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Integrating Commercial-off-the-Shelf Games into Language Classroom: PCaRD Experience of Two English Language Teachers

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Dijital Oyunların Yabancı Dil Sınıfına Entegrasyonu: İki İngilizce Öğretmeninin PCaRD Deneyimi

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Abstract

This study aims to investigate two English language teachers' perspectives on adopting a game-enhanced language learning intervention that was designed according to the PCaRD framework. For this purpose, a semi-structured interview protocol and researcher memos were utilized as data collection tools, and the data were subjected to thematic analysis. The results of the study indicated that the game-enhanced activities integrated into the curriculum were effective in promoting students' foreign language learning and instrumental in helping students develop a more positive self-image about their foreign language abilities. Despite the time cost of preparing the activities bridging the commercial-off-the-shelf games into the existing curriculum and applying them in class and concerns about the negative connotation of video games, the PCaRD framework provides essential guidelines that teachers will find helpful for enhancing their students' learning experiences and motivation for learning.

Article Info

Keywords: Foreign language learning, game-enhanced foreign language learning, PCaRD, teacher perspective

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Öz

Bu çalışma iki İngilizce öğretmeninin, dijital bir oyunun PCaRD pedagojik çerçevesi dahilinde dil eğitimine entegre edilmesine ilişkin algılarını incelemeyi hedeflemektedir. Bu amaçla yarı yapılandırılmış bir görüşme formu ve araştırmacı notları veri toplama araçları olarak kullanılmış ve veriler tematik analize tabi tutulmuştur. Araştırmanın bulguları dijital oyunla zenginleştirilerek eğitim programına entegre edilen öğrenme etkinliklerinin öğrencilerin yabancı dil öğrenimini destekleyici olduğuna ve yabancı dil becerileri hakkında daha olumlu bir benlik imajı geliştirmelerini desteklediğine işaret etmektedir. Eğitim amaçlı geliştirilmemiş oyunları mevcut eğitim programı ile birleştiren aktiviteleri hazırlamanın ve bunları sınıfta uygulamanın zaman maliyetine ve video oyunlarının olumsuz çağrışımlarıyla ilgili endişelere rağmen, PCaRD çerçevesi öğretmenlerin öğrencilerin öğrenme deneyimlerini ve öğrenmeye yönelik motivasyonlarını geliştirmede faydalı bulacağı yönergeler sunmaktadır.

Makale Bilgisi

Anahtar Kelimeler: Oyunla zenginleştirilmiş yabancı dil öğrenimi, öğretmen perspektifi, PCaRD, yabancı dil öğrenimi

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Introduction

Despite their interchangeable use in some related work, game-based learning and game-enhanced learning signify two distinct approaches. In game-based learning, games that are specifically designed for educational purposes are used, while in game-enhanced learning, commercial-off-the-shelf (COTS) games are used to facilitate learning (Reinhardt & Sykes, 2012). The literature in game-based learning indicates that teachers believe games are effective tools that can be exploited in educational settings in general (Dickey, 2015; Huizenga et al., 2017; Koh et al., 2012; Mozelius et al., 2017; Pinder, 2016; Sardone, 2018; Schrader et al., 2006; Utami & Bharati, 2020), and teachers who have negative attitudes towards games can change their opinions after they are given the opportunity to play a game or take part in the design of a game (An & Cao, 2016; Kenny & McDaniel, 2011; Ray & Coulter, 2010). Studies investigating teachers' perceptions of game-based learning highlighted several key affordances attributed to games, such as improving students' motivation (Can & Çağıltay, 2006, İnce & Demirbilek, 2013; Huizenga et al., 2017; Hsu & Chiou, 2011; Xie et al., 2021), stimulating their creativity (Allsop et al., 2013; Demirbilek & Tamer, 2010), promoting problem-solving and critical thinking skills (Allsop et al., 2013), providing a fun and relaxed learning environment (Hsu & Chiou, 2011; Sardone, 2018), promoting student engagement and cognitive gains (Huizenga et al., 2017) and contributing to the effectiveness of the instructional process (Pinder, 2016).

Game enhanced learning literature also supports the aforementioned benefits of digital games and reports various affordances of games for education. Related studies indicated that students can benefit from COTS in language learning (Franciosi, 2017; Hitosugi et al., 2014; Peterson, 2006; Peterson, 2012; Reinhardt, 2013; Reinders & Wattana, 2015; Reinhardt & Sykes, 2012; Sundqvist & Wikström, 2015; Sykes, 2018). Using COTS to facilitate learning is becoming a popular approach as it is cost and time effective and flexible in many ways (Van Eck, 2006). Even though teachers hold positive perspectives about the benefits of digital games, they may less frequently incorporate games into their classroom practice (Koh et al., 2012). Teachers are not generally using games as teaching tools; instead, games are usually benefited as rewards after the workload is completed; although there is an inclination and eagerness towards using games, their adoption seems challenging for the teachers due to certain limitations, such as lack of resources and knowledge of integrating games into their teaching practice (Becker, 2007; Denham et al., 2016).

It is important for teachers to see the value of digital games (Dickey, 2015). According to the studies reflecting teachers' perspectives, factors such as teachers' personal interest and open-mindedness, existing policies (Koh et al., 2012), teachers' years of experience (Hsu et al., 2017; Koh et al., 2012; Li & Huang, 2016), professional support teachers get from their work environment (Koh et al., 2012; Wu, 2015), lack of technical support and challenges with technology (Ertzberger, 2009; Watson et al., 2016; Wu, 2015), negative views of parents and principals, teacher preparedness, amount of time allotted to games, quality of the games used (Wu, 2015), the incongruity between the curriculum and game related activities (Ertzberger, 2009; Wu, 2015), lack of a framework to support the integration of games into the curriculum (Allsop et al., 2013), teachers' beliefs (Uluay & Doğan, 2020), pedagogical content knowledge and computer skills (Uluay & Doğan, 2020; Wu, 2013), and teachers' experience in integrating games into the curriculum (Wu, 2013) altogether play a decisive role in teachers' adoption of digital games.

Furthermore, according to teachers the challenges involved with integrating games into the curriculum, inflexibilities of the current educational system, and gaining access to games were reported as factors that inhibit teachers' digital game use in the classroom (Watson et al., 2016). In the absence of well-grounded knowledge about the constraints and affordances of digital games and confidence in using them, teachers would not be able to embrace digital games to their fullest potential (Becker, 2007).

According to Van Eck (2009) there are several important factors to consider when integrating games that are not originally developed for educational purposes into the curriculum. First, teachers should be aware of the fact that technology integration and the use of technology are not the same things. The use of technology is not conceptually related directly to the learning process or content, and using any technology in the classroom means that teachers and/or students use technology only as a tool to serve a purpose. On the other hand, integrating technology implies using technology directly in a unique problem-solving process to support learning. In this context, the focus should be on integrating the games developed for commercial use into the curriculum, not merely using these games in the lesson. When designing learning-teaching environments, the contents, classroom activities, and games should be designed as a meaningful whole at every stage. Although it is not possible to achieve this flawlessly, this principle should guide the design from the very beginning. According to Yong and colleagues (2016) an effective pedagogy should include a combination of digital games and classroom teaching.

PCaRD (Play, Curricular activity, Reflection, Discussion) is a pedagogical framework that aims to address this need by helping teachers utilize commercial or educational games to achieve learning goals in an engaging and novel way within the scope of curricula (Foster & Shah, 2015). The framework provides a set of principles and guidelines designed to empower teachers and aid them in designing game-related learning activities. PCaRD is composed of four

components (Figure 1). The first component is called 'play,' in which students are expected to play the target games in a natural way. The teacher at this phase observes and facilitates the gameplay by creating opportunities for students to bound their interest in the game and school learning in a personal and meaningful way. During the 'curricular activity,' the teacher uses activities to integrate curricular objectives with the game experience. This is followed by the 'reflection' session, where students are guided to think about their learning experience and express their opinions. Finally, through the 'discussion' phase, students are encouraged to ask questions, talk about their experience, and discuss their game-related decisions (Foster & Shah, 2015).

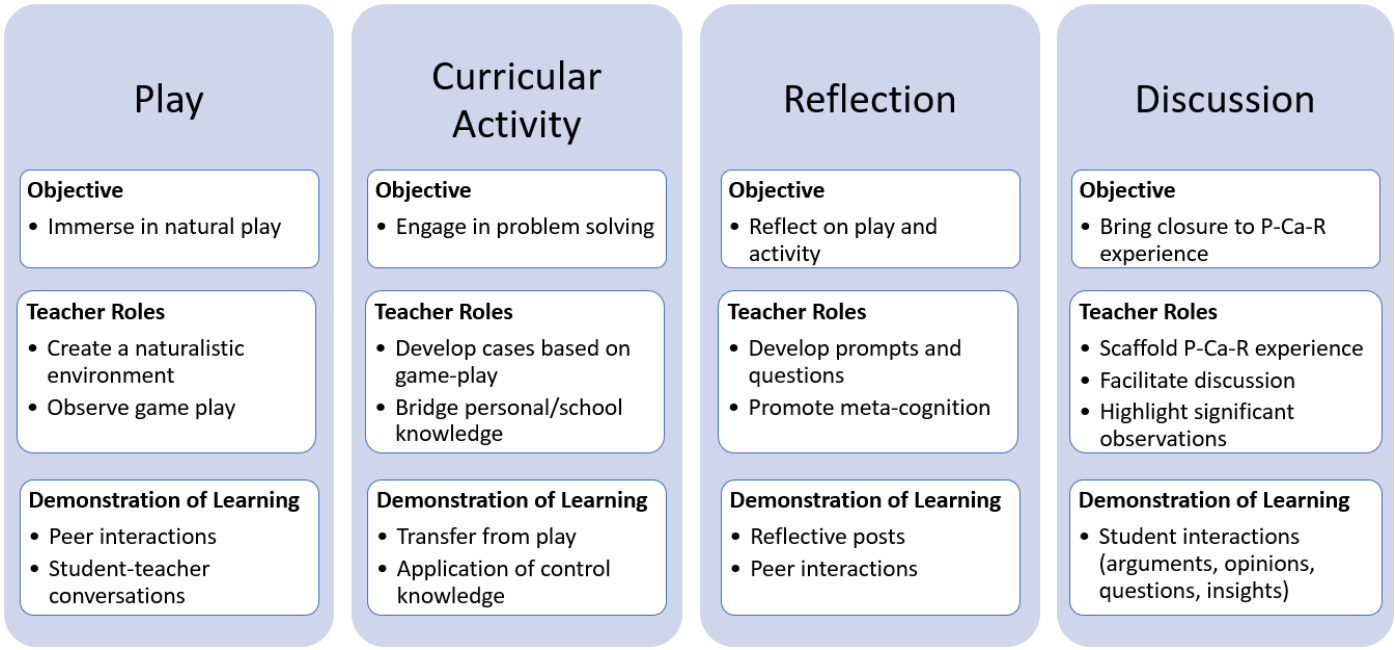

Figure 1. Example of PCaRD Components (Foster et al., 2015, p. 387).

Although teachers are not commonly placed at the center of game research (Hwang & Wu, 2012), related literature supports their central role in the facilitation of effective game interventions (Becker, 2007; deHaan, 2019; Foster & Shah, 2020; Hanghøj & Brund, 2011). Thus, understanding teachers' perceptions about the use and effectiveness of digital games are of fundamental importance for developing effective strategies to support teachers to integrate games into their classrooms successfully (Huizenga et al., 2017). The present study aims to contribute to the existing literature by focusing on teachers' perceptions about their experience with a game-enhanced language teaching intervention.

Method

The purpose of this qualitative study was to investigate two teachers' perspectives on the use of the PCaRD framework in integrating a popular COTS game into the curriculum. This study was part of an experimental study with 76 preparatory level students at a private university that aimed to integrate a COTS game into English language teaching and evaluate its effectiveness. The students were in four different sections which were randomly assigned as experiment and control groups, and two sections were assigned to each teacher so that the teachers facilitated both experiment and control groups during this ten-week-long study. The experiment group went through an intervention including a COTS game called Life is Strange, a five-part episodic adventure game, which was integrated into the curriculum according to the PCaRD framework, while the control group received traditional instruction. The experiment group played the game at home and during the instruction, and the teachers conducted classroom activities designed to incorporate students' game experiences and guided them to complete the relevant episodes/events in the game. The activities were designed by the researchers based on the PCaRD framework. The control group had activities with the same content as the experiment group; however, they did not have game-enhanced activities. Some commonly used teaching methods such as teacher-led lectures, student-centered activities, workbook assignments, group discussions, whole-class discussions were employed in the control group.

The current study focused on the teachers' perspectives who integrated the COTS game into their L2 curriculum using the PCaRD framework. Research and publication ethics were followed. The study was approved by the Middle East Technical University Human Subjects Research Ethics Committee (Date: 08.10.2018, Number: 28620816/504).

Participants

Two teachers took place in this study who were in charge of one experiment and one control group during the course of the study. The participant teacher has 15 years of teaching experience. Upon her graduation from an English language and literature program, she completed two master's degrees in curriculum and instruction and assessment and evaluation in education, respectively. Currently, she is pursuing a doctoral degree in curriculum and instruction. She is interested in the use of media and games, both commercial and educational, in language teaching, and she utilizes certain technologies such as TV series and educational games in her classes. At the beginning of the study, she acknowledged the benefits of commercial games on students' language learning abilities; however, she had reservations about their pedagogical merits. She did not have prior experience with playing COTS games, yet she played Life is Strange prior to the intervention at the beginning of the study.

The first author of this study had a researcher-participant role in the study. She graduated from the department of English language teaching and recently obtained her master's degree in curriculum and instruction. She has been teaching English classes for nine years at the university where the present study was conducted. She is also a tech-savvy teacher; however, this was the first time she incorporated a game into the curriculum. She played the Life is Strange game prior to the study and prepared the curricular activities.

The researcher-participant role had both advantages and disadvantages. It enabled an insider perspective with a deep understanding of the context of the study (Adler & Adler, 1994) and secured a prolonged engagement in the study setting (Lincoln & Guba, 1985). However, this could also be problematic in terms of balancing the researcher and participant roles (Gerrish, 1997). In order to ensure the credibility of the study, the member checking method with the participant teacher (Connelly, 2016; Yıldırım & Şimşek, 2013) and peer debrief with another researcher was employed (Lincoln & Guba, 1985) to verify the data collection, data analysis, and the reported results. The researcher-participant maintained ongoing critical reflection during the data collection and analysis phases and had weekly meetings with the second author about the process, her experiences, and ideas (Lennie, 2006).

Data Collection and Analysis

The data of this study is composed of one interview with the participant teacher and weekly memos of the researcher teacher. The semi-structured interview with the participant teacher took around 45 minutes, which was conducted at the end of the 10-week-long game-enhanced language learning intervention. The interview was conducted by the researcher-teacher and was recorded and transcribed verbatim with the permission of the teacher. The memos were composed of weekly written reflections of the researcher teacher just after the class hour for ten weeks. The researcher took notes during the class hour, and right after the class, she went over her notes and wrote analytic memos where she delved into her experience, observations and interpreted those to explore her ideas (Emerson et al., 1995). As the literature suggests, memoing can be utilized to support data sources such as interview transcripts (Birks et al., 2008) and can facilitate exploration and afford a more flexible meaning-making process (Charmaz, 2006; Lempert, 2007).

During the data analysis phase, an inductive thematic analysis approach was adopted (Braun & Clarke, 2006). The process started with familiarizing with the data, the development of the codes, and then the data were analyzed accordingly to identify the themes. The co-authors of the study coded the data independently first and then compared their assignments to resolve any disagreements. Although the data was coded mainly by the first author, the process included both of the researchers, and it was more of a reflexive process than a process focusing on coding agreement (Braun & Clarke, 2019). Overall, through an analysis of the qualitative data collected, this study aims to answer the following research question:

- What are the teachers' perceptions of the effectiveness of a game-enhanced language learning intervention designed within the PCaRD framework for language learning and motivation?

Results

The results are organized under the themes identified through thematic analysis of the transcribed interview and the research memos. Table 1 below shows the codes and the corresponding thematic categories.

There were four themes created related to the teachers' perceptions of the game-enhanced learning intervention. Data segments including teachers' comments related to the game's role in promoting interaction with the course content, connecting gameplay with contents, effective game integration, students' recognition of game-related content, and the

game's motivating role on the students were grouped under the theme 'integrating gameplay with learning objectives. Comments regarding the game's affordances for providing an immersive and engaging language-learning experience that brings repeated exposure and situated learning opportunities for the students were organized under the theme 'affording an immersive learning experience'. Similarly, comments and notes related to the game's influence on promoting students' self-confidence, thinking about their future-selves, and opportunities for reflective learning were organized under the theme 'exploration of possible selves'. Finally, the concerns raised by the teachers related to the addictive nature of games and the time constraints brought by the curriculum were organized under the theme 'concerns about using video games'.

Table 1. The themes and the corresponding codes used during data analysis.

Themes	Codes
Integrating Gameplay with Learning Objectives	• Promotes interaction about game and course content • Connects content and gameplay • Effective game integration • Students recognize game-related content • Game integration motivates students
Affording an Immersive Learning Experience	• Immersive learning • Engrossing/keeping students engaged • Affords situated learning • Promotes repeated exposure
Exploration of Possible Selves	• Promotes thinking about future-self • Affords reflection opportunities • Increases self-confidence
Concerns about Using Video Games	• Concerns about video game addiction • Concerns about time constraints

Integrating Gameplay with Learning Objectives

In general, the teachers found the PCaRD framework practical and useful in terms of facilitating students' cognitive and affective development in foreign language learning. The teachers mentioned how the framework connects the game and the curricula motivated the students to participate in the activities and got them involved with the learning process. PCaRD guides the teachers to connect gameplay and course objectives to reflect students' gameplay experiences (Foster, 2012). In this sense, the first main theme was about how integrating a COTS game into the curriculum using PCaRD supported language learning:

> I think this is a brilliant, very clever method, it is not a watch at home and then do lots of labor-intensive things kind of method, students play the game at home and then come to class and do the worksheets which are not disconnected to the class (curricula). I think it is a very good and effective method to use in the learning process [participant teacher].

> When I distributed the activities, upon noticing the parts (transcripts, vocabulary) from the game, they were more eager to finish them and kept sharing their experiences (what they learned in the game) with their friends while doing the activities. Normally they are not big fans of grammar activities but seeing the scripts from the game, they really enjoyed those activities as well [researcher memo].

As the quoted statements suggest, the teachers believe that the two parts of the study, gameplay and integrating activities, effectively complemented each other and made a better, coherent whole. According to them, these game-related activities rendered the learning experience more remarkable and interesting as a whole.

Affording an Immersive Learning Experience

The PCaRD framework is designed to promote an active learning environment where students can learn through gameplay (Foster, 2012). During the intervention, the gaming component afforded an immersive environment where students can be exposed to the target language. Teachers especially attributed the language affordances of the intervention to the immersive learning nature of the gameplay experience:

> But apart from that, in game-enhanced learning, they learn in life. They're actually playing games there. So, their advantage is that when students learn incidentally and they use it in their lives, I think they learn more effectively or develop their language abilities more effectively [participant teacher].

> It was a friendly atmosphere. The students were really excited, and as the game progressed, they were totally immersed in the game and were asking questions to each other. They were rewinding the time in the game and trying to overcome the obstacles to pass to the next level [researcher memo].

> It was our first time, and we really liked the game and the language used within it. It provided a lot of exposure to daily language and vocabulary [researcher memo].

Teachers believe that thanks to the digital environment provided by the game, knowledge acquisition happens naturally, actively, and within the ecosystem with all its components. Also, due to the immersive nature of the game, incidental learning was common, which renders language learning more effective and permanent. Additionally, certain options in the game, such as rewinding time or playing with the objects to solve puzzles, kept the player hooked and absorbed, which is important in terms of language exposure.

Exploration of Possible Selves

Another identified theme was concerned with how the PCaRD framework supported students' motivational skills and developed their self-confidence in language learning. PCaRD based discussion and reflection activities were used to enable students to envision their possible selves during the intervention (Foster, 2012), and the teachers reported that game-enhanced activities were effective in this sense;

> It helps students to develop a better future self-image… students generally say, 'I can't do it, I can't listen, I cannot understand even if I listen to it.' But, after this intervention, I had students saying, 'Well, yes, I may actually use it (English) in my own life in the future'. And there were a lot of students who said, "teacher, I was actually able to understand." And I think it was effective in terms of developing their belief in themselves about using English in the future' [participant teacher].

> During the reflection parts, they reflected on and shared their aspirations and fears for the future with their friends. They stated that as they can play the game easily without any comprehension problems and they learn more expressions, they believe that they will achieve this in the future as well. The basic fear for the students is that they fear not being able to use English efficiently in the future, both in their academic and professional lives [researcher memo].

As indicated by the first excerpt, the teacher suggests that thanks to the game integration, students gained awareness about their language abilities and strengthened their beliefs that they would be able to function in English effectively in the future as they managed to understand things and proceed in the game. The teacher states how students created a positive self-image and a desired-self regarding their target language use. As the researcher memo also shows, the reflection parts helped students project their future selves with their friends, contemplate various selves, and get deeper insights, which contributed to their increased sense of awareness.

Concerns about Using Video Games

Both of the teachers were tech-savvy teachers and eager to spend time playing the game and learning about the principles of the framework. However, they also expressed some of their reservations about using games in the classroom:

> …I had some doubts, and although I support technology and media integration, I had some doubts about video games. While I believe that they are effective in terms of vocabulary, listening, comprehension, and daily language acquirement, I wondered whether they might cause addiction and loss of concentration [participant teacher].

> … Because once they enter, they may not get out of that world, so I had some doubts about getting students addicted to video games [researcher memo].

Some of the common negative connotations about video games can be seen in these excerpts. Even if the teachers believe video games can be effective in supporting language learning, they still want to be careful in supporting video game play with the concern that students might get addicted. Another concern was about the hectic schedule they already had in the classroom. Teachers were worried about the time constraints they had. PCaRD activities also took some extra time to administer:

> Our program was extremely hectic. Therefore, I think the worksheets given were taking 15-20 minutes or more. That's why if I gave them at the beginning of the lesson, they (students) could be distracted, and when I gave them at the end

> of the lesson, they (students) might be exhausted. I had some of these dilemmas, and I had a little difficulty doing the worksheets during the busy schedule [participant teacher].

As illustrated in the excerpt, the participant teacher had difficulty carrying out the activities in an effective way because of the hectic schedule of the school and the excessive workload. While designing the game integration, the researchers sought some room for the activities in the program. The researcher teacher's memos also indicate that sometimes the intervention can become more time-consuming than it was planned:

> For example, some students could not level up as they could not solve the mystery within the episode and asked for help. Or, sometimes they shared some daily language with friends and made fun of it together [researcher memo].

Discussion, Conclusion, and Recommendations

This study focused on two teachers' experiences in integrating a COTS game into their language classrooms using the PCaRD pedagogical framework. In general, both teachers agreed on the effectiveness of game integration for facilitating the acquisition of the target language. They viewed the PCaRD guided integration of games into the curriculum as mostly beneficial because it provides an immersive, authentic language environment where students can be exposed to the language in use. Both teachers concurred that the idea of playing games motivates students.

Both the participant teacher's interview and the researcher's memos suggested that the game integration provided a great amount of language input, especially involving daily expressions (Chen & Huang, 2010) and vocabulary (Purushotma, 2005; Steel, 2020), as the story-based nature of the game yielded constant exposure to the target language (Peterson, 2010; Thorne, 2008). This observation further reinforced in both teachers' minds the utility of teaching with commercial games and the benefits of using a structured framework to integrate games into the curriculum. Similar positive teacher perspectives were also reported in several recent studies (Hsu & Chiou, 2011; İnce & Demirbilek, 2013; Kirikkaya et al., 2010; Koh et al., 2012; Pinder, 2016; Sardone, 2018; Spires & Lester, 2016; Steel, 2020).

Teachers were uniform in their perceptions of how the game integration with PCaRD affected students' motivation (Foster & Shah, 2015). Both teachers stated that they observed the game integration offered students chances to visualize themselves in the future, which boosts their motivation by helping them create a positive self-image related to their language learning identity (Dörnyei, 2009; Markus & Nurius, 1986). A similar result was noted by Denham (2019), where teachers reported high levels of engagement and motivation.

Although both teachers in this study held positive views about using digital games for language learning, they also echoed some of the concerns reported by teachers in previous related studies. For instance, the pre-service teachers in Can and Çağıltay's (2006) study were concerned with classroom management and the effectiveness of digital games in learning. Similarly, in-service Math teachers in Demirbilek and Tamer's (2010) and Watson and colleagues' (2016) studies also had some reservations about classroom management. Likewise, in Alkan and Mertol's (2019) study, pre-service teachers' responses showed that they were not feeling confident and worried about how they should incorporate games into the class. However, in this study, two in-service teachers were mainly concerned about the possibility that students could get addicted to video games. Similar concerns about the negative connotations of playing digital games were also reported by İnce and Demirbilek (2013). Teachers in that study also recognized both the negative aspects and the possible benefits of digital games for students while reflecting their perspectives.

Another issue that the teachers brought up during this study was that game-enhanced learning might be time-consuming. Some of their comments about such concerns were similar to the reflections of participant teachers reported in Denham's (2019) study, where the teachers mentioned some difficulties using PCaRD at the beginning of the intervention, which faded away with increased experience. Koh and colleagues (2012) also reported similar concerns of teachers about utilizing games in the classroom as a result of their study.

All in all, it can be stated that teachers agreed on the effectiveness of the game integration intervention designed by using the PCaRD framework for acquiring the target language. Considering students' interest in digital games and the productive use of digital games in foreign language teaching, one can conclude that pre-service and in-service teacher training on integrating games into the curriculum is necessary to address teachers' concerns and enable effective integration of digital games into the curriculum. Future studies should continue to investigate teachers' perspectives on the efficacy of game-enhanced interventions and the utility of existing frameworks such as PCaRD to integrate games into the curriculum. Describing teachers' experiences and perspectives may guide other teachers' efforts to integrate games into the curriculum successfully.

There are also some limitations to this research. First of all, only two teachers participated in the study, and one of them was also a researcher. The memos used as part of the data collection procedure were authored by the researcher, illustrating the researcher's observations and experiences. However, the researcher wrote all her assumptions and

feelings about digital game enhanced language learning at the beginning of the process and had reflective conversations weekly with her colleague to be as objective as possible about the intervention. All in all, the study offers some valuable explorative insights about the teachers' perspectives on game-enhanced activities for second language learning.

Contributions of the Researchers

All authors contributed to the manuscript equally.

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Conflict of Interest

The authors have disclosed no conflict of interest.

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