Journal of Computers in Education
https://doi.org/10.1007/s40692-025-00359-w

Engaging post-compulsory education students in online language courses: a systematic review

Katja Peltola[1] · **Marjaana Veermans**[1] · **Sara Routarinne**[1] · **Sara Jaaksola**[1]

Received: 24 April 2024 / Revised: 13 February 2025 / Accepted: 25 February 2025

Abstract

The popularity of online language courses in post-compulsory education, especially in higher education, has increased due to more advanced technological solutions, cost effectiveness and digitalisation. Especially in online learning, student engagement is a key factor for successful learning. This article presents a systematic review of student engagement in online language learning over the last decade. Searches were conducted in 14 central databases. A total of 943 studies were identified, of which 21 met the inclusion criteria. These studies were analysed using content analysis, focusing on the conceptualisation of student engagement, factors related to student engagement, and implications of the findings presented in the reviewed studies. The results of the analysis showed that student engagement in online learning environment is in many cases studied using frameworks and conceptualisations created for face-to-face environment. The results implied that student engagement in online learning environment is influenced by various psychological (e.g. self-efficacy) and pedagogical (e.g. course design) factors. The online learning environment was found to be more student-centred than the face-to-face environment and the three most central factors influencing student engagement seem to be self-directed learning, collaboration, and the role of the teacher. The findings indicate that future research should concentrate on the further development of existing frameworks that have been specifically designed for studying student engagement in the online learning environment. Further research is also needed on the positioning of student engagement and its closely related psychological constructs.

Keywords Student engagement · Online learning environment · Systematic review · Online language learning

Extended author information available on the last page of the article

Published online: 30 May 2025

Introduction

More advanced technological solutions, cost effectiveness, and the digitalisation of teaching have increased the popularity and increased the number of online courses. The recent pandemic with forced online learning showed the potentiality and usability of online learning but also changed the mindset about it (Salama & Hinton, 2023). The popularity of online courses in higher education has accelerated (O'Dea & Stern, 2022) and understanding student engagement in the online learning environment has therefore become more crucial than ever.

Student engagement is generally understood to be a central factor in learning (Fredricks et al., 2016; Boulton et al., 2019) and especially in the higher education context, it is also understood as an indicator of quality (Redmond et al., 2018). Research has also shown that engagement has an important role in both how satisfied students are with a course and how effective they perceive their learning to be (Dahlstrom-Hakki et al., 2020; Heilporn et al., 2021).

In educational research, student engagement has been seen as a meta construct which different researchers have conceptualised in different ways to measure various subdimensions connected to engagement and learning (Bolliger & Martin, 2021; Dixson, 2015; Fredricks et al., 2004). The majority of conceptualisations and operationalisations of student engagement are based on traditional face-to-face learning environment (Hu & Li, 2017). However, based on previous research (e.g. Martin & Borup, 2022), it can be assumed that because the online learning environment is different from the face-to-face learning environment, the ways of and needs for engagement are different.

This systematic review focuses on post-compulsory education students and investigates how student engagement in the online language learning environment has been studied and what kind of results and implications have been reached. The studies included in this review were analysed using content analysis, focusing on the conceptualisation of student engagement, factors related to student engagement, and implications of the findings presented in the reviewed studies. Student engagement in a face-to-face learning environment differs from that in an online learning environment (Martin & Borup, 2022). Understanding student engagement in the online learning environment has become increasingly important since the escalation in the number of online courses, especially in the context of higher education. Although reviews have been conducted on student engagement in language learning (e.g. Hiver et al., 2021; Svalberg, 2018), to our knowledge, there have been no prior reviews focusing primarily on student engagement in an online learning environment. Therefore, a review of the current state of research on student engagement in online language learning environment is needed to better understand the affordances and constraints imposed by the online setting on pedagogical planning and teaching.

The review was guided by the following research questions:

1. How has engagement been conceptualised in the online language learning environment?

2. What factors have been found to be related to student engagement online?
3. What kind of implications have been presented based on the results of research on engagement in online language learning?

Literature review

Student engagement is a well-researched area, nevertheless this broad and complex concept still lacks a clear and uniform definition agreed on by all researchers (e.g., Redmond et al., 2018; Schindler et al., 2017; Fredricks et al., 2016; Nkomo et al., 2021). Despite definitional problems, most researchers agree on student engagement being a multidimensional concept (Fredricks et al., 2016). However, there is no clear understanding about what the different subdimensions are (Nkomo et al., 2021) or how they are related to each other (Kahu, 2013). Since there seems to be no consensus on what is considered to be student engagement, defining the term has proved to be difficult (Harris, 2008).

Subdimensions of student engagement

A widely used conceptualisation of student engagement is the one by Fredricks et al. (2004). In their seminal work, the authors suggest that student engagement consists of three subdimensions, namely, behavioural engagement, emotional engagement, and cognitive engagement; these being distinctive but still interrelated and partly overlapping dimensions. Behavioural engagement comprises participation and involvement in academic and social activities. Emotional engagement includes both positive and negative feelings about teachers, peers, and studying. Cognitive engagement is concerned with the willingness to invest time and effort on learning difficult skills (Fredricks et al., 2004).

However, in different conceptualisations, there is variation in how many subdimensions the concept of student engagement is understood to have, what the subdimensions are and how they are defined. Additional subdimensions to the ones defined by Fredricks et al. (2004) are, for instance: social engagement (e.g., Dao et al., 2021; Wang, et al., 2016), affective engagement (e.g., Maguire et al., 2017; Svalberg, 2018) academic engagement (e.g., Alrashidi et al., 2016; Bergdahl et al., 2020), and collaborative engagement (e.g., Järvelä et al., 2016). In addition to the trichotomy suggested by Fredricks et al. (2004), the conceptualisation of student engagement by Handelsman et al. (2005) is also well-known in the field of student engagement research. Their framework consists of four subdimensions: skills, participation, interaction, and performance engagement. However, although employing different names, there are similarities in the definitions of different subdimensions, as illustrated in Fig. 1. While the conceptualisation by Fredricks et al. (2004) was designed for student engagement at school level, that of Handelsman et al. was designed for student engagement at university course level.

The three blue circles in Fig. 1 illustrate Fredricks et al.'s (2004) trichotomy of student engagement. The other circles in Fig. 1 illustrate a selection of additional

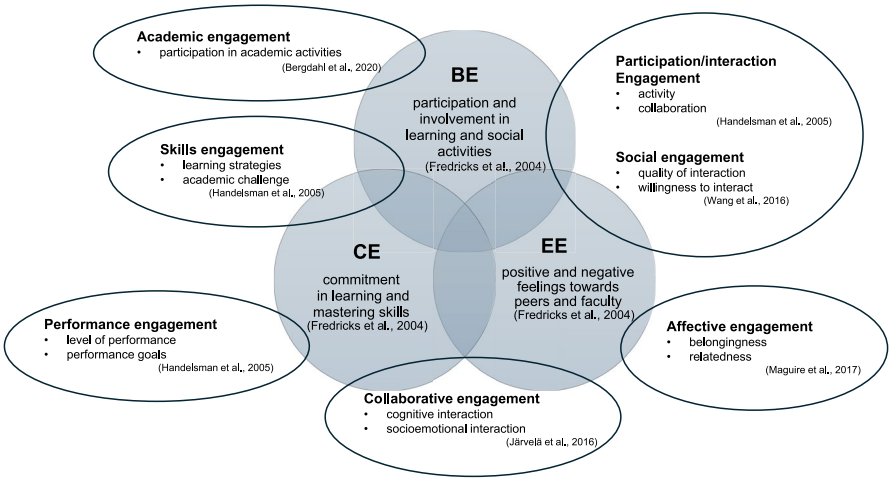

Fig. 1 Different subdimensions of student engagement. *BE* behavioural engagement, *CE* cognitive engagement, *EE* emotional engagement

subdimensions suggested by various researchers. The overlaps in Fig. 1 indicate that the subdimensions share some aspects but the amount of overlap in the figure does not indicate the extent to which the subdimensions overlap. The presentation of two subdimensions in the same circle (Participation/interaction engagement and Social engagement) suggests that they both overlap with the same subdimensions (BE and EE), but it does not imply that there would otherwise be a direct or indirect relationship between them.

In addition, there are differences and inconsistencies in measuring student engagement (Fredricks & McColskey, 2012; Nkomo et al., 2021). Furthermore, many studies using, for instance, the conceptualisation of Fredricks et al. (2004), concentrate only on one or two of the subdimensions. Limiting the number of subdimensions gives only a partial understanding of student engagement (Nkomo et al., 2021).

Student engagement in language learning

Interest in student engagement in language learning has increased in recent years (Hoi, 2022; Mercer, 2019; Svalberg, 2018). Similar to student engagement in general, student engagement in language learning also lacks a clear theoretical framework (Hiver et al., 2021). In language learning, the focus in student engagement research has been mainly on task engagement (Mercer, 2019). Philp and Duchesne (2016) define task engagement as consisting of behavioural, cognitive, social, and emotional subdimensions which are independent but affect one another. Svalberg (2009, 2018) has suggested that engagement with language consists of three parts: cognitive, affective, and social. The cognitive part consists of focused reflection and problem-solving behaviours, the affective part of active willingness to interact either with the language or a partner, and the social part concentrates on initiating and

responding positively to interaction (Svalberg, 2009). However, engagement with language and task engagement cannot always be clearly distinguished (Svalberg, 2018). Although research into student engagement in language learning has mainly focused on the task level, the subdimensions and their definitions are comparable to those used in student engagement research in general.

Student engagement in the online learning environment

Student engagement has been shown to be context-dependent (Hiver et al., 2021). The characteristics, affordances, and constraints of an online learning environment are different from the ones of a face-to-face learning environment (Martin & Borup, 2022). Because of these differences, engagement theories designed for a face-to-face environment may not be suitable for studying student engagement in an online learning environment (Ferrer et al., 2022). This is especially relevant as such theories usually lack the role of technology on student engagement (Bergdahl et al., 2020).

When studying student engagement in the online learning environment, considerable use has been made of Moore's (1989) model for interaction. This theory presents three forms of interaction in the online learning environment, namely learner-to-content, learner-to-instructor, and learner-to-learner. Bolliger and Martin (2021), for instance, based their definition of student engagement in the online learning environment on Moore's model. According to the definition of Bolliger and Martin, student engagement is affected by and connected with the teacher, the peer group, the student him-/herself and the multimodal course content. They suggest online student engagement consisting of four subdimensions: peer engagement, multimodal engagement, instructor engagement, and self-directed engagement (see Fig. 2). Redmond et al. (2018) suggest that in addition to behavioural, cognitive, and emotional

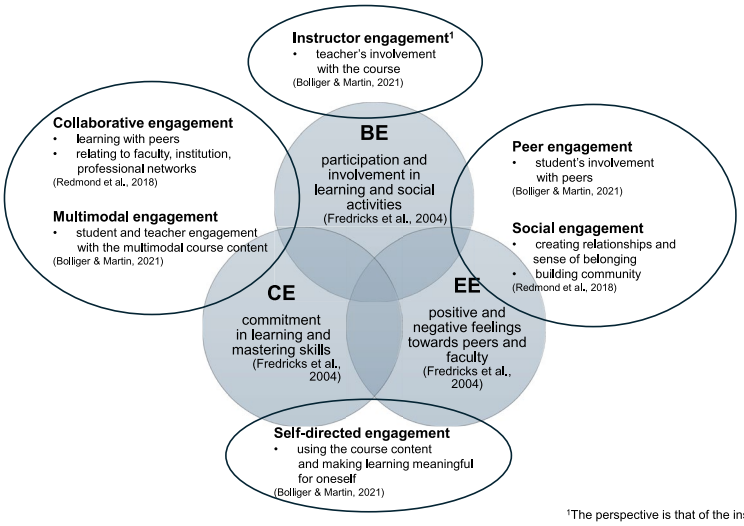

Fig. 2 Different subdimensions of student engagement conceptualised for the online learning environment. *BE* behavioural engagement, *CE* cognitive engagement, *EE* emotional engagement

engagement, online student engagement also includes social engagement and collaborative engagement. Therefore, in addition to the technological features of the online learning environment, paying attention to the social aspect, as in creating possibilities for interaction, is important in creating student engagement.

The need for social interaction is emphasised in both language learning and the online learning environment (Harsch et al., 2021). In the case of language learning, the opportunity for social interaction among the peers is especially crucial because it enables language practice (Philp & Duchesne, 2016). Jeong (2019) found that students working together in an online language course enhances both their motivation and engagement while Yuyun (2023) reported that being able to interact with others makes students feel more engaged when working in an online language course.

The three blue circles in Fig. 2 illustrate the trichotomy of student engagement defined by Fredricks et al. (2004). The other circles illustrate a selection of additional subdimensions suggested by various researchers for specifically the online learning environment. The overlaps in Fig. 2 indicate that the subdimensions share some aspects but the amount of overlap in the figure does not indicate the extent to which the subdimensions overlap. The presentation of two subdimensions in the same circle suggests that they both overlap with the same subdimensions (Peer engagement and Social engagement with BE and EE; Collaborative engagement and Multimodal with BE and CE), but it does not imply that there would otherwise be a direct or indirect relationship between them.

In this study, student engagement in the online learning context is understood as following the conceptualisation of Bolliger and Martin (2021).

Method

Literature search strategy

Following the PRISMA protocol (Page et al., 2021), a literature search was conducted based on fourteen different databases. Eight databases were taken from the EBSCO interface, namely *Communication & Mass Media Complete, ERIC, Teacher Reference Center, Education Source, APA PsycINFO, Education research complete, APA PsycArticles, Academic search premier;* four were taken from the ProQuest interface i.e. *Linguistics and Language Behavior Abstracts, Linguistics database, Education database, Psychology database*; and two were taken from the *Scopus* and *Web of Science* databases.

Eligibility criteria

Inclusion and exclusion criteria were established before conducting the systematic search. In this review, the online language learning environment is defined as courses conducted entirely online. Therefore, studies focusing on hybrid or blended learning have been excluded. Further, the focus is on entire courses being given online, therefore, separate online activities or applications are not included. The time frame was set from 2013 to the first quarter of 2023 to cover the latest ten years

Table 1 The inclusion and exclusion criteria

	Inclusion	Exclusion
Timespan	2013–April 2023 (included)	Outside of the timespan defined under "inclusion"
Participants	Students in post-compulsory education	Pupils and students in compulsory education Teachers or other personnel at school People outside the school context
Topic of interest	Student engagement in online language learning environment	Blended/hybrid/face-to-face environment Other than language courses Set of separate online activities
Method	Has an empiric part Engagement defined or discussed	No empiric part Engagement not defined or not discussed
Data	Not predefined	Not predefined
Language	English	Other than English
Type of publication	Peer-reviewed journal article	Other than peer-reviewed journal article

when both technology and the digitalisation of teaching have been rapidly developing. The data collection was conducted in April 2023. The first quarter of 2023 was included in the time frame, as several new publications on the topic were published in early 2023. Popularity of online courses has increased especially in higher levels of education and after the pandemic online learning has become a new normal in higher education (O'Dea & Stern, 2022). Therefore, only studies with participants in post- compulsory education were included in this review. Only peer-reviewed journal articles published in the English language were included in this review. Peer-reviewed journal articles were chosen to assure high quality of the selected studies. English was chosen as a criterion because of its dominant position in academic publishing. The inclusion and exclusion criteria used in this review are illustrated in Table 1 below.

Search strategy

To identify relevant studies, the following Boolean search query was used:

("student engagement" OR "learner engagement" OR "engagement") AND ("online learning" OR "online education" OR "distant education" OR "distant learning" OR "remote learning" OR "remote education") AND ("language learning" OR "second language" OR "EFL" OR "ESL" OR "L2[1]").

The searches were limited to full-text, peer-reviewed journal articles published in English between January 2013 and April 2023 (included). In Scopus, a limitation was added to the subject areas *social science* and *arts and humanities* because according to the information on the Scopus webpage, education is included in both subject areas. In Web of Science, the search was limited to the subject area *Education educational research*. The total number of studies identified in the chosen

[1] EFL – English as a foreign language; ESL – English as second language; L2 – second language.

databases was 596. However, of these, 78 were omitted as they were duplicates, so the remaining 518 studies were included in the screening phase.

Selection process

The selection process was conducted as illustrated in Fig. 3. The first round of screening was conducted based on the title and the abstract of each study, concentrating on the participants and the topic of interest according to the inclusion and exclusion criteria.

After the first screening, 424 studies were excluded while 84 were assessed for eligibility using the entire text and all the abovementioned inclusion and exclusion criteria. After the retrieval, 64 studies were excluded, and the remaining 20 studies were included in the review. The two main reasons for exclusion were the article being off topic or the article failing to provide a clear definition of *engagement*, even if *engagement* was mentioned in the title and therefore expected to have a central role in the article. In addition, in some articles, *engagement* was inadequately defined despite being evaluated and discussed in the discussion part of the article.

In the next phase, the reference lists and forward citations of the 20 included articles were studied. Based on these lists, 347 studies were identified and screened, but only one met the inclusion criteria. The main reasons for exclusion were the article not being about language learning or being off topic.

All the identified articles were screened by two researchers. The two researchers then compared their results and discussed the articles where the results differed. The included articles were agreed on by both researchers.

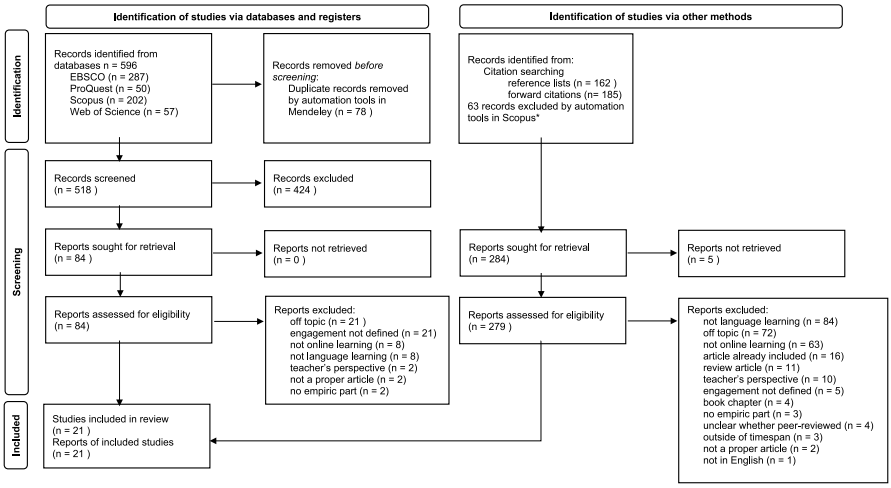

Fig. 3 The selection process of the included studies. PRISMA flow chart (Page et al., 2021). *Document type: article; Publication stage: final; Source type: journal; Language: English; subject area: Social sciences and Arts and humanities

Data analysis

A database of the included studies was created using an Excel worksheet. The 21 studies were carefully read, and categories were created based on the research questions. First, the general characteristics of the studies were identified (Table 2) and then categories were created for (1) conceptualisations and definitions of student engagement, (2) subdimensions of student engagement, (3) other constructs studied in the study, (4) central results concerning student engagement, and (5) implications on student engagement. Second, the data of the different categories were further grouped and analysed using content analysis. The categories *psychological factors* and *pedagogical factors* emerged from the analysed data and are used when presenting the results in the following section of this study. The implications of the findings for student engagement in the reviewed studies were categorised as *theoretical* or *practical*, as these were the categories used by the authors of the studies. The results are presented and discussed in the following section.

Results and discussion

Description of included studies

The analysed dataset consisted of 21 peer-reviewed journal articles published between 2013 and the first quarter of 2023. A summary of the included studies is presented in Table 2.

The type of online environment was unclear in eight studies, as illustrated in Table 2. Currently, technology enables online courses to consist of both asynchronous and synchronous parts, therefore, categorising online courses as either asynchronous or synchronous might no longer be appropriate (Bergdahl, 2023). Courses combining both asynchronous and synchronous learning environments have been called, for example, blended online learning (Power & Vaughan, 2010) or bichronous online environment (Martin & Borup, 2022). Nonetheless, as student engagement has been found to manifest differently in asynchronous and synchronous online settings (Martin & Borup, 2022), the type of online learning environment should be defined or discussed in research studies on online student engagement.

The vast majority (18 studies) of the reviewed studies focused on higher education and the geographical context was Asia in all but one study (Mihai et al., 2022) where the context was Europe. However, in one study (Akbari et al., 2016), the students were Asian but studying in Europe. This might have an impact on the results of this study since certain, for example, cultural or educational features may receive a more emphasised role when there is less variation in the geographic context. The goal language was English in 19 studies and Chinese in the remaining two studies. The emphasis on English in language learning research has also been noticed in previous research (e.g., Guo et al., 2021; Vorobel, 2022).

Most of the reviewed studies relied on students' self-reported or perceived learning and engagement rather than observed learning and engagement. However, the majority of the questionnaires used were designed neither for language learning nor

Table 2 A summary of the included studies

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Akbari et al. Student engagement and foreign language learning through online social networks	2016	Asian-Pacific Journal of Second and Foreign Language Education	HE	Iranian students studying in Europe	English	Unclear*	Quantitative	Experimental group: Facebook records Control group: feedback direct observations classroom videos	–	–
Foung et al. When "blended" becomes online: A data-driven study on the change of self-directed engagement during Covid-19	2022	Calico Journal	HE	Asia Hong Kong	English	Unclear*	Quantitative	Logs	–	–

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Han et al Sustainable development of university EFL learners' engagement, satisfaction, and self-efficacy in online learning environments: Chinese experiment	2021	Sustainability	HE	Asia China	English	Unclear*	Quantitative	Questionnaire	No Skinner et al. (2008)	No
Imamyartha et al An experiment on mobile learning to leverage EFL learners' engagement, emotional intelligent and learning motivation	2021	The Journal of Asia TEFL	HE	Asia Indonesia	English	Synchronous	Quantitative	Questionnaire	No Handelsman et al. (2005)	No

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Ji et al Investigating the link between engagement, readiness, and satisfaction in a synchronous online second language learning environment	2022	System	HE	Asia South Korea	English	Synchronous	Mixed	questionnaire	No Bergdahl et al. (2020)	No
Kusuma et al How well do e-portfolios facilitate students' learning engagement in speaking courses during the Covid-19 pandemic?	2021	Indonesian Journal of Applied Linguistics	HE	Asia Indonesia	English	Asynchronous	Qualitative	Interview students' videos reflection journals	–	–

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Luan et al Exploring the role of online EFL learners' perceived social support in their learning engagement: a structural equation model	2020	Interactive Learning Environments	HE	Asia China	English	Unclear*	Quantitative	Questionnaire	Yes Wang et al. (2016)	No
Mihai et al Emotional and social engagement in the English language classroom for higher education students in the Covid-19 online context	2022	Sustainability	HE	Europe Romania	English	Unclear*	Quantitative	Questionnaire	No Dewaele and Dewaele (2020) Horwitz et al. (1986)	Yes

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Oraif and Elyas The impact of Covid-19 on learning: Investigating EFL learners' engagement in online courses in Saudi Arabia	2021	Education Sciences	HS	Asia Saudi Arabia	English	Unclear*	Quantitative	Questionnaire	No Handelsman et al. (2005)	No
Yundayani et al Students' cognitive engagement during emergency remote teaching: Evidence from the Indonesian EFL milieu	2021	Journal of Language and Linguistic Studies	HE	Asia Indonesia	English	Unclear*	Qualitative	Interview	–	–

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Aldaghri and Oraif The impact of online teaching on students' engagement in writing during the pandemic of Covid-19	2022	Turkish Online Journal of Distance Education	HE	Asia Saudi-Arabia	English	Synchronous	Mixed	Questionnaire	No Handelsman et al. (2005)	No
Al-Khresheh Virtual classrooms engagement among Jordanian EFL students during the pandemic of Covid-19 period	2023	Cogent Education	HE	Asia Jordania	English	Unclear*	Quantitative	Questionnaire	No Handelsman et al. (2005)	No

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Al-Obaydi et al What I know, what I want to know, what I learned: Activating EFL college students' cognitive, behavioral, and emotional engagement through structured feedback in an online environment	2023	Frontiers in Psychology	HE	Asia Iraq	English	Synchronous	Quantitative	Questionnaire	No Hart et al. (2011)	No
Fan and Tian Influence of online learning environment and student engagement on international students' sustainable Chinese learning	2022	Sustainability	HE	Asia China	Chinese	Asynchronous and Synchronous Courses	Quantitative	Questionnaire	No Dowson and McInerney (2004) Skinner et al. (1990)	No

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Khotimah et al Chronicling Indonesian EFL students' engagement in podcast-based speaking activities in online learning milieu: A self-determination theory perspective	2022	The JALT CALL Journal	HE	Asia Indonesia	English	Synchronous	Qualitative	Learning portfolios, oral reflections, students' written narratives	–	–
Kiatkeeree and Ruangjaroon Unveiling the relationship between the grit of Thai English language learners, engagement, and language achievement in an online setting	2022	LEARN Journal: Language Education and Acquisition Research Network	HS	Asia Thailand	English	Unclear*	Quantitative	Questionnaire	Yes Authors' own questionnaire	Yes

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Sun et al Improving Chinese EFL learners' engagement in online classes: the role of teacher scaffolding and teacher respect	2023	Journal Multilingual and Multicultural Development	HE	Asia China	English	Unclear*	Quantitative	Questionnaire	No Zhou et al. (2021)	Yes
Zaha Analysis of the interrelatedness of self-regulation, learners' engagement, and self-perceived development in a synchronous online EFL reading course	2022	World Journal of English Language	HE	Asia Saudi-Arabia	English	Blended online course	Quantitative	Questionnaire	No Handelsman et al. (2005)	No

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Zang et al Influences of online learning environmental on international students' intrinsic motivation and engagement in the Chinese learning	2022	Journal of International Students	HE	Asia China	Chinese	Asynchronous and synchronous courses*	Quantitative	Questionnaire + interviews	No Handelsman et al. (2005) Student course Engagement questionnaire	No
Zhou et al Impact of teenage EFL learners' psychological needs on learning engagement and behavioral intention in synchronous online English courses	2022	Sustainability	HS	Asia China	English	Synchronous	Mixed	Questionnaire + interviews	Partly Reeve (2013), Strong et al. (2012), Liu et al. (2010), and Bergdahl et al. (2020)	No

Table 2 (continued)

Article	Year of publication	Journal	Educational context	Geographical context	Goal language	Online environment	Method	Main form of data collection	Questionnaire originally designed for online environment—engagement's part	Questionnaire originally designed for language learning—engagement's part
Alzahrani Is it true they negatively engage? Mixed method research of student engagement in EFL online classrooms	2023	Journal of Language and Education	HE	Asia Saudi-Arabia	English	Synchronous	Mixed	Self-report survey + focus group interviews	Unclear	Unclear

HE higher education, *HS* high school

*Data collected from participants in different online courses

Table 3 Conceptualisation of student engagement in the reviewed studies

Author (year)	The authors' definition of engagement used in the study	Central points of thoeretical discussion on student engagement	The context of student engagement in theoretical discussion	Subdimensions studied in the article
Akbari et al. (2016)	"Engagement is defined as students' involvement in activities and conditions that is likely to generate high quality learning (Ball & Perry 2011)." (p. 4)		Classroom	None
Foung et al. (2022)	Not stated explicitly	Moore (1993) – learner-to-learner, learner-to-instructors, learner-to-content learner-to-content – self-directed Dewan et al. (2019) BE – participation, involvement CE – understanding, comprehension EE – affective reactions	Classroom Online	Learner-to-content engagement
Han et al. (2021)	Not stated explicitly	Skinner et al. (2008): BE—effort, attention, persistence EE—enthusiasm, interest, enjoyment	Classroom	BE EE
Imamyartha et al. (2021)	"Dixson's (2010) model of online learning engagement was operative in this study. The construct portrays students' participation, performance, emotional appeal, and skills […]" (p. 1286)		Online	Skills Emotion Participation Performance

Table 3 (continued)

Author (year)	The authors' definition of engagement used in the study	Central points of thoeretical discussion on student engagement	The context of student engagement in theoretical discussion	Subdimensions studied in the article
Ji et al. (2022)	"[…] we conceptualised engagement as a collection of behavioral, cognitive, and emotional engagement strategies, based on Hiver et al.'s (2021) synthesis of language learning studies." (p. 2)		Classroom Online Language learning	BE EE CE
Kusuma et al. (2021)	Not stated explicitly	AE – attitude, interest (Lee et al., 2018) BE—active participation (Fredricks et al., 2004) CE—effort (Huang et al., 2019)	Classroom	CE AE BE
Luan et al. (2020)	"Extended from the previous literature (e.g. Fredricks et al., 2004), […] a four-subtype conceptualization, adding a social dimension to this construct […] in this study we adopted the four-subtype model […]." (p. 2)		Classroom Language learning Online	BE CE EE SE

Table 3 (continued)

Author (year)	The authors' definition of engagement used in the study	Central points of thoeretical discussion on student engagement	The context of student engagement in theoretical discussion	Subdimensions studied in the article
Mihai et al. (2022)	Not stated explicitly	Philp and Duchesne (2016) heightened attention, involvement, participation Fredricks et al. (2004) and Oga-Baldwin and Fryer (2021) BE—attention CE – active thinking EE –enjoyment SE – group dynamics, interpersonal relationships, interaction	Classroom Language learning	EE SE
Oraif and Elyas (2021)	"In particular, Handelsman et al.'s [6] division of engagement factors is drawn upon in this study." (p. 5)		Classroom	Skills Emotion Participation Performance
Yundayani et al. (2021)	Not stated explicitly	Reeve (2012) CE – interest, self-regulation Fredricks et al. (2004) CE – thoughtfulness, effort	Classroom	CE
Aldaghri and Oraif (2022)	Not stated explicitly	Lei et al. (2018) BE- level of participation CE—self-regulated strategies EE—emotional reactions	Classroom	Skills Emotion Participation Performance

Table 3 (continued)

Author (year)	The authors' definition of engagement used in the study	Central points of thoeretical discussion on student engagement	The context of student engagement in theoretical discussion	Subdimensions studied in the article
Al-Khresheh (2023)	"This research […] guided by three comment components of engagement theory: intellectual, social, and behavioural engagement. […] classified into skills engagement, emotional engagement, participation or interaction engagement, and performance engagement […]." (p. 4)		Classroom Language learning	Skills Emotion Participation Performance
Al-Obaydi et al. (2023)	Not stated explicitly	BE—special behaviours (Nguyen et al., 2016) CE—mental energy (Nguyen et al., 2016) EE—positive emotions (Derakhshan, 2022) SE – participation, collaboration (Wang & Hofkens, 2020)	Classroom	BE CE EE
Fan and Tian (2022)	Not stated explicitly	Kuh (2001) time and energy spent on activities	Classroom	None
Khotimah et al. (2022)	Not stated explicitly	BE—positive functions (Fredricks et al., 2004) CE—learning strategies, self-regulation (Fredricks et al., 2004) EE—feelings of interest, enthusiasm, purposefulness, autonomy (Baralt et al., 2016)	Classroom Language learning	BE CE EE

Table 3 (continued)

Author (year)	The authors' definition of engagement used in the study	Central points of thoeretical discussion on student engagement	The context of student engagement in theoretical discussion	Subdimensions studied in the article
Kiatkeeree and Ruangjaroon (2022)	Not stated explicitly	Fredricks et al. (2004) BE—participation and involvement CE—psychological investment, learning strategies EE—affective reactions	Classroom	BE CE EE
Sun et al. (2023)	Not stated explicitly	BE—quality and intensity of participation (Fredricks, 2013) CE—mental and intellectual efforts (Janosz, 2012) EE—affective features of participation (Taylor & Statler, 2014) SE—quality of interactions (Baralt et al., 2016)	Classroom Language learning	BE CE EE
Zaha (2022)	"[…] engagement in terms learners' level of interest in and interaction with the course subject including materials, peers, and instructors. […] definition of engagement adopted by Moore (1989) will be used." (p. 41)		Online	None

Table 3 (continued)

Author (year)	The authors' definition of engagement used in the study	Central points of thoeretical discussion on student engagement	The context of student engagement in theoretical discussion	Subdimensions studied in the article
Zang et al. (2022)	Not stated explicitly	Hu and Kuh (2002) effort time and energy invested in learning activities Fredricks et al. (2004) BE—involvement CE—time, effort EE—positive affective reactions	Classroom	BE CE EE
Zhou et al. (2022)	Not stated explicitly	BE—participation (Fredricks, 2004) CE—learning strategies (Dincer et al., 2019) EE—enjoyment, affective attitude (Hew, 2016) SE – collaboration, social interaction (Bergdahl et al., 2020)	Classroom	BE CE EE SE
Alzahrani (2023)	Not stated explicitly	BE—participation (Fredricks et al., 2004) CE—psychological investment, self-regulation, effort (Fredricks, 2004) EE—reactions in language-related activities and tasks (Zhou et al., 2021) SE – interaction, collaboration, relationships (Zhou et al., 2021)	Classroom Language learning Online	BE CE EE SE

AE affective engagement, *BE* behavioural engagement, *CE* cognitive engagement, *EE* emotional engagement, *SE* social engagement, *skills* skills engagement, *emotion* emotional engagement, *participation* participation/interaction engagement, *performance* performance engagement

the online learning environment, as illustrated in Table 2. In Oraif and Elyas (2021) and Al-Khresheh (2023) the used questionnaire was based on the definition of student engagement the authors had used in their study, namely that of Handelsman et al. (2005). In Imamyartha et al. (2021) the definition of student engagement was based on Dixson (2010) who had adapted Handelsman et al.'s (2005) questionnaire for online learning environment. Still, Imamyartha et al. (2021) had chosen to use the original questionnaire by Handelsman et al. (2005) instead of that by Dixson (2010). In the rest of the cases, there was no reasoning why the chosen questionnaire(s) had been used in the study. However, using questionnaires designed for a different learning environment and/or another subject might omit aspects specific to online language learning. Learning environment and student engagement are reciprocally related meaning that engagement manifests differently in the online learning environment compared to the face-to-face learning environment (Bergdahl et al., 2020; Halverson, 2016). Therefore, it was rather surprising that the reviewed studies generally did not problematise their choices of questionnaires and the implications these choices might have on the results of the studies. When considering limitations of the study, only Fan and Tian (2022) stated that a questionnaire designed for language learning should be used in future research. In the other studies, the authors did not mention the use of a questionnaire designed for other learning environment or other subject area as a limitation. One reason for using questionnaires that are not designed for online learning environment or for language learning could be that there is a lack of suitable questionnaires for this context. Moreover, in the majority of the reviewed studies, language course seemed to be mainly just a context for the study. This showed in the fact that language learning was not discussed in the theoretical part when discussing student engagement. Therefore, features specific for language learning engagement were also missing in the results and the discussion sections.

Conceptualising student engagement

The first research question focused on the conceptualisation of student engagement in an online language learning environment. In the reviewed studies, student engagement was discussed from the perspective of different aspects and definitions (see Table 3). However, in 14 studies, it was not explicitly stated how the authors of the article defined student engagement in their present study. Nevertheless, in each of these studies, the authors expressed their understanding of student engagement by discussing the concept both in the theoretical part of the article and in the results and discussion sections. In the remaining seven studies (Akbari et al., 2016; Imamyartha et al., 2021; Ji et al., 2022; Luan et al., 2020; Oraif & Elyas, 2021; Al-Khresheh, 2023, Zaha, 2022), the authors expressed clearly how they had defined student engagement in the present study, as illustrated in Table 3.

The results supported previous research by showing that student engagement lacks definitional clarity. Conceptualisations of and frameworks for student engagement were based on different perspectives and fields of science and, therefore, emphasised and focused on somewhat different aspects (Martin & Borup,

2022; Schindler et al., 2017), leading to somewhat different understanding of the concept. Another factor adding to this problem of the lack of definitional clarity is that student engagement is also considered a relational concept affected by interactions rather than student characteristics (Hofkens & Pianta, 2022). However, the main problem in the reviewed studies was that the majority of them lacked a clear statement concerning how student engagement was defined in the study in question. A similar result was also reached by Hiver et al. (2021). In the reviewed studies, student engagement was understood as simply being synonymous with involvement to including up to four different subdimensions, as illustrated in Table 3. Additionally, in the studies where four dimensions were included, these varied depending on the theoretical framework on which they were based. Further, some subdimensions had different names but resembled each other which makes it difficult to reach theoretical cohesiveness or to compare the findings of different studies; this was also pointed out in previous research by for example Henrie et al. (2015), Fredricks et al. (2016), and Nkomo et al. (2021). The lack of definitional clarity also makes is difficult to repeat or test a research design in future studies. Moreover, planning a research design for new studies is difficult due to the confusion in the conceptualisation of student engagement.

Subdimensions of student engagement

The most popular way of studying student engagement was using the same framework as in traditional classroom environment namely the one with three subdimensions presented by Fredricks et al. (2004): behavioural engagement, cognitive engagement, and emotional/affective engagement. These three subdimensions were used in seven studies (Al-Obaydi et al., 2023; Ji et al., 2022; Khotimah et al., 2022; Kiatkeeree & Ruangjaroon, 2022; Kusuma et al., 2021; Sun et al., 2023; Zang et al., 2022). However, Kusuma et al. (2021) chose to call emotional engagement affective engagement even though their definition of this subdimension resembled the definition of emotional engagement by Fredricks et al. (2004). The studies also used various background literature which resulted in some differences in understanding the subdimensions, as presented in Table 3.

In addition to student engagement lacking a clear definition, there were differences between the studies in how student engagement was defined and, therefore, which subdimensions were included in the definition, and which factors were used to measure the different subdimensions. For instance, Han et al. (2021) based their understanding of student engagement on the definition of Skinner et al. (2008) which consists of two subdimensions, that is, behavioural engagement and emotional engagement. According to this definition behavioural engagement includes for instance student's effort and persistence in learning, which in many other definitions are placed in cognitive engagement. Therefore, the way in which some researchers operationalise cognitive engagement can be the same as other researchers operationalise behavioural engagement. Further, in the reviewed studies, social engagement was mainly understood as interaction and collaboration (see Table 3). However, in Sun et al. (2023) social engagement was understood as quality of interaction which differs from interaction in general and may affect the measuring of this

subdimension. In Al-Obaydi et al. (2023) social engagement was understood as participation and collaboration. In other studies, participation was understood mainly as part of behavioural engagement. These kind of differences make it difficult to compare the results of two studies because one should compare results of two different subdimensions instead of results of the same subdimension to see how participation and engagement might be connected. Emotional engagement, in turn, was understood as positive emotions (e.g., Al-Obaydi et al., 2023; Zang et al., 2022), as emotional reactions in general (e.g., Aldaghri & Oraif, 2022; Foung et al., 2022), or as reactions in language-related activities and tasks (Alzahrani, 2023).

The conceptualisation of emotional engagement impacts both its measurement and the results of the study. For instance, comparing results of a study defining emotional engagement only as positive emotions and those of a study where emotional engagement includes both positive and negative emotions would be challenging. The former study would be unable to report on negative feelings which could result in more positive results than those of the latter study, where also negative emotions and their impact on engagement could be reported. In this review, for example, several studies using a questionnaire as a form of data collection did not provide the used questionnaire items as an appendix or supplementary material. This makes it difficult to compare the results of the different studies because it is not clear what kind of items have been used to measure the different subdimensions of student engagement; consequently, the level of transparency of the studies decreases.

Further, the different subdimensions of student engagement are generally understood as overlapping and interrelated (e.g., Fredricks et al., 2004) so each subdimension affects and is affected by the other subdimensions. The overlapping and the interrelatedness of the subdimensions is likely to make it difficult to define each subdimension clearly and unambiguously. Furthermore, focusing research only on some of the subdimensions gives more information about the chosen subdimensions but not about student engagement as a whole construct (Martin & Borup, 2022; Nkomo et al., 2021). Moreover, focusing only on a part of student engagement makes it difficult to compare the results of different studies.

Student engagement and language learning

The reviewed studies focused on language learning, however, the language learning aspect was taken into consideration only in two definitions of student engagement (Ji et al., 2022; Luan et al., 2020). Ji et al. (2022) based their definition on Hiver et al. (2021) whose conceptualisation of student engagement was developed specifically for language learning. Luan et al. (2020), in turn, added social engagement to the conceptualisation by Fredricks et al. (2004) because of the social aspect of language learning which involves interaction between the students.

In addition, the language learning aspect was taken into consideration by Alzahrani (2023) who instead of using the definition by Fredricks et al. (2004) of emotional engagement followed Zhou et al. (2021) who had defined emotional engagement as being about students' reactions to language-related tasks and activities. Sun et al. (2023), in turn, followed the conceptualisation of student engagement by Philp and Duchesne (2016) which was designed specifically for language learning.

However, the definitions of the different subdimensions by Philp and Duchesne also resemble those by Fredricks et al. (2004). Khotimah et al. (2022) emphasised language learning specifically in the ways of measuring the different subdimensions of student engagement. In Mihai et al. (2022), social engagement was added to the discussions of student engagement because social interaction is a central part of language learning. Al-Khresheh (2023) referred to the communicative side of language learning when discussing student engagement.

Student engagement and the online learning environment

Although online learning was the focus of the reviewed studies, it was included only in two studies at the definitional level. Imamyartha et al. (2021) based their definition on Dixson (2010) who adapted the conceptualisation of student engagement by Handelsman et al. (2005) for the online learning environment. Zaha (2022) followed Moore's (1989) model for interaction which is designed specifically for distance learning. In addition, the online learning environment was included in the theoretical discussion about conceptualisation of student engagement in four studies. Similar to Zaha (2022), Foung et al. (2022) also based their discussion on Moore's (1993) conceptualisation. Luan et al. (2020) based their discussion on Jung and Lee (2018). Both Moore's (1993) and Jung and Lee's conceptualisations focused on asynchronous online learning environment. Ji et al. (2022) was the only study where the authors questioned whether frameworks designed for studying student engagement in the face-to-face learning environment are suitable for the online learning environment as well. Alzahrani (2023) raised the phenomenon of fake engagement in the online learning environment, fake engagement referring to student appearing to be engaged even when they are not.

Although the focus of the reviewed studies was on student engagement in online language learning, only three studies discussed student engagement from the perspective of both language learning and the online learning environment. At the same time, more than a half of the studies discussed student engagement only from the perspective of the traditional face-to-face learning environment, as illustrated in Fig. 4. Distinctive features of face-to-face and online learning environments that influence student engagement were only briefly discussed in the reviewed studies. For instance, the conceptualisations of student engagement were mostly based on conceptualisations designed for face-to-face learning environment. However, some ways of defining and measuring student engagement might not be appropriate for the online learning environment. Being designed for a face-to-face learning environment, these conceptualisations of student engagement lack the ways in which digital technologies impact and shape student engagement (Bergdahl et al., 2020; Ma et al., 2017; Martin & Borup, 2022), and, therefore, some features specific to the online learning environment might be overlooked (Henrie et al., 2015). In language learning, for example the utilisation of spatial dimensions, gestures, facial expressions, and various artefacts are central, especially at lower proficiency levels. The affordances for these are different in the online learning environment compared to the face-to-face learning environment. Also, even when using webcams, there may be delay and blurring in the video image which make turn-taking more difficult. When

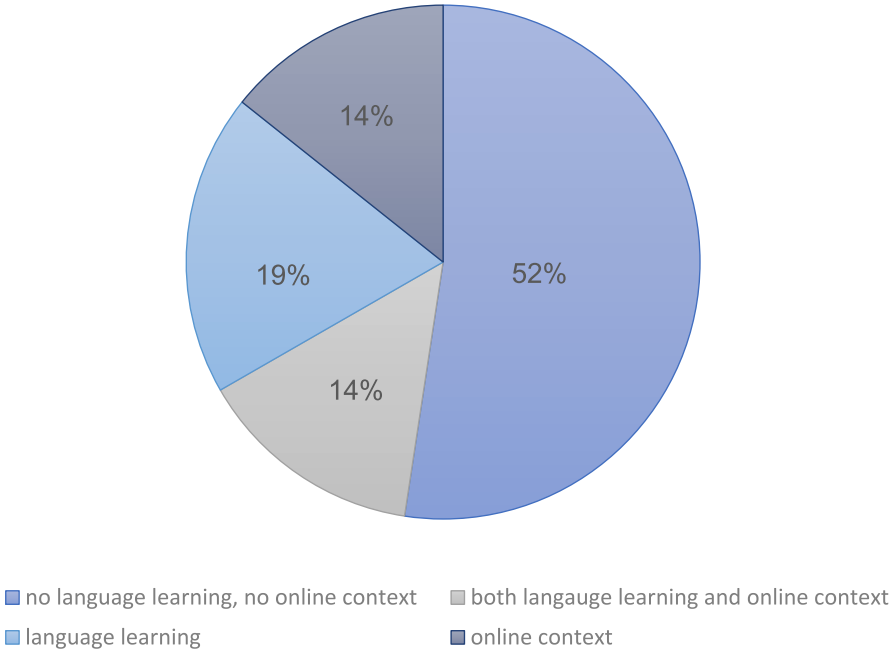

Fig. 4 Conceptualisation of student engagement discussed from the perspective of language learning and the online learning environment in the reviewed studies

sharing a screen, the illusion of eye contact and closeness disappears, especially for the one sharing the screen. Therefore, ways of engaging and showing engagement are not similar in an online learning environment and in a face-to-face learning environment which should be taken into consideration when planning research design and data analysis.

Factors related to student engagement

The second research question focused on factors that have been found to be related to student engagement online. Two categories of factors emerged when analysing the data, namely psychological factors and pedagogical factors. These are discussed in the following and presented in Figs. 5 and 6, respectively.

Psychological factors

In the reviewed studies, student engagement was often studied together with other closely related psychological constructs. The impact of student's basic psychological needs (autonomy, competence, and relatedness) on student engagement was studied by Khotimah et al. (2022) and Zhou et al. (2022). According to both studies, engagement in an online learning environment was strengthened when the basic needs were satisfied. Zhou et al. also reported that relatedness specifically impacted behavioural

engagement while autonomy and competence had a positive effect on social engagement. In addition, self-regulation (Zaha, 2022), grit (Kiatkeeree & Ruangjaroon, 2022), involvement, and enjoyment (Mihai et al., 2022), were factors that were found to be positively related to student engagement in the online learning environment. However, Mihai et al. (2022) also reported that anxiety was found to reduce involvement and, consequently, engagement. Han et al. (2021) specified that when mediated by self-efficacy, student involvement was positively related to behavioural engagement and student cohesiveness was positively related to emotional engagement. Akbari et al. (2016), found that student engagement and motivation were closely associated and reported that both student engagement and motivation were higher at the end of the course in the group studying in an online learning environment compared to the control group studying face-to-face.

In two studies, the authors found chain effects between the psychological factors they focused on in their respective studies. Zhou et al. (2022) reported competence as being the factor as regards basic psychological needs that gave the strongest prediction of student engagement. They also found that cognitive and emotional engagement in particular were factors that significantly influenced behavioural intention. Han et al. (2021) found student involvement to be a strong predictor of self-efficacy which, in turn, led to increased student engagement and satisfaction.

In some of the studies reviewed, the researchers had reached somewhat contradictory results on the impact of engagement on other psychological factors. For instance, Ji et al. (2022) reported that engagement predicted enhanced course satisfaction especially towards the end of the course whereas Zaha (2022) found that engagement did not predict the level of course satisfaction. Further, Fan and Tian (2022) reported student engagement as having a positive impact on learning achievement whereas Kiatkeeree and Ruangjaroon (2022) found that student engagement did not predict learning achievement.

In addition to student engagement and the different definitions of the subdimensions complicating the research field, there is also the fact that some constructs which are closely related, such as motivation, self-regulation, and involvement, can be defined in ways that are very similar to some of the subdimensions of student engagement. For instance, Akbari et al. (2016) stated motivation being about emotions and beliefs and engagement about "(mental) activities" (p. 4) indicating that student engagement is a one-dimensional construct. In the other studies (see Table 3), emotions were usually included in emotional engagement, and student engagement consisted of more than just mental activities, which in turn were usually included in cognitive engagement. In these studies, student engagement was understood as a multi-dimensional construct. Another example comes from Zaha (2022) who defined self-regulation as consisting of motivation and learning strategies. Learning strategies were in many of the other studies included in cognitive engagement whereas in Zaha's study, self-regulation was found to predict the level of engagement. Zaha defined engagement according to Moore's (1989) interaction model. However, since this model focuses on different modes of interaction it does not include subdimensions that are used in most definitions of student engagement. Therefore, comparing results with other studies is difficult. A third example comes from the use of the constructs student engagement, involvement, and participation,

all of which have been used synonymously to describe the same phenomenon (Hu & Li, 2017) but are also used as separate constructs to describe separate phenomena. In the reviewed articles, Akbari et al. defined student engagement as involvement in activities and used the two terms as synonyms. In the article by Han et al. (2021), student involvement was studied as a separate factor affecting behavioural engagement while in many others of the reviewed articles involvement was part of the definition of behavioural engagement. Further, in Ji et al.'s (2022) study, involvement was understood as part of participation which, in turn, was considered as the key element of behavioural engagement. The three constructs can, in other words, be understood hierarchically in various ways, either as equals, as not being hierarchically related, or as one being hierarchically higher than another. This, along with the similarities and overlaps between definitions of closely related constructs and their subdimensions, make it challenging to compare the results of different studies and confuses the distinctions between the different constructs.

Figure 5 illustrates a summary of the various psychological factors and outcomes associated with student engagement in the online learning environment, which were examined in the reviewed studies. The box to the left includes different psychological factors. The left-hand arrow illustrates that these factors have been identified to affect student engagement in the reviewed studies. The right-hand arrow illustrates that the reviewed studies have found student engagement to influence different outcomes. These outcomes are listed in the box to the right. However, the factors and outcomes in Fig. 5 may or may not co-occur. For example, having grit may enhance student engagement but does not necessarily lead to satisfaction with the course. Also, because the various factors were mainly examined in separate studies, it is not clear whether having two or more factors co-occur would lead to stronger engagement or what kind of combinations of the factors might lead to strongest engagement. Further, the categorisation in factors and outcomes is based on the reviewed studies and, therefore, shows a tendency how they have been studied and understood

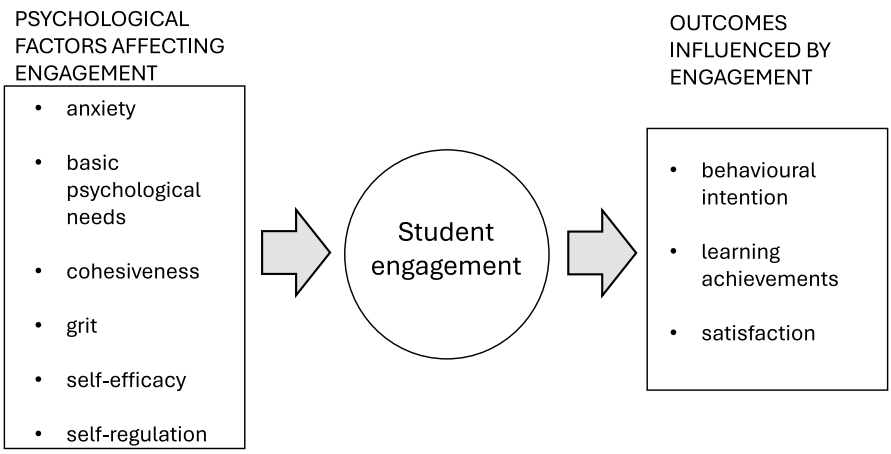

Fig. 5 Psychological factors found to affect or relate to student engagement and outcomes found to be influenced by or related to student engagement

in these studies. However, that does not exclude the possibility that they might occur in other stages of the process as well. For instance, self-efficacy has been found to strengthen student engagement, but that does not exclude the possibility that engagement could strengthen self-efficacy. Also, the different psychological factors presented in Fig. 5 can decrease or enhance student engagement. For instance, anxiety was found to weaken engagement whereas the other factors were found to strengthen it.

Online learning environment has been found to be more student-centred (Wang et al., 2022) than the traditional face-to-face learning environment. In the online learning environment, the power shifts from the teacher to the individual student meaning that the student must take more responsibility for their learning which demands, for instance, self-directedness and goal orientation (Intke-Hernandez, 2023). This is in line with our findings where many of the psychological factors discussed above, emphasise an individual's ability to manage oneself and one's learning while studying in an online course. The importance of various psychological factors, including the ones discussed above, becomes emphasised in the online learning environment where there is a physical distance between the students and the instructor. Also, because the ways of interaction are different and more limited online (Berry, 2019), the students may feel less connected to their peers which may lead to weaker self-efficacy and lower the level of engagement (Wang et al., 2022). Therefore, when planning and designing an online language course, the instructor should consider how to best support the students, for example what kind of teaching methods or technological tools can be used to support interaction and communication during the course. The instructor can hardly influence these psychological factors when students first come to the course, for instance a student's level of anxiety or ability for self-regulation. However, it might be possible to support for example basic psychological needs or cohesiveness during the course through task design and ways of using technological tools.

Pedagogical factors

Student engagement was also found to be related to different pedagogical choices and factors, as illustrated in Fig. 6.

The choice of teaching methods was found to potentially have a positive effect on student engagement. For instance, Mihai et al. (2022) reported that the level of a student's anxiety can be reduced by the choice of teaching method, for example, by utilising online technologies to strengthen students' autonomy. Reduced anxiety was found to enhance engagement. In addition, the choice of a learning management system (Aldaghri & Oraif, 2022) including both digital tools and linked learning material (Oraif & Elyas, 2021) was reported to be positively related to student engagement. Further, the importance of assessment and submission guidelines was emphasised in the study by Foung et al. (2022) which showed that approaching deadlines and assessment guides enhanced student engagement and the stronger engagement, in turn, had a positive impact on assessment outcomes, both in the experimental group and in the control group. Course design was also found to be of importance. Zhou et al. (2022) found an interesting and interactive course design to

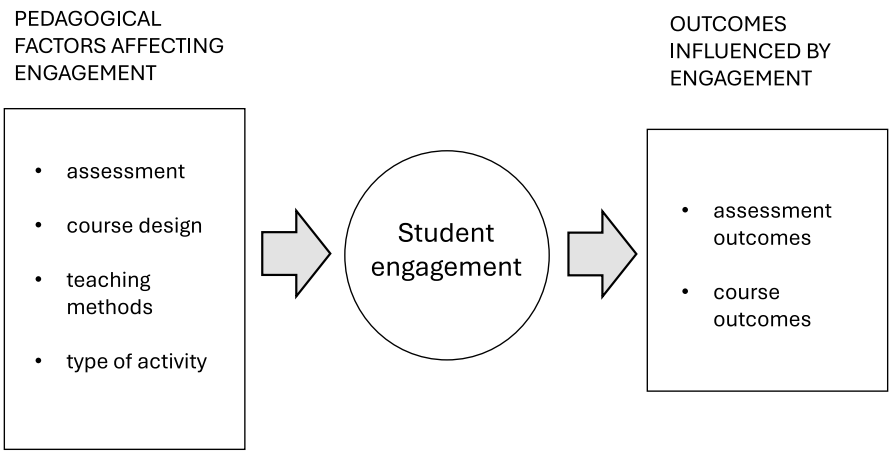

Fig. 6 Pedagogical factors found to affect student engagement and factors found to be affected by student engagement

enhance student engagement. Engaging activity types found in the reviewed studies were, for instance, activities related to students' everyday life (Yundayani et al., 2021), the use of an e-portfolio (Kusuma et al., 2021) and podcast activities (Khotimah et al., 2022).

An online course could be made more interesting and interactive for students by using an online social network (Akbari et al., 2016) or task-based mobile learning (Imamyartha et al., 2021) both of which were reported to strengthen student engagement. Akbari et al. (2016) found that the use of a social media platform increased interaction between the students and, consequently, made them more engaged compared to the students in the control group. The stronger engaged students in the online group also achieved higher grades than the students in the control group.

Teacher support and perceived peer support (Luan et al., 2020), scaffolding (Sun et al., 2023) as well as teacher presence (Al-Khresheh, 2023) were all reported to have a positive impact on student engagement. Teacher presence was found to increase interaction between the instructor and the students which strengthened student engagement (Al-Khresheh, 2023). While Luan et al. (2020) found that teacher support enhanced student engagement, Han et al. (2021) reported that teacher support decreased students' emotional engagement if the instructor offered too much support or was too controlling. Giving students the possibility to contribute structured feedback on the online classes was also found to enhance student engagement (Al-Obaydi et al., 2023) as the students had an opportunity to express their opinions on the classes knowing that the teacher could use the information to make the required changes in upcoming classes.

Similarly as the results regarding psychological factors, the results concerning different pedagogical factors and their impact on student engagement also showed a shift towards more student-centred learning. Interaction with peers and the teacher in different forms was found to enhance student engagement. This finding is in line with Garrels and Zemliansky (2022) who found opportunities for interactivity and

active learning tasks to strengthen student engagement. Social interaction is important especially in language learning. Activities enabling interaction with other students can enhance student engagement in general, as shown in the results of the reviewed studies, but it can also enhance engagement with language (Svalberg, 2018). From the perspective of course design, this implies that online language courses should include tasks that encourage interaction with peers. However, while some students find the online learning environment safer and more relaxed than the face-to-face learning environment, there are also those who feel more anxious when working online (Intke-Hernandez, 2023). Also, too much peer interaction can potentially lead to Zoom fatigue (Maimaiti et al., 2021) and the use of too many technological tools can reduce student engagement (Hu & Li, 2017). Therefore, course design should allow various ways of interaction. For instance, some students may prefer writing, others speaking. Also, offering alternative ways of completing at least some of the tasks would be worth considering when designing an online language course. That way students could choose whether they want to work together with others or prefer working on their own. Furthermore, the role of the instructor and their presence in the course should also be considered as part of the course design. The students may have different needs and expectations of support and scaffolding, both because of individual preferences but also because of cultural backgrounds.

A summary of the various pedagogical factors and outcomes associated with student engagement in the online learning environment, which were examined in the reviewed studies, is presented in Fig. 6. Since the listed factors and outcomes were mainly examined in separate studies, they may or may not co-occur. Also, based on the reviewed studies, it cannot be stated what kind of combinations of the factors might have the strongest positive effect on student engagement.

Implications reported in the reviewed studies

The implications of the results on student engagement were the focus of the third research question. The implications were categorised as theoretical and practical according to the categories used by the authors of the studies reviewed.

Theoretical implications reported in the reviewed studies

In four of the reviewed studies (Luan et al., 2020; Khotimah et al., 2022; Zaha, 2022; Zhou et al., 2022), the authors presented implications which they had categorised as theoretical. In the studies by Zhou et al. (2022) and Khotimah et al. (2022), student engagement was examined from the perspective of self-determination theory (SDT) and student's basic psychological needs, respectively. The results of both studies indicated that student engagement in the online learning environment was affected positively by SDT. According to Zhou et al., specifically emotional engagement is essential in predicting student's behavioural intention. The results of Luan et al. (2020) implied that social support enhanced behavioural engagement which then affected the three other forms of student engagement: cognitive, emotional, and social engagement. Zaha's (2022) results suggested that research on online

engagement requires clearer definitions of both student engagement and self-regulation and that the research should focus on the subdimensions of both constructs and their importance in the online learning environment. The authors of these four studies gave no direct suggestions on how these implications could affect the theoretical understanding of student engagement, still, their findings imply that more research is needed on how the different subdimensions of student engagement are related to each other and whether they are emphasised differently in the online learning environment. However, the problem of differences in subdimensions and their definitions also occurs in these four studies where the authors used different numbers of subdimension and somewhat different definitions (see Table 3). In addition to more research being needed in the construct of student engagement itself in the online learning environment, the findings suggest that further research is also needed on how student engagement and closely related psychological constructs relate to each other. For instance, self-regulation is generally understood as its own construct but in some definitions it is understood as part of cognitive engagement.

Practical implications reported in the reviewed studies

A shift towards more student-centred learning was also shown in the implications of the included studies. Despite the student's more central role in the online learning environment, the implications of the reviewed studies suggested that the teacher still has an important role to play in the learning process. Teacher's control should be decreased and their role should become more collaborative, participative, and engaging (Al-Khresheh, 2023; Oraif & Elyas, 2021). Based on the results of their respective studies, Khotimah et al. (2022) and Al-Khresheh et al. (2023) suggested that the teacher is expected to create a supportive, collaborative, and dynamic online learning environment. In addition, it is the teacher's responsibility to manage the learning atmosphere (Fan & Tian, 2022) and to pay attention to student diversity (Al-Khresheh et al., 2023). Still, it is important that the level of individualised learning is in balance with the level of teacher involvement (Al-Obaydi, 2023).

The results further indicated that more attention should be paid to students' psychological and emotional needs (Zhou et al., 2022). Self-regulatory skills, when used effectively, can enhance student engagement, as Zaha's (2022) results implied. However, in cases where students are experiencing challenges with their course work, they should be offered enough scaffolding for participation and involvement (Imamyartha et al., 2021). This could be for example in the form of reflection meetings (Kusuma et al., 2021). However, Han et al. (2021) found that teacher support might have a negative impact on emotional engagement, therefore they suggested that the teacher should be cautious when providing support and instead try to reinforce students' confidence in their capabilities to succeed in online learning.

The implications of the reviewed studies also demonstrated the importance of adapting the course content to the online learning environment in order to enhance student engagement. When teaching online, the teacher should ensure the course content and activities align with the special characteristics of the online learning environment (Zang et al., 2022). The activities should be more collaborative (Aldaghri & Oraif, 2022; Kiatkeeree & Ruangjaroon, 2022), more engaging (Alzahrani, 2023;

Mihai et al., 2022), and authentic thus reflecting real-life situations (Zhou et al., 2022). Social relationships and cooperation with peers during online courses denoted an improvement in student engagement in general (Mihai et al., 2022) and emotional engagement in particular (Han et al., 2021). That is why a course should be designed to encourage collaboration and interaction between the students (Luan et al., 2020). The results also implied that student involvement and behavioural engagement could be enhanced by using videoconferencing (Han et al., 2021) and breakout rooms (Aldaghri & Oraif, 2022). Another important implication that Ji et al. (2022) pointed out was that especially in a synchronous online environment, it is important that both teachers and students receive training on how to work well in this kind of learning environment. The teacher also needs technological and pedagogical knowledge to work in an online learning environment (Yundayani et al., 2021).

The practical implications in the reviewed studies emphasised both the teacher's role and the importance of communication and collaboration in the online learning environment. Regarding teacher role, the cultural and geographical context of the study, as well as the level of education, may play a role. For instance, the level of teacher control or the type of relationship between the teacher and the students often depends on the cultural and geographical context. Therefore, some of the suggestions concerning the teacher's role might be less relevant in some other cultures and countries than in others.

Videoconferencing and the use of breakout rooms are ways of creating group cohesion and collaboration between students. However, some students might find the situation intimidating or feel anxious when working in breakout rooms or having their web camera on during online classes. For this reason, Jia et al. (2021), for instance, stated that the amount and type of collaboration employed on online courses should be meaningful and designed to promote learning since too many possibilities and tools for interaction may lead to reduced engagement (Mosher et al., 2021).

Conclusion and limitations

The aim of this review was to investigate how student engagement has been conceptualised and studied in the online language learning environment and what kind of results and implications have been reached.

Research on student engagement in the online language learning environment has been a rather popular research topic during the last decade and especially the last few years. However, a common trend in the reviewed studies was using definitions and operationalisations designed for the traditional face-to-face learning environment which means that features specific for the online learning environment were often lacking in different studies. In order to better understand student engagement in the online learning environment, it should be studied using conceptualisations and operationalisations designed specifically for that environment. That way, the various affordances and obstacles that the online learning environment presents for language learning could be better taken into consideration.

Our findings in the reviewed studies indicate that there are three factors that seem to impact student engagement in online learning environment, namely, self-directed learning, the role of the instructor, and collaboration. In an online learning environment students need to take more responsibility for their own learning, and they need to have both the willingness and the ability to do so because they are working more on their own than in a face-to-face learning environment. The instructor's role is also different online compared to face-to-face. The ways of interaction are different and for instance the need of clarity gets emphasised in the online environment where the students are working more on their own. Also, because of the physical distance, it is important that the students feel they can contact the instructor when they need to. The importance of collaboration also seems to strengthen in the online learning environment when the ways of interaction and creating connections between the students are different and more limited compared to face-to-face environment. Especially in language learning where interaction is central, the meaning of collaboration in online courses gets emphasised. Still, the reviewed studies do not explicate specific mechanisms through which self-directed learning, the role of the instructor, and collaboration operate in the online learning environment and how they influence student engagement. Therefore, more research is needed to better understand these mechanisms.

On the basis of our findings in this review, we suggest student engagement in online learning environment consisting of self-directed engagement, collaborative engagement, and instructor engagement. Instead of focusing only on an individual student when defining student engagement, we suggest including both the instructor and the peers because all three parts seem to play a central role in engaging students in an online learning environment. Self-directed engagement focuses on psychological factors and the importance of, for example, self-efficacy and self-regulation. Compared to engagement in a face-to-face learning environment, self-directed engagement combines features of both cognitive and behavioural engagement emphasising the student's own role in learning. Collaborative engagement emphasises the importance of learning together with peers and feeling that one is part of the group despite the physical distance. Collaborating with other students enables both interaction and development of sense of belonging once the students get to know each other. Therefore, compared to engagement in face-to-face learning environment, collaborative engagement shares features with both behavioural, social, and emotional engagement. Instructor engagement highlights the importance of various pedagogical factors and choices the instructor can make in order to ensure students' engagement. The role of task design gets emphasised in the online learning environment where direct interaction between the instructor and the students is not always possible. In addition to pedagogical choices, instructor engagement also includes interaction with the students which, from the perspective of the student, partially overlaps with behavioural engagement in a face-to-face learning environment. Our findings seem to have similarities with the framework for online student engagement by Bolliger and Martin (2021). In their framework, there are four subdimensions, namely, self-directed engagement, peer engagement, instructor engagement, and multimodal engagement (see Fig. 2). In addition, there are similarities with Moore's (1989) interaction model, even though this model

focuses on asynchronous learning. However, our suggestion is based on the results in the reviewed articles and is only on theoretical level. Further empirical research is needed to understand how engagement is shaped in the online learning environment. Therefore, we encourage researchers to use and further-develop already existing frameworks created for examining student engagement in the online learning environment rather than frameworks created for face-to-face learning environment.

In most of the studies reviewed, the results concerning learning were based on the self-perceived learning of the students. This implies that when focusing on student engagement and language learning in the online learning environment, the connection between engagement and learning should also be based on measured learning in addition to perceived and self-reported learning. In addition, the different subdimensions of student engagement and the different language skills could be studied more carefully in order to increase understanding of whether or how these are connected. Further, although only two of the reviewed articles studied variations in the level of engagement or in the subdimensions of student engagement during a course, their findings suggested that since the level of student engagement seems to vary over time, more focus should be paid to studying how student engagement develops during an online course and what kind of impact this has on learning.

This review has some limitations. First, the inclusion criteria required student engagement to be defined or discussed in the study. Thus, although considerable research has been conducted on student engagement in online language learning environment, those studies where engagement was used mainly as a general term without defining and operationalising the term, were excluded from this review. Second, the reviewed studies were conducted mainly in Asia which implies that either most of the research on student engagement in the online language learning environment is being conducted in Asia or that our search strategy did not locate all the studies. Third, including only articles published in the English language omitted studies published in other languages that possibly focused on other goal languages than English or Chinese. Fourth, in most of the studies, the data was collected during the recent Covid-19 pandemic on courses which were originally planned as traditional face-to-face courses but were then required to be taught online. This might impact the results of both the reviewed studies and this study.

In future studies on student engagement in the online language learning environment, defining and operationalising the concept of student engagement in a way that takes into consideration the specific characteristics of both the online learning environment and language learning, would be beneficial. Using existing frameworks for examining student engagement in online learning environment and developing them further increase understanding of the specific conditions of that environment better than using frameworks created for face-to-face learning environment. When using questionnaires as a form of data collection, publishing the items used in the questionnaire would make it easier to compare the results of different studies, especially since there are differences in defining and operationalising the concept of student engagement. Since the level of student engagement is not a stable factor, measuring student engagement throughout an online language course could also increase the understanding of how student engagement develops, either positively or negatively, over a period of time.

Author contributions Katja Peltola: Conceptualisation, methodology, investigation, data curation, writing—original draft, writing—review and editing, visualisation. Marjaana Veermans: Conceptualisation, methodology, writing—review and editing, supervision. Sara Routarinne: Writing—review and editing, supervision. Sara Jaaksola: Methodology.

Funding Open Access funding provided by University of Turku (including Turku University Central Hospital).

Data availability All data generated or analysed during this study are included in this article.

Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical approval This article does not contain any studies with human participants performed by any of the authors.

References

*Articles marked with an asterisk were included in the systematic review

*Akbari, E., Naderi, A., Simons, R.-J., & Pilot, A. (2016). Student engagement and foreign language learning through online social networks. *Asian-Pacific Journal of Second & Foreign Language Education, 1*, 1–22.

*Aldaghri, A. A., & Oraif, I. M. (2022). The impact of online teaching on students' engagement in writing during the pandemic of covid-19. *The Turkish Online Journal of Distance Education, 23*(3), 216–229.

*Al-Khresheh, M. (2023). Virtual classrooms engagement among Jordanian EFL students during the pandemic of COVID-19 period. *Cogent Education*. https://doi.org/10.1080/2331186X.2023.2188989

*Al-Obaydi, L. H., Shakki, F., Tawafak, R. M., Pikhart, M., & Ugla, R. L. (2023). What I know, what I want to know, what I learned: Activating EFL college students' cognitive, behavioral, and emotional engagement through structured feedback in an online environment. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2022.1083673

Alrashidi, O., Phan, H. P., & Ngu, B. H. (2016). Academic engagement: An overview of its definitions, dimensions, and major conceptualisations. *International Education Studies, 9*(12), 41. https://doi.org/10.5539/ies.v9n12p41

*Alzahrani, F. (2023). Is It true they negatively engage? Mixed method research of student engagement in EFL online classrooms. *Journal of Language and Education, 9*(1), 41–58.

Ball, I., & Perry, C. (2011). Differences in student engagement: Investigating the role of the dominant cognitive processes preferred by engineering and education students. *Education Research International, 2011*(1).

Baralt M., Gurzynski-Weiss L., Kim Y. (2016). Engagement with the language. In M. Sato & S. Ballinger (Eds.), *Peer interaction and second language learning: Pedagogical potential and research agenda* (pp. 209–240). John Benjamins. https://doi.org/10.1075/lllt.45.09bar

Bergdahl, N. (2023). Lärares förståelse av engagemang i hybrid, fjärr- och distansundervisning. *Pedagogisk Forskning i Sverige, 28*(3), 30–52.

Bergdahl, N., Nouri, J., Fors, U., & Knutsson, O. (2020). Engagement, disengagement and performance when learning with technologies in upper secondary school. *Computers and Education*. https://doi.org/10.1016/j.compedu.2019.103783

Berry, S. (2019). Teaching to connect: Community-building strategies for the virtual classroom. *Online Learning, 23*(1), 164–183.

Bolliger, D. U., & Martin, F. (2021). Factors underlying the perceived importance of online student engagement strategies. *Journal of Applied Research in Higher Education, 13*(2), 404–419. https://doi.org/10.1108/JARHE-02-2020-0045

Boulton, C. A., Hughes, E., Kent, C., Smith, J. R., & Williams, H. T. P. (2019). Student engagement and wellbeing over time at a higher education institution. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0225770

Dahlström-Hakki, I., Alstad, Z., & Banerjee, M. (2020). Comparing synchronous and asynchronous online discussions for students with disabilities: The impact of social presence. *Computers & Education*. https://doi.org/10.1016/j.compedu.2020.103842

Dao, P., Nguyen, M. X. N. C., Duong, P., & Tran-Thanh, V. (2021). Learners' engagement in L2 computer-mediated interaction: Chat mode, interlocutor familiarity, and text quality. *The Modern Language Journal (Boulder, CO), 105*(4), 767–791.

Derakhshan, A. (2022). *The 5Cs positive teacher interpersonal behaviors: Implications for learner empowerment and learning in an L2 context*. Springer.

Dewaele, J.-M., & Dewaele, L. (2020). Are foreign language learners' enjoyment and anxiety specific to the teacher? An investigation into the dynamics of learners' classroom emotions. *Studies in Second Language Learning and Teaching*, *10*(1), 45–65. https://doi.org/10.14746/ssllt.2020.10.1.3

Dewan, M. A. A., Murshed, M., & Lin, F. (2019). Engagement detection in online learning: A review. *Smart Learning Environments, 6*(1), 1–20. https://doi.org/10.1186/s40561-018-0080-z

Dincer, A., Yeşilyurt, S., Noels, K. A., & Vargas Lascano, D. I. (2019). Self-determination and classroom engagement of EFL learners: A mixed-methods study of the self-system model of motivational development. *SAGE Open*, *9*(2). https://doi.org/10.1177/2158244019853913

Dixson, M. D. (2010). Creating effective student engagement in online courses: What do students find engaging? *The Journal of Scholarship of Teaching and Learning, 10*(2), 1–13.

Dixson, M. D. (2015). Measuring student engagement in the online course: The Online Student Engagement Scale (OSE). *Online Learning, 19*, n4.

Dowson, M., & McInerney, D. M. (2004). The development and validation of the goal orientation and learning strategies survey (Goals-S). *Educational and Psychological Measurement, 64*(2), 290–310. https://doi.org/10.1177/0013164403251335

*Fan, J., & Tian, M. (2022). Influence of online learning environment and student engagement on international students' sustainable Chinese learning. *Sustainability (Basel, Switzerland)*. https://doi.org/10.3390/su141711106

Ferrer, J., Ringer, A., Saville, K., Parris, A., & Kashi, K. (2022). Students' motivation and engagement in higher education: The importance of attitude to online learning. *Higher Education, 83*(2), 317–338. https://doi.org/10.1007/s10734-020-00657-5

*Foung, D., Chen, J., & Lin, L. (2022). When "blended" becomes "online": A data-driven study on the change of self- directed engagement during COVID-19 [Article]. *CALICO Journal, 39*(1), 1–25. https://doi.org/10.1558/cj.19666

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59–109.

Fredericks, J. A., Filsecker, M., & Lawson, M. A. (2016). Student engagement, context and adjustment: Addressing definitional, measurement, and methodological issues. *Learning and Instruction*. https://doi.org/10.1016/j.learninstruc.2016.02.002

Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In S. Christenson, A. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement*. Boston: Springer.

Garrels, V., & Zemliansky, P. (2022). Improving student engagement in online courses through interactive and user-centered course design: Practical strategies. *Nordic Journal of Digital Literacy, 17*(2), 112–122.

Guo, Q., Zhou, X., & Gao, X. (2021). Research on learning and teaching of languages other than English in System. *System*. https://doi.org/10.1016/j.system.2021.102541

Halverson, L. R. (2016). Conceptualizing blended learning engagement. Doctoral Dissertation. Brigham Young University.

*Han, J., Geng, X., & Wang, Q. (2021). Sustainable development of university EFL learners' engagement, satisfaction, and self-efficacy in online learning environments: Chinese experiences. *Sustainability*. https://doi.org/10.3390/su132111655

Handelsman, M. M., Briggs, W. L., Sullivan, N., & Towler, A. A. (2005). A measure of college student course engagement. *The Journal of Education Research, 98*(3), 184–192. https://doi.org/10.3200/JOER.98.3.184-192

Harris, L. R. (2008). A phenomenographic investigation of teacher conceptions of student engagement in learning. *Australian Educational Researcher, 35*(1), 57–79. https://doi.org/10.1007/BF03216875

Harsch, C., Müller-Karabil, A., & Buchminskaia, E. (2021). Addressing the challenges of interaction in online language courses. *System*. https://doi.org/10.1016/j.system.2021.102673

Hart, S. R., Stewart, K., & Jimerson, S. R. (2011). The Student Engagement in Schools Questionnaire (SESQ) and the Teacher Engagement Form-New (TERF-N): Examining the preliminary evidence. *Contemporary School Psychology, 15*, 67–79.

Heilporn, G., Lakhal, S., & Bélisle, M. (2021). An examination of teachers' strategies to foster student engagement in blended learning in higher education. *International Journal of Educational Technology in Higher Education*. https://doi.org/10.1186/s41239-021-00260-3

Henrie, C. R., Halverson, L. R., & Graham, C. R. (2015). Measuring student engagement in technology-mediated learning: A review. *Computers and Education, 90*, 36–53. https://doi.org/10.1016/j.compedu.2015.09.005

Hew, K. F. (2016). Promoting engagement in online courses: What strategies can we learn from three highly rated MOOCS. *British Journal of Educational Technology, 47*(2), 320–341. https://doi.org/10.1111/bjet.12235

Hiver, P., Al-Hoorie, A. H., Vitta, J. P., & Wu, J. (2021). Engagement in language learning: A systematic review of 20 years of research methods and definitions. *Language Teaching Research: LTR, 28*(1), 201–230. https://doi.org/10.1177/13621688211001289

Hofkens, T. L., & Pianta, R. C. (2022). Teacher-student relationships, engagement in school, and student outcomes. In A. L. Reschly & S. L. Christenson (Eds.), *Handbook of research on student engagement.* Cham: Springer.

Hoi, V. N. (2022). A synergetic perspective on students' perception of classroom environment, expectancy value belief, and engagement in an EFL context. *Language Teaching Research*. https://doi.org/10.1177/13621688221075781

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal, 70*(2), 125–132.

Huang, B., Hew, K. F., & Lo, C. K. (2019). Investigating the effects of gamification-enhanced flipped learning on undergraduate students' behavioral and cognitive engagement. *Interactive Learning Environments, 27*(8), 1106–1126. https://doi.org/10.1080/10494820.2018.1495653

Hu, M. & Li H. (2017). Student engagement in online learning: A review. In *2017 International symposium on educational technology (ISET), Hong Kong, China* (pp. 39–43). https://ieeexplore.ieee.org/document/8005384

Hu, S., & Kuh, G. D. (2002). Being (dis)engaged in educationally purposeful activities: The influences of student and institutional characteristics. *Research in Higher Education, 43*(5), 555–575. https://doi.org/10.1023/A:1020114231387

*Imamyartha, D., Wahjuningsih, E., Puspa, A., Bilqis, M., & HuMmi, R. F. A. (2021). An experiment on mobile learning to leverage EFL learners' engagement, emotional intelligence, and learning motivation. *Journal of Asia TEFL, 18*(4), 1285–1301.

Intke-Hernandez, M. (2023). Embodiment and a sense of belonging in online language learning contexts. *Taikomoji Kalbotyra, 20*(20), 104–120.

Janosz, M. (2012). Outcomes of engagement and engagement as an outcome: Some consensus, divergences, and unanswered questions. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 695–703). Springer.

Järvelä, S., Järvenoja, H., Malmberg, J., Isohätälä, J., & Sobocinski, M. (2016). How do types of interaction and phases of self-regulated learning set a stage for collaborative engagement? *Learning and Instruction, 43*, 39–51. https://doi.org/10.1016/j.learninstruc.2016.01.005

Jeong, K.-O. (2019). Online collaborative language learning for enhancing learner motivation and classroom engagement. *International Journal of Contents, 15*(4), 89–96. https://doi.org/10.5392/IJoC.2019.15.4.089

*Ji, H., Park, S., & Shin, H. W. (2022). Investigating the link between engagement, readiness, and satisfaction in a synchronous online second language learning environment. *System*. https://doi.org/10.1016/j.system.2022.102720

Jia, C., Hew, K. F., Bai, S., & Huang, W. (2021). Adaptation of a conventional flipped course to an online flipped format during the Covid-19 pandemic: Student learning performance and engagement. *Journal of Research on Technology in Education, 54*(2), 281–301. https://doi.org/10.1080/15391523.2020.1847220

Jung, Y., & Lee, J. (2018). Learning engagement and persistence in massive open online courses (MOOCS). *Computers & Education, 122*, 9–22. https://doi.org/10.1016/j.compedu.2018.02.013

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758–773. https://doi.org/10.1080/03075079.2011.598505

*Khotimah, K., Cahyono, B. Y., & Batunan, D. A. (2022). Chronicling Indonesian EFL students' engagement in podcast-based speaking in online learning milieu: A self-determination theory perspective. *The JALT CALL Journal, 18*(3), 335–359.

*Kiatkeeree, J., & Ruangjaroon, S. (2022). Unveiling the relationship between the grit of Thai English language learners, engagement, and language achievement in an online setting. *LEARN Journal: Language Education and Acquisition Research Network, 15*(2), 602–624.

Kuh, G. D. (2001). *The national survey of student engagement: Conceptual framework and overview of psychometric properties*. Indiana University.

*Kusuma, I., Mahayanti, N., Gunawan, M., Rachman, D., & Pratiwi, N. (2021). How well do E-portfolios facilitate students' learning engagement in speaking courses during the COVID-19 pandemic? *Indonesian Journal of Applied Linguistics, 11*(2), 351–362.

Lee, J., Park, T., & Davis, R. O. (2018). What affects learner engagement in flipped learning and what predicts its outcomes? *British Journal of Educational Technology, 28*(1), 1–18. https://doi.org/10.1111/bjet.12717

Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. *Social Behavior and Personality, 46*(3), 517–528. https://doi.org/10.2224/sbp.7054

Liu, I.-F., Chen, M. C., Sun, Y. S., Wible, D., & Kuo, C.-H. (2010). Extending the TAM model to explore the factors that affect intention to use an online learning community. *Computers and Education, 54*(2), 600–610. https://doi.org/10.1016/j.compedu.2009.09.009

*Luan, L., Hong, J. C., Cao, M., Dong, Y., & Hou, X. J. (2020). Exploring the role of online EFL learners' perceived social support in their learning engagement: a structural equation model. *Interactive Learning Environments*. https://doi.org/10.1080/10494820.2020.1855211

Ma, J., Cheng, J., & Han, X. (2017). Initial development process of a student engagement scale in blended learning environment. *In: 2017 International Conference of Educational Innovation through Technology (EITT), Japan, 2017*, 234–237. https://doi.org/10.1109/EITT.2017.63

Maguire, R., Egan, A., Hyland, P., & Maguire, P. (2017). Engaging students emotionally: The role of emotional intelligence in predicting cognitive and affective engagement in higher education. *Higher Education Research and Development, 36*(2), 343–357. https://doi.org/10.1080/07294360.2016.1185396

Maimaiti, G., Jia, C., & Hew, K. F. (2021). Student disengagement in web-based videoconferencing supported online learning: An activity theory perspective. *Interactive Learning Environments, 31*(8), 4883–4902. https://doi.org/10.1080/10494820.2021.1984949

Martin, F., & Borup, J. (2022). Online learner engagement: Conceptual definitions, research themes, and supportive practices. *Educational Psychologist, 57*(3), 162–177. https://doi.org/10.1080/00461520.2022.2089147

Mercer, S. (2019). Language learner engagement: Setting the scene. In X. Gao (Ed.), *Second handbook of english language teaching. Springer international handbooks of education.* Springer.

*Mihai, M., Albert, C. N., Mihai, V. C., & Dumitras, D. E. (2022). Emotional and social engagement in the english language classroom for higher education students in the COVID-19 online context. *Sustainability (Basel, Switzerland), 14*(8), 4527. https://doi.org/10.3390/su14084527

Moore, M. G. (1989). Editorial: Three types of interaction. *The American Journal of Distance Education, 3*(2), 1–7. https://doi.org/10.1080/08923648909526659

Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education* (pp. 22–38). Routledge.

Mosher, C. J., Morton, A., & Palaganas, J. C. (2021). Perspectives of engagement in distance debriefings. *Advances in Simulation (London), 6*(1), 1–40. https://doi.org/10.1186/s41077-021-00192-y

Nguyen, T. D., Cannata, M., & Miller, J. (2016). Understanding student behavioral engagement: Importance of student interaction with peers and teachers. *The Journal of Educational Research, 111*(2), 163–174. https://doi.org/10.1080/00220671.2016.1220359

Nkomo, L. M., Daniel, B. K., & Butson, R. J. (2021). Synthesis of student engagement with digital technologies: A systematic review of the literature. *International Journal of Educational Technology in Higher Education, 18*(1), 34–34. https://doi.org/10.1186/s41239-021-00270-1

O'Dea, X., & Stern, J. (2022). Virtually the same?: Online higher education in the post Covid-19 era. *British Journal of Educational Technology, 53*(3), 437–442. https://doi.org/10.1111/bjet.13211

Oga-Baldwin, W., & Fryer, L. (2021). 12 Engagement growth in language learning classrooms: A latent growth analysis of engagement in Japanese elementary schools. In P. Hiver, A. Al-Hoorie, & S. Mercer (Eds.), *Student engagement in the language classroom* (pp. 224–240). Multilingual Matters.

*Oraif, I., Elyas, T., & Edirisingha, P. (2021). The impact of COVID-19 on learning: Investigating EFL learners' engagement in online courses in Saudi Arabia. *Education Sciences, 11*(3), 99. https://doi.org/10.3390/educsci11030099

Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., & Chou, R. (2021). PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *BMJ*. https://doi.org/10.1136/bmj.n160

Philp, J., & Duchesne, S. (2016). Exploring engagement in tasks in the language classroom. *Annual Review of Applied Linguistics, 36*, 50–72. https://doi.org/10.1017/S0267190515000094

Power, M., & Vaughan, N. (2010). Redesigning online learning for international graduate seminar delivery. *International Journal of E-Learning & Distance Education, 24*(2), 19–38.

Redmond, P., Heffernan, A., Abawi, L., Brown, A., & Henderson, R. (2018). An online engagement framework for higher education. *Online Learning (Newburyport Mass.), 22*(1), 183.

Reeve, J. (2012). A self-determination theory perspective on student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 149–172). Springer.

Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology, 105*(3), 579–595. https://doi.org/10.1037/a0032690

Salama, R., & Hinton, T. (2023). Online higher education: Current landscape and future trends. *Journal of Further and Higher Education, 47*(7), 913–924. https://doi.org/10.1080/0309877X.2023.2200136

Schindler, L. A., Burkholder, G. J., Morad, O. A., & Marsh, C. (2017). Computer-based technology and student engagement: A critical review of the literature. *International Journal of Educational Technology in Higher Education*. https://doi.org/10.1186/s41239-017-0063-0

Skinner, E. A., Wellborn, J. G., & Connell, J. P. (1990). What It takes to do well in school and whether I've got it: A process model of perceived control and children's engagement and achievement in school. *Journal of Educational Psychology, 82*(1), 22–32. https://doi.org/10.1037/0022-0663.82.1.22

Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology, 100*(4), 765–781. https://doi.org/10.1037/a0012840

Strong, R., Irby, T. L., Wynn, J. T., & McClure, M. M. (2012). Investigating students' satisfaction with eLearning courses: The effect of learning environment and social Presence. *Journal of Agricultural Education, 53*(3), 98–110. https://doi.org/10.5032/jae.2012.03098

*Sun, Y., Shi, W., & Fu, L. (2023). Improving Chinese EFL learners' engagement in online classes: The role of teacher scaffolding and teacher respect. *Journal of Multilingual and Multicultural Development*. https://doi.org/10.1080/01434632.2023.2180009

Svalberg, A.M.-L. (2009). Engagement with language: Interrogating a construct. *Language Awareness, 18*(3–4), 242–258. https://doi.org/10.1080/09658410903197264

Svalberg, A.M.-L. (2018). Researching language engagement; current trends and future directions. *Language Awareness, 27*(1–2), 21–39. https://doi.org/10.1080/09658416.2017.1406490

Taylor, S. S., & Statler, M. (2014). Material matters: Increasing emotional engagement in learning. *Journal of Management Education, 38*(4), 586–607. https://doi.org/10.1177/1052562913489976

Vorobel, O. (2022). A systematic review of research on distance language teaching (2011–2020): Focus on methodology. *System (Linköping)*. https://doi.org/10.1016/j.system.2022.102753

Wang, M. T., Fredricks, J. A., Ye, F., Hofkens, T. L., & Linn, J. S. (2016). The math and science engagement scales: Scale development, validation, and psychometric properties. *Learning and Instruction, 43*, 16–26. https://doi.org/10.1016/j.learninstruc.2016.01.008

Wang, M.-T., & Hofkens, T. L. (2020). Beyond classroom academics: A school-wide and multi-contextual perspective on student engagement in school. *Adolescent Research Review, 5*(4), 419–433. https://doi.org/10.1007/s40894-019-00115-z

Wang, Y., Cao, Y., Gong, S., Wang, Z., Li, N., & Ai, L. (2022). Interaction and learning engagement in online learning: The mediating roles of online learning self-efficacy and academic emotions. *Learning and Individual Differences*. https://doi.org/10.1016/j.lindif.2022.102128

*Yundayani, A., Abdullah, F., Tandiana, S. T., & Sutrisno, B. (2021). Students' cognitive engagement during emergency remote teaching: Evidence from the Indonesian EFL milieu. *Journal of Language and Linguistic Studies, 17*(1), 17–33.

Yuyun, I. (2023). Investigating university student engagement in online learning: A case study in EFL classroom. *Indonesian Journal of Applied Linguistics, 12*(3), 638–653.

*Zaha, A. (2022). Analysis of the interrelatedness of self -regulation, learners" engagement, and self-perceived development in a synchronous online EFL reading course. *World Journal of English Language*. https://doi.org/10.5430/wjel.v12n8p39

*Zang, F., Tian, M., Fan, J., & Sun, Y. (2022). Influences of online learning environment on international students' intrinsic motivation and engagement in the Chinese learning. *Journal of International Students, 12*(S1), 61–82.

Zhou, S., Hiver, P., & Al-Hoorie, A. H. (2021). Measuring L2 engagment: A review of issues and applications. In P. Hiver, A. Al-Hoorie, & S. Mercer (Eds.), *Student engagement in the language classroom* (pp. 75–98). Multilingual Matters.

*Zhou, S., Zhu, H., & Zhou, Y. (2022). Impact of teenage EFL learners' psychological needs on learning engagement and behavioral intention in synchronous online english courses. *Sustainability (Basel, Switzerland), 14*(17), 10468. https://doi.org/10.3390/su141710468

Katja Peltola is doctoral researcher in the OPPI doctoral programme at the Department of Teacher Education at the University of Turku. Her research interests are in student engagement in digital learning environments and foreign and second language learning, especially in the higher education context. She works as a lecturer in Swedish at Hanken School of Economics in Helsinki.

Marjaana Veermans is Professor of learning and teaching at the Department of Teacher Education of the University of Turku. Currently she also acts as Vice dean (Education) at the Faculty of Education. She has a background in educational psychology and holds a PhD in Educational Sciences from the University of Turku. Veermans' general area of expertise is in educational psychology, and especially in learning environments. Her research covers age groups from primary education to adult education; in general focusing on learning, and in particular on motivation, interest, and teaching and learning in digital learning environments.

Sara Routarinne is Professor of Language and Literature Education at the Department of Teacher Education, University of Turku. She is the director of CERLI, the department's Centre for Research on Learning and Instruction, and the director of the OPPI doctoral programme at the University of Turku Graduate School. Her research focuses on learning-in-interaction in the areas of first and second language development and literacy.

Sara Jaaksola is doctoral researcher in the OPPI doctoral programme at the Department of Teacher Education at the University of Turku. Her research interests are foreign language learning, motivation, and pedagogy. She has worked as a Chinese language teacher for 10 years.

Authors and Affiliations

Katja Peltola[1] · Marjaana Veermans[1] · Sara Routarinne[1] · Sara Jaaksola[1]

✉ Katja Peltola
katja.j.peltola@utu.fi

Marjaana Veermans
marjaana.veermans@utu.fi

Sara Routarinne
sara.routarinne@utu.fi

Sara Jaaksola
sara.k.jaaksola@utu.fi

[1] Department of Teacher Education, Faculty of Education, University of Turku, Turku, Finland