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Investigation on Meta-Cognitive Strategies Training and Pragmatic Knowledge in Online Contexts

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ABSTRACT

Objective: Online learning is an area that reflects the integration of technology in education. Moreover, pragmatic knowledge, as an important part of EFL learning, cannot be neglected in EFL research. The pivotal role of meta-cognitive strategies is also undeniable in EFL learning.

Methods: This qualitative study sought to delve into the perceptions of EFL learners on the effectiveness of online meta-cognitive strategies training on their pragmatic knowledge. The participants included 20 conveniently selected female Iranian intermediate EFL learners who were studying EFL at a private language institute in Yazd, Iran. Data collection was done via a semi-structured interview. Data analysis was done through thematic analysis.

Results: The results uncovered the following perceptions: Improving productive skills, improving eagerness to learn English pragmatics, decreasing exhaustion, increasing learning control, increasing learning preservation, increasing self-esteem, changing self-concept, and improving class interaction. These findings have implications for EFL teachers, learners, and curriculum planners. EFL teachers can effectively incorporate online meta-cognitive strategies training into their pragmatics teaching strategies. EFL learners are recommended to take advantage of online meta-cognitive strategies training to have more agency in learning, learn pragmatics for a longer time, experience higher levels of self-esteem and self-concept and enjoy more interactions with their classmates.

Conclusions: EFL curriculum developers can integrate online meta-cognitive strategies training into future curricula, enriching pragmatics learning experiences of EFL learners.

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Introduction

English as a foreign language (EFL) learning is a complex and difficult task for learners. In general, in EFL contexts wherein the target FL is not used in daily life of people, EFL learning is not an easy goal. To speak more specifically, EFL learning is a task which is under the significant effect of many cognitive, metacognitive, social and individual problems. In fact, EFL learning is a form of collaborative learning that is encompassed by learning dynamics that is characterized with the interplay among various social and individual factors (Golshan et al., 2019). A number of studies (Deane et al., 2008; Martínez-Fernández et al., 2016) support the significant effect of learners' meta-cognition on the quality of EFL instruction. There is evidence that learners should be provided with the appropriate opportunity to truly use their metacognitive abilities in learning EFL as a social act which does not occur in the vacuum (Teoh et al., 2019). In Kapa's (2001) definition, metacognitive skills refer to "mental operations, which direct the cognitive functions of a person and support a learning conceptualization" (p. 318). Hacker (1998) believed that metacognition is information about a person's knowledge, processes, cognitive and emotional state and deliberate monitoring and regulation of knowledge, processes, cognitive and emotional state. Learners' metacognition can be assumed to be their knowledge about cognitive processes involved in their learning and how they are able to regulate these processes. Research on metacognition suggests that successful learners are metacognitive. Moreover, in foreign language contexts, the role of metacognition is more vital (Mokhtari, et al., 2018).

Furthermore, online learning is an area that reflects the integration of technology in education. The application of technology in English as a foreign language (EFL) teaching has become a major method of education (Turmudi, 2020). According to Nurawalia (2021), the use of technology in education, through creating flexibility in time and place in the learning, allows students to be self-regulated and autonomous in the EFL learning process. Nurawalia (2021) argued that computer-assisted language learning (CALL) as a form of technology-based education, by providing easy access to feedback, helps EFL learners to develop their English proficiency. Moreover, students who use technology are more motivated to learn English than those who apply conventional methods (Seibert Hanson & Brown, 2020). Given this rapid advancement, it is getting essential for instructors to be familiar with technology in their careers. They are encouraged to increase their awareness and ability to use technology in various aspects of education. They are supposed

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to produce fast changes in their syllabuses to update the learning materials and improve the teaching process. However, integrating technology with classroom learning may be regarded as a challenging undertaking (Seibert Hanson & Brown, 2020). Among others, an important challenge for teachers is to utilize technology to provide a "meaningful" and dynamic environment for students to encourage them in the learning process (Khodabandeh & Tahririan, 2020).

Online learning implies using computers and other electronic devices and applications to guide learners' direct and individualized learning (Chapelle, 2001). Online learning is a kind of learning wherein bidirectional learning and individualized learning comes into play (Ellis, 2004). The goal of applying online learning in education is to facilitate the language learning process across multidisciplinary approaches. The notion of online learning is closely tied to CALL. According to Beatty (2003), CALL can aid learners to develop their reading, writing, listening and speaking skills, and learning autonomy. The increasing use of computer as a means for facilitating the procedure of education and providing higher achievement opportunities for language learners and teachers has proved to be promising in ELT (Merisuo-Storm, 2007). Online learning has become prevalent in most educational settings in various regions of the World (Drachsler & Greller, 2012; Kattoua et al., 2016; Maqableh et al., 2015; McBrien et al., 2009; Perveen, 2016; Racheva, 2018; Somenarain et al., 2010; Swan, 2002). Online learning is characterized with the utilization of Information and Communication Technology (ICT) in teaching field, detachment of teachers and students in terms of space, time, or both to increase the students' learning (Carlsson et al., 2007; Hone et al., 2016). It refers to a type of instruction presented through a series of electronic tools like the internet (Horton, 2011). It is believed that, by reducing time limitations and distance blocks, students' sense of agency can be enhanced and they can learn better (Almajali et al., 2016; Bouhnik & Marcus, 2006; Martin, 2005).

Moreover, pragmatic competence as a main component of EFL learning is an important research area in the field of English Language Teaching (ELT) (Kasper, 2000). Pragmatic competence consists of learners' sociocultural knowledge and their sociolinguistic knowledge (Sadri et al., 2018, p. 21). As put by Austin (1962), pragmatic competence plays a key role in the success of communication (Mendes & Martines, 2022; Sadri et al., 2018). According to Leech (1983), pragmatic competence reduces communication disruption and keeps the social balance in

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interactions. In linguistic theory, it is an important issue relevant to relational communication (Sadri et al., 2018).

Online learning, pragmatic competence and metacognitive strategies have been addressed in some previous studies. For instance, Arono et al. (2022) conducted an investigation on the impact of students' digital literacy skills on their meta-cognitive strategies in listening and showed significant improvements in learners' listening meta-cognitive strategies under the effect of digital literacy skills. Esmaili Rad et al. (2020) examined the efficacy of metacognitive skills on the goal orientation and academic procrastination of students with specific learning disabilities. The results showed that meta-cognitive skills had a significant effect on students' goal orientation and academic procrastination. Alsmari (2020) investigated the effectiveness of online learning on Saudi EFL undergraduates' pragmatic competence and language proficiency. According to the results, online group significantly outperformed traditional teaching group, showing the significant effect of online learning on Saudi EFL undergraduates' pragmatic competence and language proficiency. Katchamat (2019) tried to investigate the effect of online learning on EFL learners' pragmatic knowledge. The findings revealed that the frequency of use in some categories of apology speech act set significantly differed between the two groups, but the overall number of frequencies was not significantly different. In addition, the results showed that the learners who were taught by online learning used English apology more appropriately and accurately than the pre-test. Haghighi et al. (2018) investigated the effect of online learning on EFL learners' appropriate use of refusal. The findings revealed that the participants of the online group were more engaged with the course contents and significantly outperformed their counterparts in the conventional group in the post-test. Ashraf et al. (2016) investigated the impact of online learning on the listening skill of Iranian EFL learners. The results showed a significant effect of online learning on Iranian EFL learners' listening skill. Ebadi and Saeedian (2016) explored learners' development in L2 reading comprehension in novel and increasingly more complex situations through online learning. The results confirmed the significant effect of increased task complexity in online contexts on learners' reading comprehension development. Alemi (2015) investigated the effect of online learning on Iranian EFL students' writing self-assessment in terms of different aspects of writing including the use of idioms. The results showed that the use of idioms was improved among learners as a result of using online learning.

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With a view to the proved impact of the use of technology on EFL learners' pragmatic knowledge (Alibeigloo et al., 2021), combined with the significant effect of meta-cognitive strategies on different skills of English language, investigating learners' perceptions of the effect of online meta-cognitive strategies training on their pragmatic knowledge is worth treating. This necessity is added in importance when it is noticed that there is no exclusive consensus on the effectiveness of technology on language achievement (Moranski & Kim, 2016). From another viewpoint, contrary to the popularity of technology use in education in different countries, seemingly, still traditional teaching methods are applied to teach English pragmatics. A direct outcome of this is that possibly many learners are not familiar with the potentials of online meta-cognitive strategies training for pragmatic language learning. To corroborate this, Olyaei, Zamanian and Afraz (2020), and Alibeigloo et al. (2021) have shown Iranian EFL learners' low acquaintance with the advantages of various technological tools for educational purposes.

Finally, although some studies have tacked the effect of meta-cognitive strategies on EFL learning, it seems that literature suffers from a scarcity of research on EFL learners' perceptions of the impact of online meta-cognitive strategies training on pragmatic knowledge. What is clearly perceived from the reviewed studies is that more investigations are needed to document the effect of online meta-cognitive strategies training on Iranian EFL learners' pragmatic knowledge. This study was an attempt to bridge this gap. Such a study paves the way for incorporation of meta-cognitive strategies training in teaching EFL pragmatics, as a missing link in the current EFL teaching system in Iran. Moreover, it sensitizes EFL administrators to the pivotal role of meta-cognitive training in the effectiveness or success of EFL teaching, at least as far as pragmatics learning is concerned. Last but not least, such academic endeavors add to the breadth and depth of the previous studies by taking a qualitative approach grounded in the natural data (i.e., the participants' perceptions). With a view to this, the present study was conducted to answer the following research question:

What are Iranian EFL intermediate learners' perceptions of the effect of online meta-cognitive strategies training on their pragmatic knowledge?

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Materials and Methods

This study used a phenomenological design within a qualitative approach. This type of design renders itself well to description of the accounts aimed at unearthing different aspects of a phenomenon using data that might be collected in a variety of ways, such as interviews, observations, and document review" (Ary et al., 2010, p. 29).

The participants of this study consisted of 20 female Iranian intermediate EFL learners studying English in one of the private language institutes of Yazd, Iran. They were selected through convenience sampling because available subjects were selected to participate in the study. In fact, data saturation was achieved after interviewing the 20th participant. Their age range was 18-36. The mother tongue of all of the participants was Persian. To observe ethical issues, the consent of the participants was taken for participation in the study. In addition, the objectives were fully explained to them. Moreover, they were ensured about anonymity and confidentiality of their personal information.

A semi-structured interview was designed by the researcher to elicit the participants' perceptions of the effect of online meta-cognitive strategies training on their pragmatic knowledge. Semi-structured interview lent itself well to the present study because it allowed the participants to unravel their perceptions without any limitation. In designing the interview questions, following Knox' s (2009) framework, first, the broad target area of the interview was determined by considering the research question. Thereafter, based on the nature of the research question, open-ended question type was recognized as the most appropriate type of question for the interview. Finally, the questions were designed, moving from more general questions to more specific ones. It consisted of four open-ended questions which were implemented orally through social networks. The interview was run individually. The interview data were audio-recorded and transcribed verbatim so that the researcher could analyze the content of the interviews more easily. Credibility of the interview was checked through low-inference descriptors and its dependability through member checking. The language of the interview was Persian. Indeed, the researcher analyzed the data and translated the results into English. To make sure about the accuracy of the translation, back-translation was used.

Data collection of this study started with selecting the sample. Next, the sample was justified on the objectives of the study. Then, they were exposed to seven online meta-cognitive strategies training sessions in WhatsApp. In the first session, the importance of meta-cognitive strategies

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training was explained, and some general definitions of meta-cognitive skills were provided. In the second session, the sample was trained on planning, monitoring, and evaluating strategies for learning pragmatics. The third session was devoted to training on modifying strategies, and time and place management strategies for the purpose of pragmatics learning. Within the fourth session, duty orientation, and goal-setting strategies were taught to the sample to be used in learning pragmatics. Training on organizing the environment of studying, correct breathing, and sports strategies for pragmatics learning was the topic of the fifth session. In the sixth session, self-evaluation, self-correction, and concentration strategies were addressed in the process of pragmatics learning. In the seventh session, the strategies taught in the previous sessions were reviewed by the researcher. One week later, the researcher took the interview in the way mentioned in the previous session.

The collected audio-recorded data from the interviews was transcribed verbatim to be analyzed. To analyze the data, the researcher qualitatively analyzed the transcribed interview data through qualitative thematic analysis. The thematic analysis was done in four steps. In the first step, the researcher tried to be familiar with the data through taking notes or looking through the data. In the second step, the data was coded. It involved making some phrases and sentences of the text bold and coming up with some codes which represented the content of the bold parts. In the third step, the codes were looked over to identify the recurrent patterns in them. In the fourth step, the extracted themes were reviewed to ensure about their accuracy. To observe the credibility of the results obtained from interviews, the researcher provided direct quotations from interviewees in the process of reporting the results of content analysis (i.e., low-inference descriptors). To check the dependability of interview data, member checking was used. That is, the researcher showed some parts of analyzed interviews to interviewees to see whether their perceptions are the same with the extracted themes.

Results

Interviews were content analyzed and 8 themes were extracted, each is explained and exemplified as follow.

Theme 1: Improving Productive Skills: The first prominent theme that emerged from the data analysis is " Improving Productive Skills." This theme revolves around the notable improvement

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in participants' productive abilities as a direct result of their engagement with online meta-cognitive strategies training.

This theme is supported by quotations from the participants, reinforcing the idea of the positive impact of online meta-cognitive strategies training on productive skills development. For example, Participant 1 articulated this enhancement, stating, "The strategies were very interesting for me. It stimulated me to speak more comfortably. I think they made me more sociable."

In addition, Participant 3 (P3) emphasized the effect of online meta-cognitive strategies training on verbal ability: "Online meta-cognitive strategies training has caused developments in my productive ability. I feel that my productive skill has been developed as a result of online meta-cognitive strategies training".

Furthermore, Participant 5 (P5) stressed the role of online training on meta-cognitive strategies in enhancing productive skills, stating, "Speaking ability is much influenced by online meta-cognitive strategies training. The role of meta-cognitive strategies was very important in the enhancement of verbal skill."

Theme 2: Improving Eagerness to Learn English Pragmatics: The second dominant theme that emerged from the analysis is "Improving Eagerness to Learn English Pragmatics." This theme revolves around the notable effect of online meta-cognitive strategies training on participants' eagerness to acquire proficiency in English pragmatics.

This theme is represented by quotations from the participants, providing insights into their shifted perspectives and increased tendency for pragmatics learning. For example, Participant 10 (P10) emphasized the role of online meta-cognitive strategies training in improving tendency for pragmatics learning, stating, "I think that online meta-cognitive strategies training encourages me to learn English pragmatics. It stimulated my eagerness."

Participant 2 (P2) also acknowledged the enhanced tendency for pragmatics learning, expressing: "I am now more willing about learning pragmatics, and this is due to online meta-cognitive strategies training. My passion towards pragmatics have been enhanced."

Further, Participant 15 (P15) noticed a notable change in her desire towards English pragmatics, stating: "My desire for English pragmatics has improved very dramatically after online meta-cognitive strategies training. I conceived that pragmatics is too hard. But after training I want to learn pragmatics more."

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Theme 3: Decreasing Exhaustion: The third recurrent theme that emerged from the data is "Decreasing Exhaustion." This theme is about the influence of online meta-cognitive strategies training on mitigating exhaustion feeling among learners when learning pragmatics.

This theme is confirmed by quotations from the participants, showing how online meta-cognitive strategies training affected their feeling of exhaustion. Participant 20 (P20) explained about a perceived reduction in exhaustion, stating, "I was overwhelmed by vagueness of speech acts. With online meta-cognitive strategies training, my exhaustion decreased."

Participant 14 (P14) admitted the emotional effect of online meta-cognitive strategies training on learning pragmatics, expressing: "Online meta-cognitive strategies training made me more comfortable in learning pragmatics. This method is convenient and does not irritate me."

Participant 17 (P17) described how online meta-cognitive strategies training reduced the burden of burnout on her, stating: "Burnout was recurrent in me. When I became familiarized with online meta-cognitive strategies training, I feel less burnout."

Theme 4: Increasing Learning Control: The fourth prevalent theme "Increasing Learning Control" shows the effectiveness of online meta-cognitive strategies training on participants' control of learning. Participant 11 (P11) conceived how online meta-cognitive strategies training could help her control her learning pace, expressing: "Learning is more controlled when the online meta-cognitive strategies training method is utilized. It sounds that I have higher mastery over learning with online meta-cognitive strategies training."

Participant 19 (P19) showed this sense, stating: "I take authority in learning through online meta-cognitive strategies training instruction. In fact, I am less passive in pragmatics learning via online meta-cognitive strategies training."

Participant 6 (P6) described how she was more active in learning pragmatics through online meta-cognitive strategies training: "I sensed I am more engaged and active by online meta-cognitive strategies training. I am not just receiver of pragmatic points. I learn them because I can."

Theme 5: Increasing Learning Preservation: The fifth recurrent theme "Increasing Learning Preservation" represents the change towards a more preserved and long-lasting pragmatics learning when using online meta-cognitive strategies training. Participant 15 (P15) noticed higher retention of learning pragmatics in online meta-cognitive strategies training context, emphasizing:

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"Learned materials are more retained in the online meta-cognitive strategies training. That means, the materials are kept in my mind longer when online meta-cognitive strategies training is used."

Participant 20 (P23) relied on the increased preservation of learning in online meta-cognitive strategies training settings, discussing: "The preservation of learning is more in online meta-cognitive strategies training. It remains for a longer time. Consequently, learning becomes more preserved."

Participant 3 (P3) referred to the increased learning memory due to online meta-cognitive strategies training, expressing: "Learning memory is stringer in this method. The strategies acquired in the online meta-cognitive strategies training are strong enough to increase the power of memory for learning."

Theme 6: Increasing Self-Esteem: The sixth recurring theme "Increasing Self-Esteem" underscores the effect of online meta-cognitive strategies training on learners' self-esteem.

Participant 10 (P10) explained how online meta-cognitive strategies training affected the way she valued herself: "Because of using online meta-cognitive strategies training, I valued myself more seriously. I'm beginning to believe that I am a valuable person."

Participant 7 (P7) taught that online meta-cognitive strategies training has manipulated her perceptions of herself positively, mentioning: "It transformed the method I perceived myself. My beliefs about myself were really changed by it. I perceived myself more positively."

Participant 18 (P18) admitted the role of online meta-cognitive strategies training in igniting her self-perceptions, stating: "This method ignited self-perceptions I had inside my being. I feel more productive perceptions have emerged in my personality. Perceptions of my abilities are more generative after these strategies."

Theme 7: Changing Self-Concept: The seventh recurrent theme "Changing Self-Concept" emphasizes that online meta-cognitive strategies training is capable of shifting learners' self-structure in the learning of pragmatics.

Participant 13 (P13) noticed a change in her self-identity when online meta-cognitive strategies training was used, expressing: "I have a better self-identity. I conceive that I am growing. I think that I can do everything. Online meta-cognitive strategies training changed me."

Participant 20 (P20) confirmed a change in her self-perspectives that was due to online meta-cognitive strategies training, explaining: "I feel that my perspectives about my abilities have been

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changed. This is due to the effect online meta-cognitive strategies training. This type of course re-defined my viewpoints."

Participant 8 (P8) noted a similar feeling when she stated: "Online strategies changed my worldview. Before that, I was not that much assured of my abilities. I was timid. My self-confidence was low."

Theme 8: Improving Class Interaction: The eighth recurring theme "Improving Class Interaction" reflects how online meta-cognitive strategies training improves interactions among learners in the class.

Participant 19 (P19) believed that online meta-cognitive strategies training leads to more interactions among classmates, stating: "When using online meta-cognitive strategies training, I had to ask some questions from my friends. This led to more interactions between us. We communicated more with each other."

Participant 4 (P4) noted how online meta-cognitive strategies training could encourage class communication among learners, expressing: "By online meta-cognitive strategies training, students learn to be in contact with the other students. It contributes to plausible connections."

Participant 15 (P15) noticed the students' willingness to be related with each other in online meta-cognitive strategies training, discussing: "The process of online meta-cognitive strategies training is so that students like to be connected to each other to understand the matters better. The strategies encourage learners' inter-relationships. Therefore, learners try to have more relations with each other."

Discussion

This study aimed to uncover Iranian EFL intermediate learners' perceptions of the effect of online meta-cognitive strategies training on their pragmatic knowledge. Thematic analysis of the data unearthed several themes including improving productive skills, improving eagerness to learn English pragmatics, decreasing exhaustion, increasing learning control, increasing learning preservation, increasing self-esteem, changing self-concept, and improving class interaction.

The extracted themes are in line with previous studies wherein impact of online learning on EFL learners' pragmatic knowledge was approved. Among these studies, those by Alibeigloo et al. (2021), Fani and Rashtchi (2015), Miri et al. (2017), Alibakhshi and Sarani (2014), Alibakhshi and

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Shahrakipour (2014), Hessamy and Ghaderi (2014), Jarrahzade and Tabatabaei (2014), Katchamat (2019), Khoshsima and Farokhipour (2016), Mohammadimoghadam (2015), Naeini (2015), and Tajeddin and Tayebipour (2012) can be cited. The themes are also consistent with the results of the studies by Kaskosh and Khateb (2021), Marzban and Mahmoudvand (2013) and Yamini et al. (2010) wherein the transformative influence of meta-cognitive skills on EFL learners' attitudes, self-concept and learning willingness was approved. Moreover, the findings are congruent with the studies by Mohamadpour et al. (2019) and Walqui (2006) whose main outcome was the positive effect of meta-cognitive strategies on learners' learning retention and duration.

To discuss the findings, concerning the first theme 'Improving Productive Skills', online meta-cognitive strategies reduce anxiety and increase autonomy in learners, and this makes them more ready to engage with productive skills. Accordingly, their productive skills are improved. Moreover, these strategies have potential to enhance their self-confidence which contributes to productive skills success. Regarding the second theme 'Improving Eagerness to Learn English Pragmatics', the mediating role of motivation which has been shown to be correlated significantly with meta-cognitive skills and online learning can be referred to. This implies that online meta-cognitive training enhances learners' motivation, and this contributes to higher eagerness to learn English pragmatics among them. Additionally, this eagerness may be attributed to enhanced productive skills of learners which was revealed as the first theme of the study.

As far as the third theme 'Decreasing Exhaustion' is concerned, as a consequence of being exposed to online meta-cognitive strategies training, learners' self-efficacy is improved. Consequently, their burnout or exhaustion is decreased. Besides, motivation and exhaustion are reversely correlated. When, the participants' motivation is enhanced, their sense of exhaustion is deceased. On the fourth theme 'Increasing Learning Control', as mentioned before, online meta-cognitive strategies lead to higher sense of autonomy in learners. A direct outcome of this can be learners' higher sense of agency. This eventually leads to higher amount of control of learning in learners. In addition, higher motivation and self-confidence generated due to the strategies in learners can pave the way for higher control of learning. Last but not least, enhanced self-esteem and self-concept that were extracted as the sixth and seventh themes are tied to higher learning control among the participants.

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With regard to the fifth theme 'Increasing Learning Preservation', it can be argued that learning strategies which are corroborated in the same vein with online meta-cognitive strategies reduce burnout and consequently add to learning preservation. About the sixth and seventh themes 'Increasing Self-Esteem' and 'Changing Self-Concept', online meta-cognitive strategies empower learners via enhancing their independence, autonomy and higher order thinking. This in turn enhances their self-concept and self-esteem. Finally, on the last theme 'Improving Class Interaction', as revealed by the second theme, online meta-cognitive training improves learners' eagerness to learn English pragmatics. When learners are more eager to learn, inevitably they engage in more interactions.

Conclusion

Based on the findings, it can be concluded that online meta-cognitive strategies training improves EFL learners' productive skills and makes them eager to learn English pragmatics. It is also concluded that through online meta-cognitive strategies training, learners' learning burnout is reduced and their learning control is more supported. The findings highlight those online meta-cognitive strategies training makes learning more long-lasting for learners and positively manipulates their conceptions, perceptions, and beliefs of themselves. Also, the findings revolve around the notable mastery over inter-personal interactions in learners due to the changes generated in them because of being exposed to online meta-cognitive strategies training.

A crucial message of this study is that online learning, in integration with meta-cognitive training, transforms learners' perceptions of learning pragmatics remarkably. The potential of both online learning and meta-cognition can jointly account for the shifts enumerated by the learners in this study. Previous research fulfilled its mission of enlightening us with regard to what online learning and meta-cognitive strategies do with human mind. But these two constructs were not investigated in a single study touching both simultaneously. This gap, as the main rationale behind this piece of research, led to a qualitative work which, among its other benefits, validated the previous research with its ground in the authentic data.

Pedagogically, the findings suggest that EFL teachers can effectively incorporate online meta-cognitive strategies training into their pragmatics teaching strategies to enhance students' productive skills, make them more willing to learn pragmatics, and decrease their exhaustion. EFL learners are recommended to take advantage of online meta-cognitive strategies training to have

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more agency in learning, learn pragmatics for a longer time, experience higher levels of self-esteem and self-concept and enjoy more interactions with their classmates. EFL curriculum developers can draw upon these insights to integrate online meta-cognitive strategies training into future curricula, enriching pragmatics learning experiences of EFL learners.

Future research endeavors can build upon these findings by replicating the study with a larger and more diverse sample. Additionally, triangulating data sources through reflective journals and open-ended questionnaires can enhance the credibility of the findings. Exploring the potential influence of gender or language proficiency on EFL learners' perceptions represents another promising avenue for future research, contributing to a deeper understanding of this educational approach.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Yazd University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

The sole author contributed to the study conception and design, material preparation, data collection and analysis and contributed to the article and approved the submitted version.

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