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Article

Serious Games for English Language Learning: A scoping review

Antonio Patrocinio-Braz[1] and Marta Martín-del-Pozo[1]

[1]*Faculty of Education, Department of Didactics, Organization and Research Methods, University of Salamanca, Salamanca, Spain.*

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Abstract

There is a growing need to learn English motivated by international communication, as serious games being an educational resource that can contribute to respond to this need. Thus, the aim of this study is to know the current state of the literature on the use of serious games for English language learning, focusing the research questions on the evolution of publications and their impact, the most productive authors and journals in terms of the number of publications, and the specific topics addressed. Thus, a scoping review has been carried out, in which scientific articles published between 2020-2024 have been included and searches have been performed in the databases and repositories Scopus, Web of Science, IEEE Xplore, ERIC, ProQuest, ScienceDirect and ACM Digital Library. Starting with 1071 publications, seventy-seven publications were selected after applying the inclusion and exclusion criteria. The results indicate a fluctuation in the number of publications per year, achieving its peak in 2022 and 2024. Likewise, the preponderance of studies in Higher Education, the few studies in Early-Childhood Education and the lack of focus on the writing and oral interaction skills can also be highlighted. Based on the results, we can conclude that should be more scientific focus on the writing and oral interaction skills. In this sense, the study allows advanced research on the use of serious games for teaching English, gathering publications from any educational stage, as well as from the last five years, allowing us to know the current situation of this field of study.

Introduction

Although there is still a cautious attitude towards the use of technology in education [1], the development of technology is leading to a change in the established paradigm towards the development of educational competences related with our current society [2]. The speed at which these technologies are changing and expanding numerous areas of society requires reflection on the potential, consequences and implications of these new technological tools for various environments. For instance, if we focus on the educational environment the digital games can

encourage learning [3]. In this sense, these resources encourage various aspects like the development of learners' autonomy towards learning [4] or students' motivation [5]. Likewise, they can be implemented at different educational stages, such as primary education [6], [7], secondary education, [8], [9] and higher education [10], [11]. In addition, these technological tools can also be implemented in the educational training of professionals of other fields like medicine [12] or engineering [13].

Considering the above, a typology of video games can be highlighted based on their design purpose: serious games. Serious games represent an advancement for education [14], [15], [16], [17]. On this basis, serious games are attracting great interest at the educational level and are becoming a driver of change in many teaching-learning processes. This fact is favoured by the emergence of innovative methodologies that motivate and engage students throughout the teaching-learning process [18], [19]. Serious games could therefore be defined as games that have specific rules [20] and are oriented towards a particular purpose different from entertainment [21]. This is achieved by increasing students' motivation through these resources [22], [23].

Studies also emphasized that serious game's adaptability to students' needs, and its individualised approach to learning are among its potentials in ELT [24]. Likewise, serious games stand out among other types of materials for educational purposes because they promote reflection on the mistakes made and offer numerous opportunities to make 'mistakes' in a controlled way and without negative consequences [25]. This aspect positively promotes the overcoming of fears, insecurities and difficulties regarding specific educational aspects, content or topics, which allows for a significant improvement in each student's learning and confidence regarding the educational environment [26], [27].

Concerning the focus of our work, the development of English language skills, the role of serious games as a catalyst for learning has been successfully evaluated [28]. The literature presents experiences that show significant improvements, mainly in vocabulary expansion [29], [30], [31]. This is in line with the study by Jin et al. [32] which shows that while students absorb only ten per cent of the total information through reading and listening, they successfully retain up to ninety per cent when they actively participate in educational practices. Moreover, these resources can also lead to an increase in students' motivation towards the teaching-learning process [33], [34], [35], [36]. Thus, recent studies suggest that integrating these resources in English classrooms diversifies existing learning opportunities and increases educators' motivation to update their pedagogical approaches towards more interactive and technology-integrated methods. [37]. Indeed, didactically designed video games provide teachers with a valuable tool to reinforce and revise concepts that require compulsory memorisation in language learning, thereby improving students' learning skills [38], i.e. learning to learn.

However, it should be noted that the use of video games or serious games for learning, as educational resources, could be framed at a methodological level within game-based learning. In this respect, game-based learning can be defined as a mostly active and innovative methodology that uses traditional and digital games as a didactic tool, designed to achieve certain educational goals [39], [40]. On the other hand, authors such as Del Moral et al. [41] also consider game-based learning as an active and innovative methodological strategy, in this case specifically indicating that both entertainment video games and serious games are used, with the fundamental purpose of improving student motivation and engagement. In this respect, game-based learning stands out among other methodological strategies not only for the implementation and integration of traditional or digital games to transmit knowledge and

ensure the development of skills. It is also established as a methodology that promotes the creation, development and stabilisation of playful-active and experiential environments [42], [43], [44], [45]. Thus, as a methodological strategy of a playful-educational nature, it is necessary to carry out both an evaluative analysis of its implications and of the pedagogical approaches that propose it as an axis of pedagogical practice [39], [46].

Considering the above, it should be noted that a variation of game-based learning methodology has recently been established, called Game-Based Language Learning, which focuses on achieving significant progress in learners' language proficiency through the use of entertainment video games and serious games as teaching materials [47]. Considering only these digital games, we can refer to the term Digital Game-Based Language Learning (DGBLL), which is defined as a methodological strategy that specifically refers to the use of educational video games or serious games as teaching materials or tools that adequately enable the achievement of language learning [48]. Thus, several research studies have found that there is a significant improvement in language teaching and learning processes [49], [50], [51], [52], [53]. In addition, we find in the scientific literature numerous studies on the influence of Game-Based Language Learning (GBLL) on the development of language competence in terms of written expression [54], [55], [56] vocabulary acquisition [51], [57], [58] and oral expression [59], [60].

All of this leads us to the importance of conducting a thorough analysis of the current scientific landscape concerning the line of research on using serious games for English language learning. Thus, the aim of this study is to identify the state of the current academic literature on the use of serious games in English language teaching. This should enable us to identify those areas that have received little attention, to understand the reasons for this omission, and thus to determine both the importance and the feasibility of further research in these areas, with the aim of promoting the improvement of educational quality.

On this basis, the present scoping review aims to provide a comprehensive and detailed overview of studies conducted in the field of serious games for English language learning. To this end, the following research questions that guided the analysis were formulated:

RQ1: What has been the evolution of publications in serious games for ELL and which papers have had the greatest impact in the last five years?

RQ2: Which authors and journals have been the most productive in terms of number of publications in the field?

RQ3: What specific topics do they address and in what school or non-school contexts do they take place?

Methods and Material

Specifically, we chose to conduct a scoping review, which is presented by different authors as a specialised variant of the traditional systematic literature review [61], [62], [63]. Thus, so-called scoping reviews are specifically designed with the main objective of providing the scientific community with a summary of the general overview of a specific field of knowledge through an exhaustive quantitative analysis of different aspects within the field of study, classifying them into various predefined categories [63].

Scoping review studies have a similar methodology to systematic literature reviews. However, the focus of scoping reviews is on the identification and subsequent categorisation of research related to areas belonging to a particular field. The main purpose of scoping reviews is to provide a comprehensive summary of a particular topic area, to determine the existence of sub-areas where there are enough primary studies to conduct a traditional systematic literature review and to identify those sub-areas where more primary research is needed [64]. In this sense, this study will allow us to find out whether it is possible to carry out a systematic review of the literature on the issue we are addressing, as well as to identify those sub-areas of ELL in which a greater number of primary studies are needed (in terms of educational stages, skills worked on, etc.).

In addition, the presentation of information is done using different graphs and tables, providing a structured visual representation, while the analysis is characterised by its approach, which focuses on the in-depth evaluation of all available information, making thorough comparisons and discovering trends or crucial themes [61]. Thus, conducting a systematic review and its variants (including scoping reviews such as the one presented here) implies the early definition of a structured review protocol. This protocol must be carefully followed and applied at all stages of the review. The protocol must be documented in detail and published as a fundamental part of the review process [65]. On this basis, we have selected to follow the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement [66]. Nevertheless, we specifically follow the "PRISMA Extension for Scoping Reviews (PRISMA-ScR) [67], which we consider that is more proper for this kind of analysis. The selection process is represented in Figure 1.

2.1. Selection process.

2.1.1. Inclusion and exclusion criteria

In this scoping review, to cover the largest number of articles relevant to the present research, it was decided to formulate inclusion criteria broadly and flexibly. The inclusion criteria established were as follows:

- The selected studies are research articles.
- The research article is related to serious games for English language learning.
- The research articles are written in Spanish or English.
- The research articles were published in 2020-2024.

Similarly, the exclusion criteria established were as follows:

- The selected studies are not research articles.
- The research article is not related to serious games for learning English,
- The research articles are not written in Spanish or English.
- The research articles were not published in 2020-2024.

2.1.2. Search string and databases

Following the logic previously applied to the inclusion criteria, the search strategy was designed to identify the maximum number of relevant studies. To this end, the search string was adapted to adequately meet each of the specific writing format requirements of each database consulted. These search strings were applied in the following databases: Scopus, Web

of Science (WoS), ERIC, ScienceDirect, IEEE Xplore, ProQuest and the ACM Digital Library. Filtering tools were then used to limit the results to publications written in both English and Spanish.

It should be noted that the search terms were entered into the search engines of the various repositories in January 2025. The terms used are written in English and Spanish in accordance with the inclusion and exclusion criteria previously mentioned. The terms used were 'Serious game', 'Educational game', 'Learning game', 'Digital game', 'game-based learning' 'English language learning', 'ESL', 'EFL', 'English as a Second Language', 'vocabulary', 'speaking', 'language acquisition, 'juego serio', 'juego educativo', 'juego de aprendizaje', 'aprendizaje basado en el juego', 'aprendizaje del inglés', 'ISL', 'ILE, 'Inglés como Segunda Lengua', 'vocabulario', 'expresión oral', 'adquisición del lenguaje' 'lengua inglesa'. Appendix I includes the complete search strings used for each database.

To ensure the relevance and timeliness of the studies, the searches in all databases were limited to publications published in the last five years and written in both English and Spanish, considering the inclusion and exclusion criteria mentioned above. In addition, it should be noted that the studies selected in Spanish were not translated, due to the authors' knowledge of the Spanish language. The information from each paper was extracted by the authors directly from the original language (Spanish or English) and then, if necessary, translated into English for the analyses conducted in this study. Thus, as a first result, a total sample of 1071 publications was identified, distributed as follows: 288 in Scopus, 29 in ProQuest, 265 in ERIC, 140 in Science Direct, 128 in ACM Digital Library, 208 in Web of Science and 13 in IEEE Xplore.

This was followed by eliminating duplicate entries and conducting a detailed review of each document's title, abstract, and keywords. After applying the selection criteria described above, a final sample of 77 publications was formed for the analysis. It should be noted that 996 publications were excluded from the initial sample: 233 of them were excluded because they were duplicates and a total of 761 publications were also excluded because they were not related to the use of serious games in English language teaching. The entire process is shown in Figure 1. The final sample of included studies is available at the following link: **bit.ly/3CTFDRD**

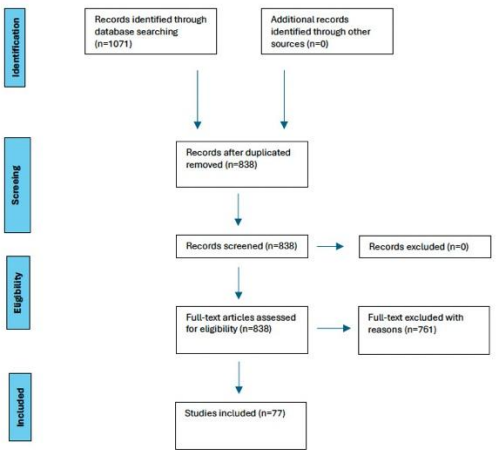

Figure 1. Item selection process.

Source: Adapted from [66] & [67]

2.2. Data analysis

We established various categories focusing on the extraction of key study characteristics [61],[64], [138]. The two main categories used were 'Article identification' and 'Topics used in the selected studies'. Nevertheless, these categories were divided in various subcategories. Article identification's subcategories were 'Language ', 'Authors', 'Year', 'Title', 'Publication Title', 'Volume', 'Issue', 'Starte page', 'End page', 'ISSN', 'Indexed in SJR', 'Indexed in JCR', 'Q in SJR', 'Q in JCR', 'Category', 'Authors' Country', 'Correspondence author's country', 'Financement', 'doi', 'Keywords' and 'Abstract'. On the other hand, topics used in the selected studies´categories were 'Oral comprehension', 'Reading comprehension', 'Oral interaction ', 'Oral expression ', 'Writing ', 'Grammar ', 'Vocabulary ', 'Early-Childhood Education ', 'Primary Education', 'Secondary Education', 'Higher Education', 'In service training for teachers', 'Not aimed at a specific educational level', 'Educational level not specified', 'Early-Childhood Education-Primary Education' and 'Primary Education-Secondary Education'. Furthermore, the studies were reviewed by both authors of the article, allowing for peer agreement in assigning each study to its respective subcategories. Based on this, the data extracted from the studies were analysed using descriptive analysis and thematic coding. Quantitative data – such as year of publication, number of citations, most productive authors, and geographical distribution – were summarized using frequency counts and visualized through figures and tables created with Microsoft Office tools (Microsoft Word and Microsoft Excel), as well as visualization features available in Bing (in particular, for illustrating the global scientific production in the field of knowledge). Similarly, data collection and visualization related to categories such as specific topics studied or the context and educational level in which the studies were conducted were also carried out with the support of Microsoft Office tools (Microsoft Word and Microsoft Excel). To conclude, the authorship collaboration network was created using the Research Rabbit´s tools.

Results

To answer the questions posed in the study, this section analyses the results of the scoping review. In this way, this section is organised in such a way that each of its parts provides an answer to each of the specific questions that guided the scoping review, serving as a central pillar to shed light on the current situation of the use of serious video games focused on English language learning in the international academic context.

RQ1: What has been the evolution publications in serious games for ELL and which papers have had the greatest impact in the last five years?

Concerning the evolution of the total number of publications on the use of serious games for English language learning over the last five years, we can observe a variation in the total number of publications available, with a little increase in 2021 compared to 2020. Nevertheless, we can observe an increase in 2022 compared to 2021, followed by a decrease in 2023. On the other hand, there is an increase in 2024 compared to 2023. In this sense, 2022 and 2024, with twenty-three publications (29.87%), are the years with the highest peak in terms of publications in the field of knowledge analysed in this study (see Figure 2).

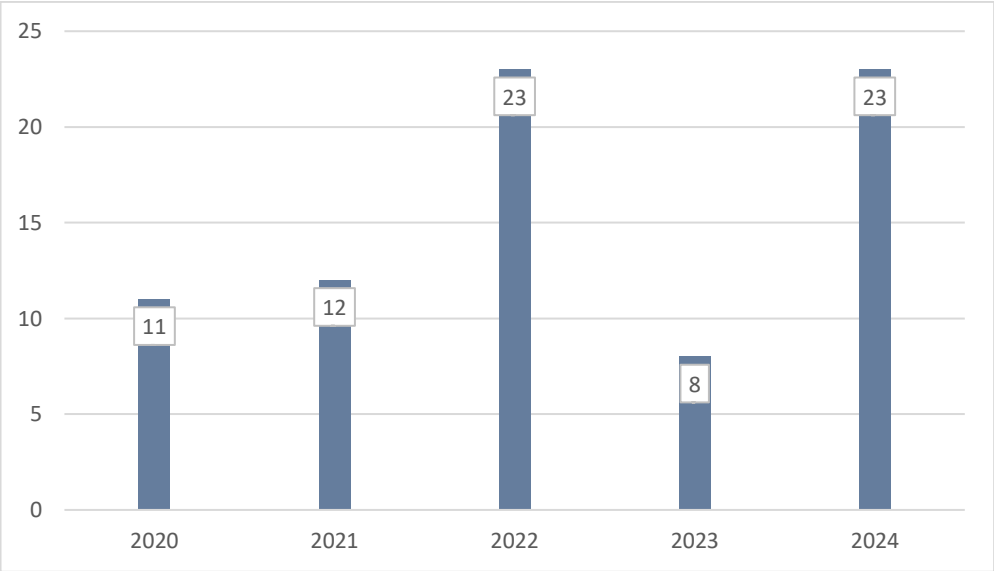

Figure 2. Number of publications per year.

In the last five years, a total of 218 authors have contributed to this field of knowledge. In this sense, we can observe a predominance of authors from Taiwan and Thailand, a total of 40 authors (Taiwan: 23 authors, 10.55%; Thailand: 17 authors, 7.79%) which supposes the 18.34% of the global authors of this field since 2020 (see Figure 3). Nonetheless, we can appreciate other countries which have an adequate number of contributors since 2020 like Spain (14 authors; 6.42%), China (12 authors; 5.50%), Malaysia (11 authors, 5.04%), Equator (11 authors, 5.04%), Iran (10 authors; 4.58%), Indonesia (10 authors; 4.58%) and Saudi Arabia (10 authors; 4.58%)

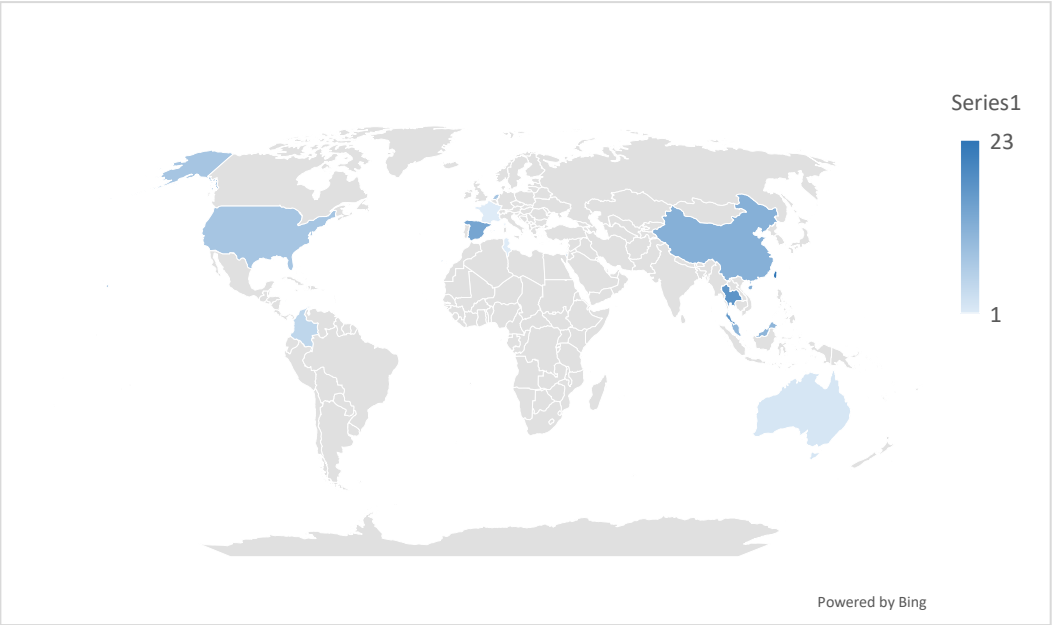

Figure 3. Global scientific production in the field of knowledge (figure powered by Bing using data extracted from the articles on the authors' country).

On the other hand, to determine which scholarly productions in the field of serious games for English language learning are currently having the greatest impact, the exact number of citations in each of the documents analysed was considered. Citations can be seen as an indicator of the interest that an article has aroused in the academic community. In this way, the

four articles with the greatest impact in this field in January 2025 were identified (see Table 1), considering the citations received in Google Scholar, Web of Science (WOS) and Scopus. As can be seen, the studies range from 56 to 131 citations in Google Scholar, with the highest number of citations for the 4 articles. Likewise, three of the studies [57], [68], [69] present citations in all three platforms, although Hasram et al. [70] do not present citations in Web of Science (WOS).

It should be noted that 3 of these studies [69], [70], [57], i.e. 75% of the most relevant studies in the field of serious games for English language learning, focus on the effects of implementing serious games and game-based learning for English language learning. The exception is the study by Tejedor-García et al. [68] which focuses on improving the design and structure of a serious game through challenging elements. Furthermore, it should be noted that [57], [68], [69] focus on either grammar or vocabulary, English level indicators that are interdisciplinary with other fields. In addition, [68], [69], [70] present practical applications of serious games for ELL. In this sense, they used large samples to check their reliability. Nevertheless, these studies have had more time to be cited because they were published 5 years ago, which may have affected their number of citations. In contrast, the remaining studies (a total of 71) exhibit different characteristics from one another, such as content, sample, specific topics, publication date, and journal, among others. This makes it difficult to draw a specific conclusion about why they are less cited.

Table 1. Top 4 most relevant articles in the field of serious games for English language learning.

Paper	Number of Citations		
	Google Scholar	Web of Science (WOS)	Scopus
Lin et al. (2020)	131	44	56
Thomson & Guillern (2020)	111	26	48
Hasram et al. (2021)	100	0	11
Tejedor-García et al. (2020)	56	18	25

RQ2: Which authors and journals have been the most productive in terms of number of publications in the field?

It is of particular interest to analyse who are currently the most active authors in the field of serious games in English language teaching, given the number of publications included in this study. For this purpose, categories were created according to the number of publications. These categories are two articles and one article (see Table 2). It should be noted that the authors with the highest scientific production in this field, according to the results, are Paola Julie Aguilar Cruz [79], [140], Gwo Jen Hwang [69], [87], Paola Cabrera-Solano [102], [126] and Luz Castillo-Cuesta [102], [106]. These authors differ in the aspects on which they focus their research. For example, Gwo Jen Hwang [69], [87] focus on the design and effects of game-based language learning methodology for learning English. Nevertheless, he studies it from the field of computer engineering. In contrast, Paola Julie Aguilar Cruz [79], [140], Paola Cabrera-Solano [102], [126] and Luz Castillo-Cuesta [102], [106] focus on the pedagogical perspectives of gamification and its derivative tools (serious games) for English language learning, from an educational perspective. In addition, the collaboration between authors can be observed in Figure 4. In this sense, the Figure 4 was created using the digital tool “Research Rabbit”.

Table 2. List of authors differentiated by number of articles (2020-2024).

Number of articles	Authors
2 articles	Aguilar-Cruz, P.J.; Cabrera-Solano, P.; Castillo-Cuesta, L.; Hwang, G.-J.
1 article	Abdul Hussein, H.A.; Abdullah Alhebshi, A.; Acquah, E.O.; AAhmad, F.; Ahmed, A.A.; Ahmed, A.A.A.; Ahmed Althaqafi, A.S.; Ajit, I.; Al-Jamili, O.; Alanazi, S.A.; Alawadhi, A.; Ali, M.H.; Almogahed, A.; Álvarez Guayara, H.A.; Alvarez Serrano, A.; Anyango, L.; Aziz, M.; Azizian, M.; Babaie, H.; Belda-Medina, J.; Bisht, D.S.; Bououd, I.; Buendgens-Kosten, J.; Calvo-Ferrer, J.R.; Cárdenas-Moncada, C.; Cardeñoso-Payo, V.; Cardoso, W.; Chen, H-. C.; Chen, Y-. L.; Chin, K-. Y.; Chowdhury, M.; Costuchen, A.L.; Dashtestani, R.; Daud, M.Y; de Bree, E.H.; de Jong, P.F.; Deepak, B.B.V.L.; Dinçer, N.; Dinçer, R.; Dixon, D.H.; Dixon, T.; Escudero-Mancebo, D.; Fanjiang, Y-. Y.; Ghabanchi, Z.; Gilabert, R.; González-Ferreras, C.; Gonzalez Perez, A.; Gunel, E.; Hajizadeh, S.; Hasram, S.; Hanghøj, T.; He, G.; Hong, Z-. W.; Hosseini, H.; Hung, J.C.; Idris, M.I.; Ilangovan, A.; Ismail, N.B.; Ismail, Sayed, M.; Jensen, S.H.; Jordan, E.; Kabel, K.; Katz, H.T.; Katzir, T.; Karanja, D.; Khalilian, B.; Kiforo, E.; Korkmaz, Ö.; Kralova, Z.; Krepel, A.; Lee, J.; Lee, S-. M.; Liang, Y-.S.; Lipka, O.; Mandal, G.; Mcneil, L.; Mohamad, M.; Mohammad, W.M.R.W.; Mohammed, F.; Mohd Said, N.E.; Moniza Ray, S.P.; Montanher, R.C.; Monteiro, A.M.; Mulder, E.; Muszynska, B. Nada, G.; Nasir, M.K.M.; Ochoa-Cueva, C.; Ongoro, C.A.; Patra, I.; Poonpon, K.; Rahman, M.J.A.; Rasti-Behbahani, A.; Rostikawati, D.; Ray, M.; Sadan, M.; Saraubon, K.; Sayed, B.T.; Segers, E.; Segoh, D.; Seker, P.T.; Shanmugam, N.; Shao-Chen, C.; Shen, W-. W.; Shih-Tevetoğlu, K.; Sénécal, A-. M.; Ting, C.; Shu-Yun, C.; Tadiboyina, V.R.; Tan, K.H.; Tejedor-García, C.; Terzopoulos, G.; Top, E.; Tsompanoudi, D.; Ugur, B.; van de Ven, M.; van der Maas, H.; Vayá Mollá, P.P.M; Véliz, L.; Véliz-Campos, M.; Verhoeven, L.; Vnucko, G.; Waddington, D.; Wang, C.; Wang, C-. C.; Weisi, H.; Wekke, I.S.; Widodo, M.; Wu, Q.; Xiao, X.; Yanes, N.; Ying, Z.; Zadi, I.C.; Zhang, D.; Zhang, J.; Zhang, R.; Zotova, N.; Zou, B.; Zou, D.

Figure 4. Autorship collaboration network (figure powered by Research Rabbit).

In addition, it should be noted that 23.85% of the authors in the field of knowledge have been economically funded by various kinds of benefactors. In this sense, economical aids provided by universities and Ministrys have stood out. Nevertheless, it should be stated that both the 76.15% of the authors and a large parte of the studies in the field of knowledge did not have any source of funding.

On the other hand, the review of the selected documents has made it possible to identify a list of academic journals that specialise in or are interested in publishing articles on the use of serious games in English language teaching. Thus, it is important to know and have access to these journals to consult existing research as well as to disseminate new studies related to this field of knowledge. Table 3, therefore, lists the journals in order from highest to lowest number of articles published and included in the study, as well as the SJR and JCR indexes and quartiles for the year 2023 (the latest available and considering the highest quartile regardless of the

category). Knowing the indexing of journals can help future authors in the field to disseminate their results in journals that meet the requirements of their funding agencies, evaluation agencies or institutions of origin. In this sense, Table 3 shows that 53 journals have published articles on this topic. Among them, Table 3 shows that ' Computer-Assisted Language Learning Electronic Journal', 'International Journal of Emerging Technologies in Learning', 'International Journal of Learning, Teaching and Educational Research', 'ReCALL', 'Computers & Education' and 'International Journal of Serious Games' positioned as the journals with the highest scientific production in this field of study, with' Computer-Assisted Language Learning Electronic Journal', having a total of four articles, International Journal of Emerging Technologies in Learning', 'International Journal of Learning, Teaching and Educational Research', 'ReCALL', 'Computers & Education' and 'International Journal of Serious Games', having three articles each, which corresponds to 24.67% of the total research reviewed. Other important journals also stand out, such as 'Education and Information Technologies', with two articles, representing approximately 2.66% of the papers selected. On the other hand, the journals 'Education Research International', 'IEE Transactions on Learning Technologies', 'Heliyon', 'Theory and Practice in Language Studies' and 'World Journal of English Language' stand out, each with two articles, representing 12.98% of the total number of studies considered for this study.

Table 3. Journals related to the field, number of publications and JCR and SJR quartiles in 2023 (latest available).

Number of Publications	Journal's Title	ISSN	Index/Quartile			
			SJR		JCR	
			IF	Ranking	IF	Ranking
4	Computer-Assisted Language Learning Electronic Journal	2187-9036	0.512	Q3	N/A	N/A
3	International Journal of Emerging Technologies in Learning	1863-0383, 1868-8799	0.536	Q2	N/A	N/A
	International Journal of Learning, Teaching and Educational Research	1694-2116, 1694-2493	0.287	Q3	N/A	N/A
	ReCALL	0958-3440	1.493	Q1	4.6	Q1
	Computers and Education	0360-1315	3.651	Q1	8.9	Q1
	International Journal of Serious Games	2384-8766	0.441	Q2	N/A	N/A
2	Education Research International	2090-4002, 2090-4010	0.359	Q3	N/A	N/A
	Heliyon	2405-8440	0.617	Q1	3.4	Q1
	Theory and Practice in Language Studies	1799-2591, 2053-0692	0.257	Q2	N/A	N/A
	World Journal of English Language	1925-0703, 1925-0711	0.157	Q4	N/A	N/A
	Education and Information Technologies	1360-2357	1.301	Q1	4.8	Q1
	IEEE ACCESS	2169-3536	0.96	Q1	3.4	Q2
	IEEE Transactions on Learning Technologies	1939-1382	1.493	Q1	2.9	Q1
1	Journal of Language Teaching and Research	1798-4769, 2053-0684	0.24	Q2	N/A	N/A
	Multimodal Technologies and Interaction	2414-4088	0.544	Q2	2.4	Q2
	Participatory Educational Research	2148-6123	0.252	Q2	N/A	N/A
	Educational Administration: Theory and Practice	1300-4832, 2148-2403	0.188	Q4	N/A	N/A
	Educational Technology Research and Development	1042-1629, 1556-6501	1.706	Q1	3.3	Q1

Journal of Language Teaching and Research	1798-4769, 2053-0684	0.24	Q3	N/A	N/A
System	0346-251X, 1879-3282	N/A	N/A	N/A	N/A
Revista de Educación	0034-8082, 1988-592X	0.424	Q2	2	Q2
Journal of Education and Learning	2089-9823, 2302-9277	N/A	N/A	N/A	N/A
Journal of Internet Technology	1607-9264, 2079-4029	0.382	Q3	0.9	Q4
Canadian Journal of Learning and Technology	1499-6685	0.3	Q3	N/A	N/A
SAGE Open	2158-2440	0.507	Q1	2.0	Q1
L1 Educational Studies in Language and Literature	1567-6617, 1573-1731	0.39	Q2	N/A	N/A
Journal of Engineering Science and Technology Review	1791-2377, 1791-9320	0.174	Q4	N/A	N/A
PLoS ONE	1932-6203	0.839	Q1	2.9	Q1
Arab World English Journal	2229-9327	N/A	N/A	N/A	N/A
International Journal of Advanced and Applied Sciences	2313-3724, 2313-626X	0.151	Q4	N/A	N/A
Educational Research Review	1747-938X	3.874	Q1	9.6	Q1
JALT CALL Journal	1832-4215	0.447	Q2	N/A	N/A
International Journal of Educational Methodology	2469-9632	0.27	Q3	N/A	N/A
International Journal of English Language and Literature Studies	2306-0646, 2306-9910	0.168	Q2	N/A	N/A
International Journal of Advanced Computer Science and Applications	2156-5570, 2158-107X	0.278	Q3	N/A	N/A
ASM Science Journal	1823-6782	0.13	Q4	N/A	N/A
Educational Research Review	1747-938X	3.874	Q1	9.6	Q1
Teaching English with Technology	1642-1027	0.375	Q3	N/A	N/A
International Journal of Technology and Educational Innovation	2444-2925	N/A	N/A	N/A	N/A
Contemporary Educational Psychology	0361-476X, 1090-2384	3.863	Q1	3.9	Q1
British Journal of Educational Technology	0007-1013, 1467-8535	2.425	Q1	6.7	Q1
International Journal of Advanced Computer Science and Applications	2156-5570, 2158-107X	0.278	Q3	N/A	N/A
Journal of Language Teaching and Learning	2146-1732	N/A	N/A	N/A	N/A
International Journal of Advanced and Applied Sciences	2313-3724, 2313-626X	0.151	Q4	N/A	N/A
Entertainment Computing	1875-9521	0.659	Q2	N/A	N/A
International Journal of Technology in Education	2689-2758	N/A	N/A	N/A	N/A
Journal of Education and Learning	2089-9823, 2302-9277	N/A	N/A	N/A	N/A
Knowledge Management & E-Learning	2073-7904	0.52	Q2	N/A	N/A
Journal of Psycholinguistic Research	0090-6905, 1573-6555	0.547	Q1	1.6	Q3
Education Sciences	2227-7102	0.669	Q2	N/A	N/A
Novitas-ROYAL	1307-4733	0.292	Q3	N/A	N/A
Computer Assisted Language Learning	0958-8221, 1744-3210	2.37	Q1	1.2	Q1
Frontiers in Psychology	1664-1078	0.8	Q2	2.6	Q1

Regarding the indexing of journals, the 6 journals with the highest number of articles found are indexed in SJR, in Q1 ('RECALL', 'Computers & Education'), in Q2 ('International Journal of Emerging Technologies in Learning', 'International Journal of Serious Games') and in Q3 ('CALL-EJ', 'International Journal of Learning, Teaching and Educational Research'). In addition, it should be pointed out the journals' preferences in terms of papers' typology. In this sense, the major part productive papers in the field of knowledge favor both empirical studies and literature reviews. Nevertheless, the International Journal of Emerging Technologies in Learning only focus on empirical studies that bring practical implications to a specific field. Moreover, 'ReCALL' primarily focus on empirical studies although they occasionally accept strong theoretical models or literature reviews. On the other hand, journals like 'Education and Information Technologies', 'International Journal of Serious Games', 'Education Research International' and 'IEE Transactions on Learning Technologies' include empirical, theoretical and literature reviews in their publications.

In general, 51 journals (96.22%) are indexed in SJR and 13 (24.52%) in JCR. Figure 5 also shows the distribution of the quartiles in which the journals are placed, considering SJR and JCR. As can be seen, there is a preponderance of journals indexed in both SJR and JCR placed in Q1, highlighting the quality and relevance of the studies in this field. Nevertheless, there is a large number of journals not indexed in JCR.

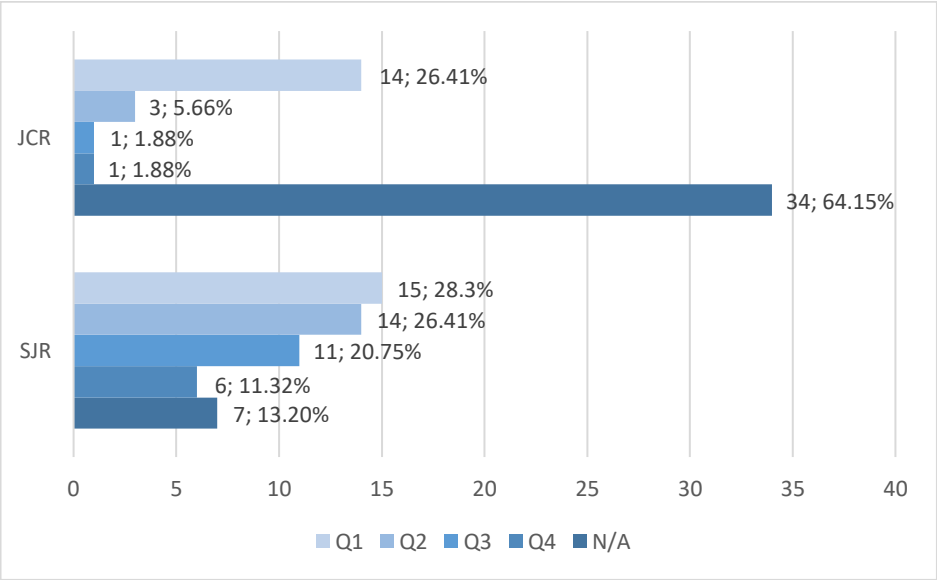

Figure 5. Distribution of the quartiles in which the journals are placed.

RQ3: What specific topics do they address and in what school or non-school contexts do they take place?

The seventy-seven documents selected for this scoping review cover a variety of topics. In this respect, the three main categories ('understanding', 'speaking' and 'writing') and five subcategories ('listening', 'reading', 'interacting', 'expressing' and 'writing') of the Common European Framework of Reference for Languages (CEFR) [71] are those most closely related to the development of language skills. In addition, it should be noted that vocabulary level and grammar level is included in the CEFR as an indicator of the degree of development of the different skills, but not as a skill. Thus, it should be noted that studies referring to systematic reviews of the literature (SLR) or scoping reviews (because they generally cover the teaching

of English using these technological tools without focusing on specific skills) and studies referring to game design are not included in this categorisation. Specifically, a total of 5 studies are excluded, while 72 studies are included. This is shown in Table 4 and visually in Figure 6.

Table 4. Specific topics addressed.

Categories following the Common European Framework of Reference for Language skills (CEFR)	Studies
Understand	
Oral comprehension (19; 26.38%)	Aguilar-Cruz (2022); Aguilar-Cruz & Álvarez Guayara (2021); Buendgens-Kosten (2022); Cardoso et al (2022); Chowdhury et al (2024); Dashtestani (2022); Dinçer & Dinçer (2021); Hasram et al (2021); Ishaq et al (2020); Lin et al (2020); Moniza Ray & Ajit (2024); Mulder et al (2021); Ongoro & Fanjiang (2024); Poonpon (2022); Ray & Ilangovan (2024); Tejedor-García et al (2020); Tevetoğlu & Korkmaz (2024); Thompson & von Gillern (2020); Zadi et al (2021).
Reading comprehension (16; 22.22%)	Aguilar-Cruz (2022); Aguilar-Cruz & Álvarez Guayara (2021); Chowdhury et al (2024); Dashtestani (2022); Dinçer & Dinçer (2021); Gilabert (2023); Hanghøj et al (2022); Hasram et al (2021); Ishaq et al (2020); Lin et al (2020); Mulder et al (2021); Ongoro & Fanjiang (2024); Ray & Ilangovan (2024); Tejedor-García et al (2020); Thompson & von Gillern (2020); Zadi et al (2021).
Speak	
Oral interaction (15; 20.83%)	Aguilar-Cruz (2022); Aguilar-Cruz & Álvarez Guayara (2021); Al-Jamili et al (2024); Chowdhury et al (2024); Dashtestani (2022); Dinçer & Dinçer (2021); Hasram et al (2021); Ishaq et al (2020); Lin et al (2020); Mulder et al (2021); Ongoro & Fanjiang (2024); Seker (2022);Tejedor-García et al (2020); Thompson & von Gillern (2020); Zadi et al (2021).
Oral expression (17; 23.61%)	Aguilar-Cruz (2022); Aguilar-Cruz & Álvarez Guayara (2021); Al-Jamili et al (2024); Chowdhury et al (2024); Dashtestani (2022); Dinçer & Dinçer (2021); Hasram et al (2021); Ishaq et al (2020); Lin et al (2020); Mulder et al (2021); Ongoro & Fanjiang (2024); Seker (2022); Tejedor-García et al (2020); Thompson & von Gillern (2020); Wang & Han (2021); Xiao & He (2023); Zadi et al (2021).
Write	
Writing (9; 12.5%)	Aguilar-Cruz (2022); Aguilar-Cruz & Álvarez Guayara (2021); Chowdhury et al (2024); Dinçer & Dinçer (2021); Hanghøj et al (2022); Hasram et al (2021); Lin et al (2020); Muszynska (2023); Zadi et al (2021).
Vocabulary (40; 55.55%)	Acquah & Katz (2020); Aguilar-Cruz (2022); Ahmed et al (2022); Ahmed Althaqafi (2023); Al-Aosail et al (2024); Cabrera-Solano (2022); Castillo-Cuesta (2020); Costuchen et al (2022); Dashtestani (2022); Dinçer & Dinçer (2021); Goumas et al (2020); Hanghøj et al (2022); Hong et al (2022); Hwang & Zhang (2024); Lee (2023); Liang (2024); Nada & Abdullah Alhebshi (2022); Ochoa-Cueva et al (2023); Patra et al (2022); Pitarch (2024); Quiroz et al (2021); Rasti-Behbahani (2020); Ray & Ilangovan (2024); Sadan et al (2024); Shao-Chen et al (2024); Syifa et al (2024); Tadiboyina et al (2024); Tevetoğlu & Korkmaz (2024); Thompson & von Gillern (2020); Top (2023); Ugur (2022); Vnucko et al (2024); Wang et al (2024); Weisi & Hajizadeh (2024); Wu et al (2024); Ying & Ismail (2022); Yunus et al (2020); Zadi et al (2021); Zhang et al (2023); Zou (2024)
Grammar (17; 23.61%)	Aguilar-Cruz (2022); Cabrera-Solano (2022); Castillo-Cuesta (2020); Dashtestani (2022); Dinçer & Dinçer (2021); Hanghøj et al (2022); Idris et al (2020); Ishtiaq Khan et al (2024); Khalilian et al (2021); Liang (2024); Mcneil (2020); Malgazhdarova et al (2024); Pitarch (2024); Ray & Ilangovan (2024); Saraubon (2021); Shakhmalova & Zotova (2023); Zadi et al (2021).

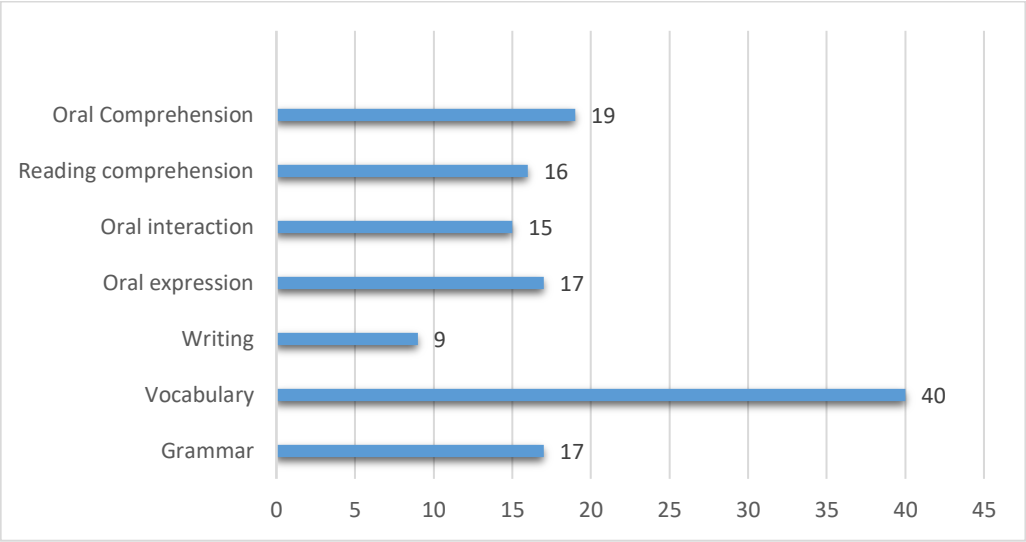

Figure 6. Specific topics studied in the field of serious games for English language learning.

Based on these results, on the one hand, 93.50% (n=72) of the selected studies focus on some of the skills and indicators reflected in the Common European Framework of Reference for Languages (CEFR). On the other hand, when considering those 72 studies for this analysis, the most frequently addressed skills are 'Oral expression' (23.61% of the studies) and 'Oral comprehension' (26.38% of the studies). Nevertheless, vocabulary stands out as the category with the highest number of studies focusing on it (55.55%).

From these data, regarding the context in which the studies take place, it can be concluded that 33.33% of the selected studies (24 in total) do not provide information on the specific educational level they are aimed at. This 33.33% of studies is divided into two parts. On the one hand, 23.61% of the selected studies (17 studies) are not aimed at a specific educational level or context because they are analyses of the state of the literature or aspects of the design of serious games for English language learning that are not aimed at a specific educational level (category 'not aimed at a specific educational level'). On the other hand, seven of the selected studies (9.72%) are aimed at a specific level of education but do not specify which one (category 'educational level not specified'), which explains the above percentage for both groups of studies.

As for those studies in which this information is mentioned (48, i.e. 66.66% of the studies), we can highlight that they are distributed in the different contexts and levels of formal education such as early childhood education (5 studies; 6.94%), primary education (12 studies; 16.66%), secondary education (11 studies; 15.27%), higher education (23 studies; 31.94%), as well as two specific studies that cover more than one educational level, namely “primary education and early childhood education” (1 study; 1.38%), “primary education and secondary education” (1 study; 1.38%), “primary education and secondary education” (1 study; 1.38%).

Thus, we can say that higher education is the educational stage with the highest level of scientific production in this field of knowledge. On the other hand, teacher in-service training, is established as the educational field with the lowest level of scientific production in this field.

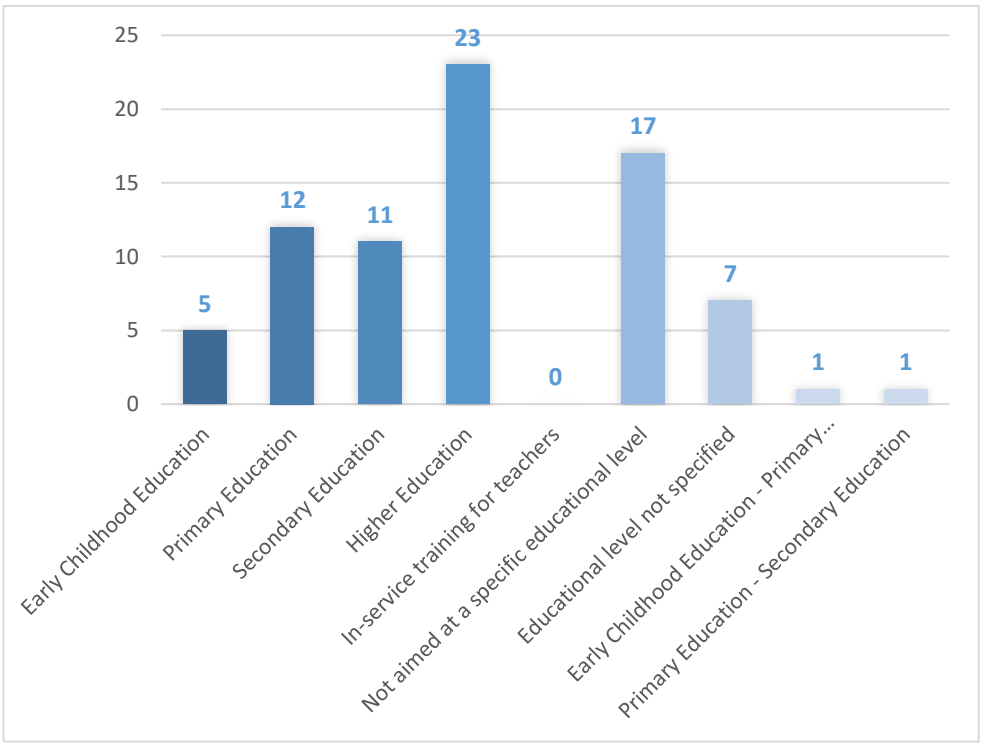

Figure 7. Number of studies according to context and level.

Moreover, it is relevant to analyse the specific topics studied based on the context and educational level in which they are conducted (see Figure 8). In this sense, Higher Education is the educational stage with the highest number of studies in every category, particularly in terms of vocabulary (16 studies; 22.22% of the studies focusing on this category). In addition, we should highlight those categories such as "Primary Education" or "not aimed at a specific educational level" have also had a considerable number of studies focused on each category, especially in terms of vocabulary (Primary Education: 7 studies, 9.72%; Not aimed at a specific educational level: 8 studies, 11.11%%; Secondary Education: 7 studies; 9.72%). Nevertheless, categories such as "In-service training for teachers", "Early-Childhood Education" or "Primary Education – Secondary Education" show lower scientific production. To conclude, it should be noted that writing is the least studied language skill in every category, with a maximum of three studies in Early-Childhood Education.

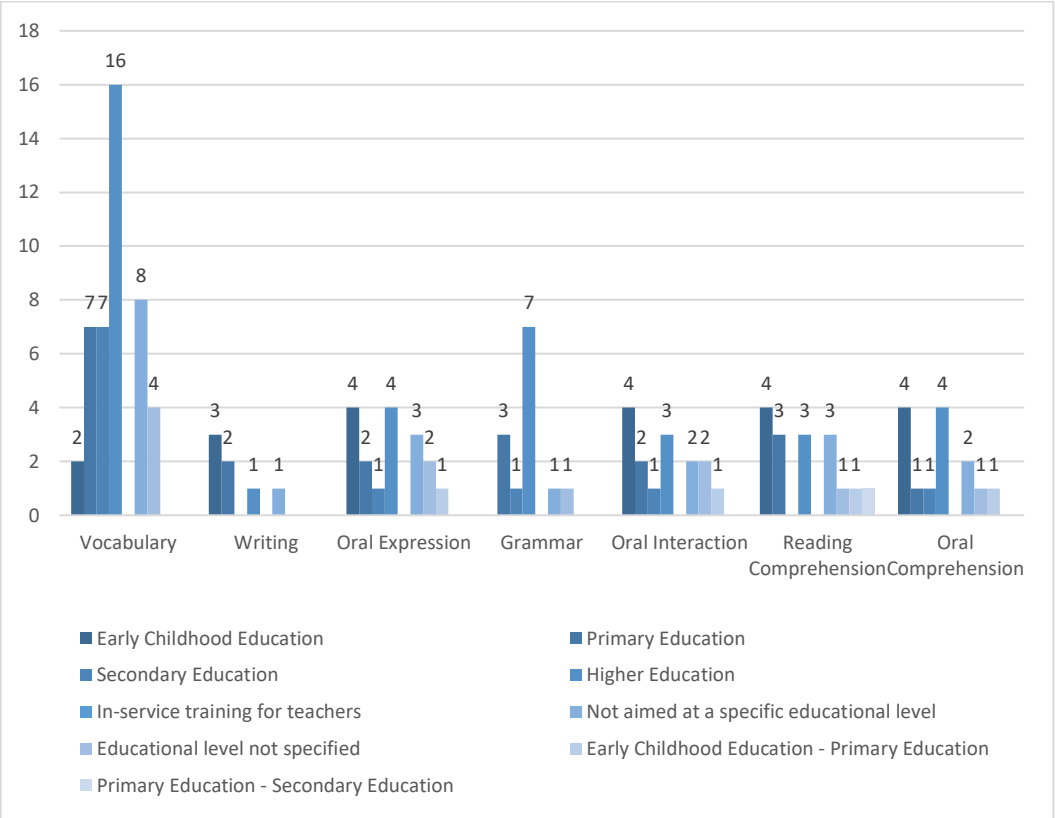

Figure 8. Specific topics studied depending on context and level.

Discussion

This scoping review study provided an overview of the current trends in serious games studies in English language teaching (ELT). Thus, this study is part of the line of research on the use of serious games in education, as well as the use of serious games in language teaching. There are previous scoping reviews carried out by other authors, to address the use of this resource in different areas of education, such as information literacy [72], nursing teaching [73], management education [74], as well as literature reviews in the field of language teaching [76]. The study presented here represents a step forward in the field, as it focuses specifically on English, but is broadly applicable to all levels of education, as well as the last few years of scientific publications, which allow us to know the current situation of this field of study. In this respect, regarding RQ1, we can conclude that the field has been in a fluctuation over the last five years, with an increase in studies and publications on the subject from 2020 to 2021, after which there is an increment from 2021 to 2022, followed by a decrease from 2022 to 2023 and a final increase from 2023 to 2024. This scientific field of knowledge has a large variety of authors that contribute to the advancement of the field. Considering the studies included in this analysis we can point out a total of 218 different authors regarding serious games for ELL. In this sense, the scientific production in the field of knowledge is presented in various continents like Asia, Europe, Africa, America and Oceania. Nevertheless, Asia, Europe and America are leading the scientific production corresponding the 96.32% (Asia: 129 authors, 59.17%; Europe: 44 authors, 20.18%; America: 37 authors, 16.97%) which corresponds with the results of [135],

On the other hand, regarding the most relevant studies in this field, considering the high number of citations, most of them focus on the effects of implementing serious games and

game-based learning for English language learning. In this sense, [57], [69] and [70] focus on interdisciplinary indicators of ELL like grammar or vocabulary. The exception is the study by Tejedor-García et al. [68] which focuses on improving the design and structure of a serious game to enhance oral expression through challenging elements. In this sense, game design gains relevance by enabling or improving language learning, as well as by determining the user's immersion in the game experience according to the qualities of the serious game in question.

This field of research has many authors who contribute to the increase of scientific production. Among the most productive authors in this field are Paola Julie Aguilar Cruz, Gwo-Jen Hwang, Luz Castillo-Cuesta and Paola Cabrera-Solano (RQ2), one of whom belongs to the technological sector (specifically the field of computer engineering), and the other three to the field of education. Authors from the field of pedagogy and language teaching must focus their studies more on this field. Furthermore, they must participate in interdisciplinary work to improve the didactic use of these technologies – given their value as didactic resources – as tools that can contribute to the implementation of processes of change that lead to student-centred learning in active and collaborative contexts [71]. Nevertheless, there are currently no authors with more than two publications in this area of knowledge in the years under review, which highlights the scarcity of researchers who focus their studies on this line of research. In addition, only 23.85% of authors were funded by an external benefactor. The lack of funding could be a contributing factor to the scarcity of researchers who focus specifically on this field in terms of dedication to research which is in line with [137].

On the other hand, we can observe a large variety of scientific journals contributing to the field of serios games for ELL. In this sense, we can consider this scientific area of research as relevant for various kinds of journals, editorials and potential readers due to their focus on different fields like technology, education or linguistics and language. Moreover, the most productive journal in this field of knowledge, i.e. the one that published the most articles on this topic during the period analysed, is 'CALL-EJ', with 5.19% of the articles published in it, ranking Q3 in SJR (RQ2). However, it should be noted that other journals such as 'International Journal of Emerging Technologies in Learning' (ranking Q2 in SJR), 'International Journal of Learning, Teaching and Educational Research' (ranking Q3 in SJR), 'International Journal of Serious Games' (ranking Q2 in SJR), 'RECALL' (ranking Q1 in SJR and JCR) and 'Computers & Education' (ranking Q1 in SJR and JCR) also stand out.

In addition, the above results highlight the diversity of studies focusing on the development of English language skills. However, fewer studies are focusing on the writing and oral interaction domain, with a greater presence of studies focusing on reading comprehension, oral expression and oral comprehension, the latter being the skills on which most studies focus. On the other hand, the studies focused on the development of grammar and vocabulary have stand out (the CEFR indicators of linguistic level), the latter being the indicator on which most studies focus. Based on these results, we can conclude that a greater number of studies focused on the writing domain should be carried out, given that an inadequate level of this type of skill is a relevant aspect, as it harms the work, academic and social environment of individuals in relation to the community to which they belong [77] (RQ3). On one hand, variability is observed in the volume of articles according to their implementation at different educational levels and contexts of implementation (RQ3). In this sense, the university level emerges as the implementation setting with the highest accumulation of scientific evidence over the 5 years analysed. Moreover, the university level has studies focusing on all the CEFR's skills and indicators, an educational level in which the studies related to the improvement of English vocabulary stand out. On one hand, the 15.58% of the studies are implemented on Primary Education. However, a smaller number of studies focused on secondary education in the

context of using serious games for English language learning and the improvement of language skills. Therefore, an area of opportunity is identified for future research, given that language learning is particularly relevant from the earliest ages when they are most susceptible to acquisition [72], such as the early childhood education stage. In this sense, the present study shows that the early childhood education stage currently has a lack of studies related to the various English skills.

On the other hand, considering the literature reviewed, around 33.33% of the studies analysed, although they are aimed at some stage of education, do not specifically mention this data, nor do they indicate a specific level or context. This complicates our analysis, but on a larger scale, it also means that these studies do not provide basic research data on the sample involved. Moreover, these areas have many studies related with English skills, highlighting the improvement of vocabulary. Nevertheless, we can observe a lack of scientific production (only nine studies related) focused on the writing skill. In this sense, this skill can be more worked on. According to [141], teachers have issues to focus on the development of the writing skill due to students' opinions towards activities, the lack of time to work on this specific skill, etc. Nevertheless, we consider that it could also be caused by a lack of knowledge towards the design of educational lessons related to writing. In this sense, those suggestions are aligned with the considerations established by [142] as the main reasons why there is a scarcity of scientific studies related to the writing skill (RQ3).

Conclusions

In conclusion, the results presented here should be useful for knowing the state of the literature on the subject. This study contributes to the future advancement of the field by showing relevant scientific studies that can help educational professionals to implement teaching strategies and reliable serious games to their educational practice. In fact, as we have seen, a considerable number of studies have focused on the use of serious games for teaching English. Therefore, educators may consider integrating this resource into their classrooms to increase student motivation and engagement, as it is a tool that is familiar to them in their daily lives. Furthermore, this study allows educators to identify relevant studies in the literature that pertain to a specific educational stage and the development of a particular language skill, enabling them to gather ideas to implement in their classroom practices. Based on the findings of this scoping review, it is recommended that educators consider using serious games as a tool for the development of specific language skills, adapting their use according to the educational level and the needs of the students.

In addition, our study shows the specific contexts and topics of serious games for ELL that could be more worked on in the future. In this sense, this work shows the educational stages with less scientific production and the ELL skills less worked on using serious games. This will make it possible to encourage and support the production of advances in this field. In this regard, national and supranational agencies, educational institutions, and governmental entities from different countries should promote the study of these less explored areas (whether educational stages or ELL skills), to assess the benefits of this technological resource in these areas, as well as to provide new educational resources in the form of serious games for their teachers.

About the limitations of the study, although the repositories selected for the study are prestigious in the academic field, they do not cover all the documents in the field of knowledge analysed. This is a limitation that can be addressed in the future by expanding the document search by implementing other repositories and databases, such as Google Scholar, JSTOR or

ResearchGate, thus obtaining a larger number of studies. In addition, we only included articles in the study, which may have left out relevant studies presented at conferences and doctoral theses. In the future, this topic could be approached in an additional way, including this type of scientific document, to obtain a more complete picture of the field of work. Finally, it would be interesting in the future to carry out systematic reviews of the literature to study this area of research in more detail, allowing us to analyse the specific serious games used, their characteristics, the specific methodological strategies implemented, the timing and grouping used, etc. in order to contribute to a better implementation of this type of digital didactic resources in the teaching-learning process of the English language.

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Conflicts of interest

The author(s) declared no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Appendix I

Database	Search string
IEEE Xplore	((“Serious game” OR “Educational game” OR “Learning game” OR “Digital game” OR “game-based learning”) AND (“English language learning” OR “ESL” OR “EFL” OR “English as a Second Language” OR “vocabulary” OR “speaking” OR “language acquisition” OR “English language”)) (("juego serio" OR "juego educativo" OR "juego de aprendizaje" OR "juego digital" OR "aprendizaje basado en el juego") AND ("aprendizaje del inglés" OR "ISL" OR "ILE" OR "Inglés como segunda lengua" OR "vocabulario" OR "expresión oral" OR "adquisición del lenguaje" OR "lengua inglesa"))
Science Direct	TITLE ABS KEY (("game" OR "game-based learning") AND ("English Language Learning" OR "ESL" OR "EFL" OR "English as a Second Language" OR "vocabulary" OR "speaking" OR "language acquisition")). TITLE ABS KEY (("juego" OR "aprendizaje basado en el juego") AND ("Aprendizaje del idioma inglés" OR "ISL" OR "EII" OR "Inglés como segunda lengua" OR "vocabulario" OR "expresión oral" OR "adquisición del lenguaje")).
Scopus	TITLE-ABS-KEY ((("Serious game" OR "Educational game" OR "Learning game" OR "Digital game" OR "game-based learning") AND ("English language learning" OR "ESL" OR "EFL" OR "English as a Second Language" OR "vocabulary" OR "speaking" OR "language acquisition" OR "English language"))) AND PUBYEAR > 2019 AND PUBYEAR < 2025 AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Spanish")) TITLE-ABS-KEY ((("juego serio" OR "juego educativo" OR "juego de aprendizaje" OR "juego digital" OR "aprendizaje basado en el juego") AND ("aprendizaje del inglés" OR "ISL" OR "ILE" OR "Inglés como segunda lengua" OR "vocabulario" OR "expresión oral" OR "adquisición del lenguaje" OR "lengua inglesa")))

ProQuest	(("Serious game" OR "Educational game" OR "Learning game" OR "Digital game" OR "game-based learning") AND ("English language learning" OR "ESL" OR "EFL" OR "English as a Second Language" OR "vocabulary" OR "speaking" OR "language acquisition" OR "English language")) (("juego serio" OR "juego educativo" OR "juego de aprendizaje" OR "juego digital" OR "aprendizaje basado en el juego") AND ("aprendizaje del inglés" OR "ISL" OR "ILE" OR "Inglés como segunda lengua" OR "vocabulario" OR "expresión oral" OR "adquisición del lenguaje" OR "lengua inglesa"))
ACM Digital Library	[[All: "serious game"] OR [All: "educational game"] OR [All: "learning game"] OR [All: "digital game"] OR [All: "game-based learning"]] AND [[All: "english language learning"] OR [All: "esl"] OR [All: "efl"] OR [All: "english as a second language"] OR [All: "vocabulary"] OR [All: "speaking"] OR [All: "language acquisition"] OR [All: "english language"]] AND [E-Publication Date: (01/01/2020 TO 12/31/2024)] [[All: "juego serio"] OR [All: "juego educativo"] OR [All: "juego de aprendizaje"] OR [All: "juego digital"] OR [All: "aprendizaje basado en el juego"]] AND [[All: "aprendizaje del inglés"] OR [All: "isl"] OR [All: "ile"] OR [All: "inglés como segunda lengua"] OR [All: "vocabulario"] OR [All: "expresión oral"] OR [All: "adquisición del lenguaje"] OR [All: "lengua inglesa"]]
Web of Science (WOS)	TS=(("Serious game" OR "Educational game" OR "Learning game" OR "Digital game" OR "game-based learning") AND ("English language learning" OR "ESL" OR "EFL" OR "English as a Second Language" OR "vocabulary" OR "speaking" OR "language acquisition" OR "English language")) TS=("juego serio" OR "juego educativo" OR "juego de aprendizaje" OR "juego digital" OR "aprendizaje basado en el juego") AND TS=("aprendizaje del inglés" OR "ISL" OR "ILE" OR "Inglés como segunda lengua" OR "vocabulario" OR "expresión oral" OR "adquisición del lenguaje" OR "lengua inglesa")
ERIC	(("Serious game" OR "Educational game" OR "Learning game" OR "Digital game" OR "game-based learning") AND ("English language learning" OR "ESL" OR "EFL" OR "English as a Second Language" OR "vocabulary" OR "speaking" OR "language acquisition" OR "English language")) (("juego serio" OR "juego educativo" OR "juego de aprendizaje" OR "juego digital" OR "aprendizaje basado en el juego") AND ("aprendizaje del inglés" OR "ISL" OR "ILE" OR "Inglés como segunda lengua" OR "vocabulario" OR "expresión oral" OR "adquisición del lenguaje" OR "lengua inglesa"))