. In order to have a deeper understanding of the program's effects and to record students' and instructors' opinions of how the program has affected their daily experiences, additional interviews and qualitative research with the participation of teachers and students could be conducted to enrich and supplement the results.

Finally, future replication studies are needed to investigate the motivational effects of vision ignition among ADHD EFL students engaged in authentic online language study in various educational scenarios to achieve more reliable results. Comparative studies on the effects of vision ignition in males and females, auditory versus visual learning styles, and hyperactive versus inattentive ADHD EFL learners may provide fresh perspectives on the results of the current study.

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