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An Evaluation of Iranian Senior High School EFL CD-ROMs and Its Impact on Teacher Self-Efficacy

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Abstract
The influence of technology on education has become increasingly evident in contemporary EFL classrooms. Educational institutions are progressively integrating technological tools into their activities to improve both instructional practices and student learning outcomes. As supplements to the coursebook, the CD-ROM materials offer novel learning experiences for students in Iranian senior high school EFL classrooms. However, research has not fully established their use, efficiency, and effects in the context. So, the study aims to investigate the extent to which Iranian EFL teachers (n=146) utilize the CD-ROM materials in their classrooms, determine their efficiency, and ascertain their effects on teacher self-efficacy. Two self-developed scales were used to measure the teachers' use and attitudes about the effectiveness of the EFL CD-ROMs. Moreover, the Teachers' Self-Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001) was employed to assess the teachers' self-efficacy beliefs. The results revealed that 71.23% of the teachers frequently used CD-ROM materials in their classrooms. Moreover, the CD-ROMs were highly efficient in terms of Technical Quality, Content Quality, and Instruction Quality, respectively. Finally, the effectiveness of CD-ROM materials positively related to the teachers' self-efficacy perceptions, while accounting for 36.4% of Engagement, 23.9% of Management, and 10.6% of Instruction.

Keywords: CD-ROM materials, EFL teachers, evaluation, teacher self-efficacy

1. Introduction

Technology-enhanced language learning (TELL) has emerged as a transformative approach in ELT, reshaping traditional pedagogical practices and creating new opportunities for educators and learners. For example, the advent of recording technologies facilitated the emergence and

widespread adoption of the Audio-Lingual Method in the 1950s (Celce-Murcia, 1991), wherein tools such as tape recorders, video players, and language laboratories were employed to model linguistic patterns and dialogues for reinforcing learners' accurate behaviors through systematic repetition, imitation, and memorization. Contemporary digital tools, such as multimedia resources, language learning applications, mobile applications, AI-driven programs, and virtual platforms, have revolutionized teaching methodologies to an unprecedented extent. They have facilitated the adoption of communicative, task-based, and eclectic learning methodologies, thereby fostering greater student engagement, motivation, and collaborative learning (Cahyono et al., 2020; Kang, 2023; Samir & Tabatabaee-Yazdi, 2023; Yang & Wang, 2023). In addition, they have enabled learners to access authentic input and receive immediate, personalized feedback, thereby strengthening their learning abilities (Roe et al., 2025; Zhou & Liu, 2025). Ultimately, these resources have strengthened teachers' instructional effectiveness by facilitating flexible lesson plans, promoting participatory teaching, and ensuring streamlined content delivery (Kang, 2023; Rabanes & Paglinawan, 2025).

In this regard, empirical evidence suggests that the strategic integration of technology into English Language Teaching (ELT) substantially improves the effectiveness of both instructional practices and learning outcomes (Alibakhshi et al., 2020; Benek, 2025; Gacayan, 2025; Nasution et al., 2025; Portaro, 2024; Tzafilkou et al., 2021; Wijnen et al., 2021). For example, Li et al. (2025) conducted a meta-analysis of studies published in the academic journals and databases, examining the relationship between digital literacy (DL) and students' academic achievement. They highlighted that DL has a significant, positive impact on students' academic achievement, with the strength of this relationship influenced by factors such as grade level, orientation of DL, subject area, sampling method, and gender. They concluded that developing students' digital literacy can improve learning outcomes and support more meaningful and lasting academic achievement. Furthermore, Tang (2024) revealed that digital immersive technologies in English language education enhance critical thinking and self-directed learning by fostering problem-solving, decision-making, and reflection. Additionally, Yang (2024) demonstrated that teachers possessing higher levels of technological self-efficacy molded more engaging learning activities, resulting in greater student involvement and motivation. Moreover, Sailer et al. (2024) reported that technology-enhanced learning activities emphasizing knowledge application and creation resulted in higher cognitive learning outcomes. Finally, Feroce et al. (2025) highlighted that using a Computer-Assisted Language Learning tool improved ESL learners' overall English proficiency, including both oral and written skills.

According to Safari and Rashidi (2015), the insufficient effectiveness of English Language Teaching (ELT) programs in Iranian senior high schools has been consistently associated with a combination of pedagogical and systemic limitations. Chief among these is the continued reliance on traditional instructional methods: The Grammar-Translation Method (GTM), with its emphasis on rote memorization, translation, and grammatical accuracy, remains prevalent in Iranian high schools. By limiting opportunities for authentic communication, GTM hampers the development of learners' communicative competence, underscoring the need for more interactive, technology-enhanced instructional approaches to support effective language acquisition (Dashtestani, 2014; Janfeshan, 2018). In addition, high school textbooks have not been adequately designed to be authentic, contextually relevant materials that facilitate meaningful language use (Maghsoudi & Khodamoradi, 2023; Pirzad & Abadikhah, 2022). Teacher expertise also remains a critical concern, as many instructors lack sufficient training in modern, learner-centered methodologies that promote interactive and task-based learning (Ghaderinezhad, 2021; Khalili, 2024). Furthermore, assessment practices are frequently suboptimal, prioritizing written examinations and

discrete-point testing rather than evaluating students' communicative skills and overall language proficiency (Taherkhani et al., 2017). These factors have raised concerns regarding the effectiveness of ELT programs in achieving their intended outcomes and underscored the urgent need for comprehensive reforms in curriculum design, teacher professional development, and assessment strategies. To address these shortcomings, high school ELT programs were reformed in late 2012, with the most notable modification being the introduction of textbooks emphasizing the use of communicative language teaching (CLT) strategies (Vahdany et al., 2025).

Following the implementation of the new ELT programs in high schools, numerous scholars have sought to investigate the issues, inadequacies, and concerns encountered by both teachers and learners in the course of educational restructuring. Recent scholarship has underscored several persistent challenges, notably the inadequate preparation of teachers for implementing communicative methodologies, the limited availability of instructional resources, and the entrenched dependence on traditional pedagogical practices. Each of these problems greatly undermines the intended transition toward the adoption of CLT strategies and constitutes a major obstacle to the effective attainment of instructional objectives (Alibakhshi et al., 2020; Banaruee et al., 2023; Ghaemi & Attaei, 2022; Khatoony & Nezhadmehr, 2020). Additionally, learners reported difficulties in adapting to the novel teaching practices, particularly in developing speaking and listening skills. These challenges are frequently attributed to limited exposure to authentic communicative contexts and inadequate support for interactive language use, issues that the new ELT programs aim to address (Jahanban-Isfahlan et al, 2017). On the whole, these studies underscored the potential of technology-enhanced approaches to support meaningful language use and emphasized the need for sustained research to ensure the efficiency of the new ELT programs for senior high school students. Accordingly, the present study aims to (i) examine the utilization of CD-ROM materials by Iranian senior high school teachers, (ii) evaluate the effectiveness of these digital resources, and (iii) investigate their impact on teachers' self-efficacy beliefs—an area that has received limited attention in the Iranian EFL literature. By addressing this gap, the study tries to contribute to the existing literature on Computer-Assisted Language Learning (CALL)/TELL and offer beneficial insights for enhancement of the instructional practices. To this end, the following research questions were posed in the study:

Q1. To what extent do Iranian senior high school EFL teachers use CD-ROM materials in their classes?

Q2. What are the teachers' attitudes toward the usefulness of the CD-ROM materials?

Q3. How does the CD-ROM materials' usefulness affect the self-efficacy beliefs of the teachers?

2. Literature Review

2.1 Information and Communication Technology

Information and Communication Technology (ICT) broadly refers to technologies that enable access to information through telecommunications. While closely related to Information Technology (IT), ICT places greater emphasis on communication tools and systems, including the Internet, wireless networks, mobile phones, and other digital communication platforms. The term has been defined in the online glossary of UNESCO as:

> Diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These technological tools and resources include computers, the Internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players and storage devices) and telephony (fixed or mobile, satellite, visio/video-conferencing, etc.). (UNESCO, n.d.)

Moreover, ICT has been contemplated as an umbrella term referring to diverse forms of educational technologies. As argued:

> This term can include one-to-many technologies (usually used by the teacher at the front of the classroom) and peer-to-peer technologies, professionally produced and user-generated contents. It may include technologies specific to the school (e.g., interactive whiteboards) or those used across formal/informal boundaries (e.g., edugames) and, last, it includes both stand alone and online, networked technologies. (Livingstone, 2012, p. 13)

Asabere and Enguah (2012) have also delineated ICT as "the tools, facilities, processes, and equipment that provide the required environment with the physical infrastructure and the services for the generation, transmission, processing, storing and disseminating of information" in the forms of "voice, text, data, graphics and video" (cited in Çakici, 2016, p. 74), including computers, office applications (e.g., office word, PowerPoint, drawing tools), CD-ROMs, DVD players, the Internet (e.g., websites and software), mobile phones, electronic dictionaries, digital cameras and videos, films, filmstrips, and overhead projectors.

2.2 Technology and Language Teaching/Learning

Technology offers many valuable opportunities in language teaching. According to Haddad and Jurich (2002), technology has "the potential to improve educational quality" (cited in Im, 2009, p. 40). Likewise, Ferrer (1998) argues that "technology has the capacity to affect the efficiency and productivity of education" (p. 1). Moreover, Jayanthi and Kumar (2016) claim that technology has "changed the pace of teaching strategies to suit the goals of the materials and the needs of his students" (p. 35). Patel (2014) also holds the view that technology makes "teaching more productive in terms of improvements" (p. 116). Finally, Livingstone (2012) believes that technology "can improve the quality of teaching, learning and management in schools and so help raise standards" (p. 9).

Equally, technology suggests so many beneficial chances for language learners. For instance, Chapelle (2009) argues that "technology dramatically extends and changes the breadth and depth of exposure that learners can have with the target language and interactive events in which they have the opportunity for language focus" (p.750). Moreover, Haddad and Jurich (2002) advocate that technology can facilitate learners' inquiring aptitudes, increase their participation and motivation through the provision of authentic and challenging materials, and stimulate and satisfy their visual and auditory senses (Cited in Im, 2009, p. 42). Likewise, Nichol et al., (2003) cite that "ICT is a tool whose facilities enable pupils to extend their understanding beyond what they would have developed when using equivalent non-ICT media" (202).

While extensive research has emphasized the benefits of technology in education, several studies have also explored its drawbacks. For instance, Spitzer (2014) demonstrates the severe down-side of technology through the provision of examples from the published literature, especially studies done in the US, Austria, Germany, Israel, Romanian, and China: Declining learners' reading and writing capabilities, increasing the number of technology-addicts, causing shallow information processing, lowering neuroplasticity (i.e., neural connections change with their use), and growing the frequency of distracting behaviors. Likewise, Carr (2011) argues that the shift from paper to screen not only changes our navigating mode of a piece of writing but "also influences the degree of attention we devote to it and the depth of our immersion in it" (p. 90), and "when we go online, we enter an environment that promotes cursory reading, hurried and distracted thinking, and superficial learning" (p. 116). Moreover, Cordes and Miller (2000) blame technology for interrupting the development of learners' creativity and creating a generation of skilled technicians

who use it only to access existing information. Finally, Ferguson (2005) assumes that technology reduces critical thinking and chances of face-to-face interaction.

2.3 Technology and Teacher Self-efficacy

Teacher self-efficacy (TSE) reflects teachers' beliefs about their capacity to affect student performance (Ashton, 1985). Self-efficacy has generally been described as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). Drawing on Bandura's self-efficacy conceptualization, Tschannen-Moran et al., (1998) define TSE as "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233). Later, Tschannen-Moran and Woolfolk Hoy (2001) define it as a teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p.783), and put forward a TSE model which identifies efficacy for Instructional Strategies (referring to teachers' beliefs in their capability to use various instructional strategies for efficient teaching), Student Engagement (denoting the confidence of teachers in their ability to provide individualized instruction), and Classroom Management (concerning with teachers' ability in maintaining order in the classroom).

The sense of efficacy is a very influential construct in the teaching profession. Teachers with high self-efficacy levels have a greater commitment to their job, spend more time on planning and organizing classroom activities, exhibit increased receptivity toward emerging methodologies and concepts, approach classroom difficulties with resilience and determination, and devote their energies to student guidance, improvement, motivation, and engagement (Alibakhshi et al., 2020; Gacayan, 2025; Khezerlou, 2017; Portaro, 2024). In classrooms with teachers experiencing more efficacy, students also are more academically motivated and more likely to achieve success (Ross, 1992). In contrast, teachers with low self-efficacy devote more time to non-academic matters, harbor pessimistic thoughts about their accomplishments, give up students who fail to succeed quickly, criticize others for their failures, and are more likely to report higher levels of anger, depression, anxiety, helplessness, and stress (Gacayan, 2025; Portaro, 2024; Tschannen-Moran & Woolfolk Hoy, 2001).

The association between technology and teacher self-efficacy has been confirmed in the literature (e.g., Baroudi & Shaya, 2022; Dolighan & Owen, 2021; Hershkovitz et al., 2023). Alibakhshi et al. (2020), for instance, in their study among Iranian EFL teachers revealed that 65% of the participants proposed that "self-efficacious teachers frequently use a computer and educational technology in their classes." (p. 9). Valtonen et al. (2015) also reported that "teachers' self-efficacy positively affected their intention to use information and communication technology" (Cited in Joo et al., 2018, p. 50). Likewise, Anderson et al. (2011) and Albion (2001) regarded teachers' self-efficacy beliefs as critical for explaining their use of technology in the classroom. However, it should be cleared that "self-efficacy beliefs do not automatically translate into the actual use of technology among teachers" (Gomez Jr et al., 2022, p. 161), but rather they are "a necessary condition for technology integration" (Wang et al., 2004, p. 242). As commented by some scholars (Joo et al., 2018; Tzafilkou et al., 2021; Wijnen et al., 2021), self-efficacy beliefs play a key role in teachers' technology integration preparedness, intended use, and actual use. Similarly, Artino (2012) argues that high self-efficacy in one area may not necessarily coincide with high self-efficacy in another area. That is to say, teacher efficacy and technology self-efficacy in the classroom are considered as two different domains, and self-efficacy simply indicates how strongly one believes in her/his ability to perform a given task. Technological self-efficacy defined "as the belief in one's ability to successfully perform a technologically sophisticated new task" is a specific application of the broader and more general construct of self-efficacy (McDonald, & Siegall, 1992, 467).

2.4 Evaluation of CD-ROMs

"The ability to evaluate teaching materials effectively is a very important professional activity for all English as a Foreign Language (EFL) teachers" (McDonough et al., 2013, p.50). Schreck and Schreck (1991) argue that evaluation of computer-based materials is treated much like other instructional tools: First, the medium is identified, then, an evaluating tool based on the anticipated outcomes is applied, and lastly, the review process is implemented. In this regard, Gunter and Gunter (2015) also contend that "to evaluate an item is to determine its value or judge its worth" before, during, and after the instruction, and it involves a set of principles, methods, and techniques for systematically judging the potential value of the medium in supporting and enhancing the set goals and objectives (p. 352).

A digital medium is usually gauged to determine its usability and usefulness. The former refers to the ease with which one can accomplish a given task with the medium. This criterion is associated with functional correctness (i.e., the words are spelled correctly, the fonts are legible, the margins are set correctly, and the resources linked to the instructional material are available), perceptual efficiency (i.e., the minimal effort exerted by the user to perceive the presented material), and technological efficiency (i.e., it takes less computational resources to present or transmit the material). While the latter refers to the capability of the medium in meeting the pedagogical goals. It is related to pedagogical effectiveness, cognitive efficiency (i.e., the minimal effort exerted by the user to learn the presented material), and appeal (Joo et al., 2018; Matusiak, 2012).

According to the Norwegian Centre for ICT in Education (n.d.) in Education, there are three broad categories of criteria for evaluating a digital resource: User (i.e., considering the interface between the user and the digital resource), Distinctiveness (i.e., dealing with the possibilities and limitations of the digital resource), and Education (i.e., assessing the potentiality of the digital resource in meeting the educational goals). Numerous studies have also been conducted to measure the effectiveness of digital media in education. Sander et al. (2003), for instance, employed the following five criteria in their evaluation of two CD-ROMs on Cell Biology: Quality of media (embracing the conceivable quality of films, graphics, and images), Content (stating whether the presented content is scientifically correct), Use of multimedia (considering the quality of integration of the features, such as 3-D objects, virtual laboratories, and interactive animations), Didactical approach (assessing whether a satisfactorily didactical approach has been achieved), and Navigation (dealing with the ease of finding relevant content and maintaining orientation when browsing in the program). Recently, Pokrivcakova (2017, p. 14-15) evaluated the CD-ROM materials published for the pre-primary English courses in the Czech Republic and Slovakia on the basis of the following eight criteria:

- Pointless: The medium itself is the goal of activity rather than a means of education.
- Nonstandard: The educational standards of a country have not been reflected in the software's content.
- Robotic: The activities do not require the learners to develop their creative thinking abilities.
- Glib: The medium offers only deductive (mechanical) learning rather than helps the learners to explore something or ask questions.
- Static: The medium is not helpful in developing and modifying the learners' knowledge, skills or opinions.
- Disneyfied: The medium was designed to be more acceptable or attractive for its own sake, that is, "the attractive design seems to be more important than the quality of educational content; the activities are designed to be first-plan attractive without any connection to the development of learners' knowledge or skills" (p. 15).

- Flashy: The medium distracts the learners' attention because of its poor animation and sound effects.
- Empty: Learners cannot acquire new things from the teaching activities.

2.5 EFL CD-ROMs in Iranian Senior High Schools

Compact Discs (CD-ROMs) materials, which are pre-pressed optical discs combining and containing large amounts of digital audiovisual data, play an important role in helping students understand the referential and social meanings of the real world. To address the significance of integrating technology in senior public high schools, the Educational Ministry of Iran produced CD-ROM materials to bring fresh air into the classroom after the course books. These digitalized resources were presently favored in the EFL context of Iran because they did not need the Internet but permitted the simultaneous use of visual (text, animation, images, videos) and auditory (sound, voice, music) data. Additionally, their running just required a computer with a CD-ROM drive, which is nearly found on all computers.

The EFL CD-ROMs, which are the only spinoff of the senior high school courses, present almost the same content as in the course books (i.e., the Vision Series of senior high school course books). There is only some supplementary information in the form of virtual animations, moving pictures, and short films to provide a more comprehensive background to each lesson. Replicating the precise structure and sequencing of the coursebooks, these digital materials primarily present the content of each lesson in seven systematically organized sections, namely: 'Conversation', 'New Words and Expressions', 'Reading and Reading Comprehension Exercises', 'Grammar or Structural Presentation and Exercises', 'Listening and Speaking', 'Pronunciation Presentation and Practice', and 'Writing'.

Although numerous studies (e.g., Ajideh & Panahi, 2016; Dabbagh & Safaei, 2019; Dashtestani, 2014; Khatoony & Nezhadmehr, 2020; Janfeshan, 2018; Taherkhani et al., 2017) have highlighted the inadequacies of the new senior high school coursebooks in these areas, comparable deficiencies are likewise evident in the accompanying CD-ROMs, which warrant further attention. The most salient shortcomings can be summarized as follows: the reading texts lack sufficient depth and engagement, thereby limiting learners' ability to fully comprehend and internalize their intended messages. The communicative dialogues are overly brief, failing to reflect authentic interactional patterns, and have been further reduced by the exclusion of boy–girl exchanges for localized purposes, which diminishes their representativeness. Similarly, the language function sections adopt a highly mechanical approach that restricts learners from engaging in natural and meaningful language production. Moreover, the textbook is largely deprived of target-language cultural elements, a deficiency that negatively impacts the process of foreign language acquisition.

3. Research Methods

3.1 Research Design

The research design employed in the study was a quantitative method that relies on measuring variables using a numerical system, analyzing these measurements by a variety of statistical models, and reporting relationships and associations among the studied variables.

3.2 Participants

The participants were 146 Iranian in-service teachers who were teaching English as a foreign language in the public senior high schools of the East Azerbaijan province of Iran during the 2020-2021 academic year. Their age and work experience ranged between 28-56 and 2-29, respectively. The convenience sampling method was adopted in the study which involves collecting data from

population members who are conveniently available to participate in the study, that is, every teacher who answered the questionnaires was a potential participant of the study.

3.3 Instruments

Three types of questionnaires were used in the study: (A) A single question measuring on a 5-point Likert scale (i.e., Never=1, Rarely=2, Sometimes=3, Often=4, and Very Often=5) inquired the teachers to give their opinions about the extent to which they used the CD-ROMs materials in their classes (i.e., How often do you use the English CD-ROMs materials in your classes?).

(B) Using the literature, a CD-ROMs Evaluation Scale was developed to measure the teachers' attitudes about the effectiveness of EFL CD-ROM materials in Iranian senior high schools (See appendix A). The scale assessing through a 5-point Likert scale (Strongly disagree= 1 to Strongly agree= 5) embodies three dimensions, each with 10 items: (a) *Instruction Quality* (IQ) considers the effectiveness of the CD-ROMs materials in facilitating a teacher's overall plan of instructional activities to achieve the instructional goals. The materials were examined to see if they are instructionally focused (i.e., Are the instructional purposes easily achieved? or Are they in alignment with the curricular standards?), engaging (Are students easily engaged in teaching activities and tasks that promote critical thinking, communication, collaboration, and/or creativity?), and informative (i.e., Is there any instructional record or tool to help gauge and evaluate the student performance?) in supporting the pedagogical goals; (b) *Content Quality* (CQ) refers to the usefulness of the presented information (e.g. text, audio, video, graphics, visual aids, etc.) to the learners or teachers through the CD-ROMs materials. The contents were inspected to know whether they are accurate (i.e., Is the presented content free of errors, bias, or outdated materials that could confuse or mislead students?), adequate (i.e., Is the provided content adequate to address the stated or implied learning goals?), and appropriate (i.e., Is the content at an appropriate level for the target audience? and does it interest them?) in supporting the pedagogical goals; (c) *Technical Quality* (TQ) denotes to the efficiency of the technological elements (e.g. font, size, text legibility, video or sound quality, headings, effects, graphics, and the material organization) of the CD-ROMs materials in supporting the teachers' instructive plans. These features are tested to see if they are purposeful (i.e., Are the technology elements purposeful, enhancing content presentation and instruction, and serving in support the learning and teaching goals?), reliable (i.e., Do the technology elements work reliably as intended in the context?), usable (i.e., Are the technology elements easy to understand and use?), and accessible (i.e., Can the technology elements be accommodated to the needs and interests of the educational environments and learners?). The factor structure, reliability, and validity of the measure were examined with 42 participants in a pilot study. The resulting instrument included 30 items, each with eigenvalues greater than one in the dimensions. In this study, however, the Cronbach's alpha reliability coefficients of the dimensions were $r = 0.72$, $r = 0.78$, and $r = 0.81$ for IQ, CQ and TQ, respectively.

(C) The Teachers' Self-Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001) was used to measure the self-efficacy beliefs of the teachers. It consists of 24 items based on a Nine-point Likert scale ranging from Nothing=1 to A Great Deal= 9. The scale includes three subscales of (a) Instructional Strategies referring to the teachers' beliefs in their ability to provide instruction so that maximum goals of the program to be achieved, (b) Student Engagement denoting the confidence of teachers in their capacity to cultivate an engaging classroom environment for their students, (c) Classroom Management concerning with the teachers' skills and capabilities to run their classrooms smoothly, without disruptive behavior from students. Each subscale has eight items distributed as 7, 10, 11, 17, 18, 20, 23, and 24 items for Instructional Strategies (e.g., "To what extent can you provide an alternative explanation or example when students are confused?"), 1, 2, 4, 6, 9, 12, 14, and 22 items for Student Engagement (e.g., "How

much can you do to motivate students who show low interest in school work?"), and 3, 5, 8, 13, 15, 16, 19, and 21 items for Classroom Management (e.g., "How much can you do to get children to follow classroom rules?"). Each subscale's score ranges from 8 to 72. High alpha reliability coefficients were reported for the scale (r =.94) and the three sub-scales of Instructional Strategies (r =.91) Student Engagement (r =.87) Classroom Management (r =.90) (Tschannen-Moran & Woolfolk Hoy, 2001). In the present study, however, the reliability coefficient of the 24-item scale was r =.82, while that of the *Instructional Strategies*, *Student Engagement*, and *Classroom Management* subscales were r = 0.86, r = 0.81, and r = 0.74, respectively, indicating a very acceptable reliability coefficient for the scale and subscales. The reason for choosing this scale is that it is a very reliable and valid measure and interweaves classroom instruction and classroom management as well.

3.4 Data Analysis

Prior to collecting data, permission was obtained from the educational ministry zone of East Azerbaijan province in Iran. The data were collected through paper-and-pencil and Internet-based surveys from cities situated in East Azerbaijan province, mainly from Tabriz. The collected data were entered into the SPSS version 27 for Windows for further analysis. The three dimensions of the CD-ROMS Evaluation Scale (i.e., IQ, CQ, and TQ) were the independent variables of the study, while the three subscales of teacher self-efficacy (i.e., the *Instructional Strategies*, *Student Engagement*, and *Classroom Management*) were the dependent variables. Descriptive and inferential statistics such as percent, mean, correlation, and standard multiple regression were used for determining and explaining the relationship between the variables.

3.5 Validity and Reliability

The item selection of the self-developed CD-ROMs Evaluation measure was carried out by means of a literature review and a panel of 6 experts at the Educational Ministry of Iran and Azerbaijan Shahid Madani University in Tabriz/East Azerbaijan. In the final selection, the instrument included 30 items, each with eigenvalues greater than one in the three dimensions of IQ, CQ, and TQ. The construct validity of the scale was established with a sample of 42 students in a pilot study. The Cronbach's alpha reliability coefficients of the dimensions were r = 0.72, r = 0.78, and r = 0.81 for IQ, CQ, and TQ, respectively. Thus, these metrics proved that the scale is valid and reliable enough.

4. Results

4.1 Use of CD-ROMs

The aggregate scores of the 'sometimes', 'often' and 'very often' scales of the first research question showed that 71.23% of EFL teachers used the CD-ROM materials in their classes, whereas that of 'never' and 'rarely' scales disclosed that 28.77 % of them did not use or hardly used the CD-ROM materials in their classes. See Table 1.

Table 1: The use of CD-ROM materials

			Scale									
	Subjects		Never		Rarely		Sometimes		Often		Very Often	
	N	%	F	%	F	%	F	%	F	%	F	%
Use	146	100	23	15.75	19	13.01	38	26.03	41	28.08	25	17.13

4.2 CD-ROMs Effectiveness

The mean scores of the subscales revealed that the CD-ROM materials were highly valued in terms of TQ (m= 1015.2), followed by CQ (m= 981.8) and IQ (m= 823.4). See Table 2 and Appendix A.

Table 2: Effectiveness of CD-ROM materials

Quality	Subscales	N	Scale												
			SD		*D*		*U*		*A*		*SA*		*Total*		*Mean Score*
			F	%	F	%	F	%	F	%	F	%	F	%	
Instructional	Focus	146	127	21.7	184	31.5	48	8.2	146	25	79	13.5	584	100	80.9
	Engagement	146	94	16.1	161	27.6	33	5.6	198	33.9	98	16.8	584	100	89.8
	Informativeness	146	87	29.8	113	38.7	6	4.1	59	20.2	27	9.2	292	100	70.2
	Total sum	-	308	21	458	31.4	87	6	403	27.6	204	14	1460	100	-
	Total score	-	308		916		261		1612		1020		4117		823.4
Content	Accuracy	146	51	8.7	126	21.6	18	3	262	44.9	127	21.8	584	100	102
	Adequacy	146	64	14.6	146	33.3	47	10.7	108	24.7	73	16.7	438	100	86.2
	Appropriateness	146	36	8.3	88	20.1	17	3.8	173	39.5	124	28.3	438	100	105
	Total sum	-	151	10.3	360	24.7	82	5.6	543	37.2	324	22.2	1460	100	-
	Total score	-	151		720		246		2172		1620		4909		981.8
Technical	Purpose	146	42	9.6	62	14.2	39	8.9	199	45.4	96	21.9	438	100	103.9
	Reliability	146	12	8.2	27	18.5	9	6.1	56	38.4	42	28.8	146	100	105.4
	Usability	146	58	9.9	127	21.7	57	9.8	202	34.6	140	24	584	100	99.5
	Accessibility	146	32	10.9	48	16.5	42	14.4	105	35.9	65	22.3	292	100	99.9
	Total sum	-	144	9.9	264	18	147	10.1	562	38.5	343	23.5	1460	100	-
	Total score	-	144		528		441		2248		1715		5076		1015.2

Strongly disagree= SD, Disagree= D, Undecided= U, Agree= A, and Strongly agree= SA

Moreover, the results revealed that the high-valued and least-valued dimensions of IQ were Engagement (m=89.8) and Informativeness (m=70.2), that of CQ were Appropriateness (m=105.0) and Adequacy (m=86.2), and that of TQ were Reliability (m=105.4) and Usability (m=99.5), respectively.

4.3 CD-ROMs Effectiveness and Teacher Self-efficacy

To explore the relationship between the CD-ROM effectiveness and teacher self-efficacy perceptions, a Pearson Product-Moment correlation was run. The results indicated a positive correlation between the Instructional Quality and Engagement (r = .448, P<0.05), Content Quality and Engagement (r = .492, P<0.05), and Technical Quality and Management (r = .532, P<0.05) dimensions. See Table 3.

Table 3: Correlation between teacher self-efficacy and CD-ROM effectiveness

Subscales		*Instruction*	*Engagement*	*Management*
IQ	Pearson Correlation	.427**	.448**	.387**
	Sig. (2-tailed)	.000	.000	.000
	N	146	146	146
CQ	Pearson Correlation	.478**	.492**	.463**
	Sig. (2-tailed)	.000	.000	.000
	N	146	146	146
TQ	Pearson Correlation	.341**	.367**	.532**
	Sig. (2-tailed)	.000	.000	.000
	N	146	146	146

** Correlation is significant at the 0.01 level (2-tailed).
Instructional Quality= IQ, Content Quality= CQ, and Technical Quality= TQ

Moreover, to determine the efficacy effect of the CD-ROMs on teacher self-efficacy, stepwise-method regression analyses were run. The results revealed that IQ had a significant linear relationship with the Instruction (t=2.178; P=0.034, P<0.05), Engagement (t= 2.936; P=0.009, P<0.05), and Management (t=2.647; P=0.005, P<0.05) dimensions of teacher self-efficacy; CQ with the Instruction (t=-2,846; P=0.002, P<0.05), Engagement (t=4.575; P=0.000, P<0.05), and Management (t=3.943; P=0.000, P<0.05); and TQ with Engagement (t=2.259; P=0.033, P<0.05) and Management (t=4.215; P=0.000, P<0.05). See Table 4.

Table 4: Coefficients of teacher self-efficacy and CD-ROM effectiveness

Subscales	*Instruction*				*Engagement*				*Management*			
	Beta	*t*	*Sig.*	R^2	*Beta*	*t*	*Sig.*	R^2	*Beta*	*t*	*Sig.*	R^2
IQ	.217	2.178	.034	.027	.294	2.936	.009	.048	.249	2.647	.005	.024
CQ	-.297	-2.846	.002	.039	.357	4.575	.000	.162	.298	3.943	.000	.061
TQ	-.147	-1.668	.072	-	.174	2.259	.033	.037	.318	4.215	.000	.117
All subscales	Total R^2=.106				Total R^2= .364				Total R^2=.239			

The results also disclosed that the effectiveness of CD-ROMs accounted for 10.6, 36.4, and 23.9 percent of the Instruction, Engagement, and Management dimensions of teacher self-efficacy, respectively. Moreover, the strongest predictor of Instruction (t=-2.846; *Beta*=-.297) and Engagement (t=4.575; *Beta*= .357) was CQ, while that of Management (t= 4.215; *Beta*=.318) was TQ. See Table 4.

5. Discussion

The present study aimed to identify the extent to which Iranian senior high school EFL teachers use the CD-ROM materials in their classes, determine their attitudes towards the effectiveness of these materials, and explore their effect on the self-efficacy beliefs of the teachers. Regarding the first research question, the results showed that the majority of high school EFL teachers (71.23%) utilized the CD-ROMs in their classes, despite having to adhere to "rigid syllabi and materials which are dictated to them by their educational authorities and institutions" (Dashtestani, 2014, p. 7) (see Table 1). This finding aligns with previous research suggesting that Iranian EFL teachers are generally technophiles rather than technophobes (Alibakhshi et al., 2020; Dashtestani, 2014; Khatoony & Nezhadmehr, 2020). However, it contrasts with Jahanban-Isfahlan et al.'s (2017) conclusion that Iranian EFL teachers in high schools make very limited use of educational technology in their classrooms.

Technophiles are individuals who enthusiastically embrace technology, integrating it into their practices and viewing digital tools as vital for enhancing efficiency and fostering innovation. Likewise, technophile teachers tend to incorporate multimedia, online platforms, and AI-powered tools to design interactive, student-centered learning environments, whereas technophobes due to anxiety, limited digital literacy, or lack of confidence often depend on traditional methods that restrict opportunities for digital literacy and active engagement. (Ghaemi & Attaei, 2022). In EFL schooling, recent studies (e.g., Cahyono et al., 2020; Samir & Tabatabaee-Yazdi, 2023; Yang & Wang, 2023) also emphasize that AI-assisted tools, automated assessment systems, and large-scale datasets significantly improve teaching effectiveness and provide timely feedback more efficiently than before. In line with these studies, the findings highlight the need for professional development programs to support educators in overcoming technophobia in their practice.

In relation to the second research question, the findings showed that the CD-ROM materials were highly useful and applicable in terms of *Technical Quality* (M =1015.2). Accordingly, the

materials were rated as highly reliable (M =99.5), purposeful (M =103.9), and accessible (M =105.4), yet their usability was found to be insufficient (M = 99.5) (see Table 2). One feature that principally contributes to a product's usability is satisfaction, achieved by fostering positive user responses and delivering a flawless product (Langendorf & Khalid, 2025; Remmen et al., 2025). The contents of the Iranian senior high school CD-ROM materials were narrated by the non-native speakers (i.e., who have learned to speak English well and hold a shared cultural background with the students) rather than by the mother-tongue speakers (i.e., who do not share the cultural, social, and emotional experience of the students). This factor might have a big effect on the limited usability of the CD-ROM materials. As Janfeshan (2018) rightly pointed out, Iranian learners typically favor native-accented pronunciation models over the foreign-accented ones. Another factor contributing to the imperfect usability could be the exact duplication of textbook content in the CD-ROM materials, thereby offering insufficient opportunities for meaningful interaction. Abdollahi-Guilani et al., (2011) and Vahdany et al. (2025) highlighted this limitation of the new high school course books (Vision Series), noting that the communicative dialogues do not adequately reflect authentic interactions. Additionally, the poor usability may be linked to the storage conditions of the CD-ROMs (e.g., temperature, humidity, and scratch), which are vital for preserving product quality. Optical disks store data at a high density, and their plastic-and-metal layered composition makes them highly vulnerable to damage; thus, even minor deterioration can lead to substantial data loss. For this reason, these materials are not suitable for long-term use (Iraci, 2018).

The results of the second research question also revealed that the CD-ROM materials were considerably beneficial in terms of *Content Quality* (M = 981.8). Consequently, teachers assigned higher scores to Appropriateness (M = 105) and Accuracy (M = 102), but a lower score to Adequacy (M = 86.2) (see Table 2). This finding aligns with several previous studies (e.g., Ajideh & Panahi, 2016; Barzan & Sayyadi, 2023; Banaruee et al., 2023; Dabbagh & Safaei, 2019; Ghaderinezhad, 2021; Khalili, 2024; Pirzad & Abadikhah, 2022), which showed that the new course books (Vision Series) outperform the old ones by offering engaging topics, featuring pedagogical visuals, contributing more authentic and learner-driven resources, aligning the content with learners' proficiency level, emphasizing the communicative aspects of language, integrating the four language skills, incorporating purposeful tasks, addressing students' educational and real-world needs, and eliminating misleading content. However, they are still inadequate in enabling more dynamic and responsive teaching practices (Gholami, 2024), developing students' writing skills (Sadeghi, 2024), delivering adequate opportunities for pronunciation practice (Aghazadeh & Ajideh, 2014), enriching the culture of English-speaking countries (Maghsoudi & Khodamoradi, 2023), providing an in-depth inquiry into the communicative nature of speaking sections (Vahdany et al., 2025), fostering creativity and discovery-based learning (Solati, 2024), and containing instances of gender bias and inequality (Soodmand Afshar et al., 2018; Taherkhani et al., 2017).

Lastly, the findings for the second research question revealed that the CD-ROM materials received a very low score in *Instructional Quality* (M = 823.4). In this domain, teachers found the materials more engaging (M = 89.8) and focused (M = 80.9), but less informative (M = 70.2) (See Table 2). The low informativeness index is likely due to the CD-ROM resources' disregard for including assessment tools. These evaluative instruments are pivotal in education as they provide structured methods for fostering a dynamic learning environment, monitoring student progress, tailoring teaching strategies, offering timely and actionable feedback, guiding instructional decisions, and enhancing educational outcomes (Amirian, 2025, Kang, 2023; Roe et al., 2025). Moreover, they contribute to a culture of accountability and continuous improvement within educational institutions (Albakri, 2024). Therefore, Iranian material designers should supply evaluative tools

along with digital resources to support teachers in improving the quality of their instruction through ICT.

With respect to the third research question, the correlational findings demonstrated a positive relationship between the *Instructional Quality* dimension of CD-ROM effectiveness and the *Engagement* dimension of teacher self-efficacy (see Table 3). The result suggests that higher levels of instructional quality are associated with increased student engagement. When instruction is clear, well-organized, and pedagogically effective, students are more likely to participate actively, sustain attention, and demonstrate commitment to learning tasks. Empirical studies (e.g., Alibakhshi et al., 2020; Benlioğlu et al., 2023; Rabanes & Paglinawan, 2025; Zhou & Liu, 2025) have demonstrated that that effective instruction not only facilitates comprehension but also fosters an interactive learning environment, thereby enhancing students' cognitive, emotional, and behavioral engagement. This relationship highlights the essential role of well-designed instructional materials in enabling teachers to foster meaningful and sustained student engagement throughout the learning process.

A positive significant association was also observed between *Content Quality* dimension of CD-ROM effectiveness and the *Engagement* dimension of teacher self-efficacy (see Table 3). The finding verified that pedagogically effective content significantly contributes to fostering student engagement. Content that is relevant, coherent, and suitably challenging promotes students' sense of competence and intrinsic motivation, thereby increasing sustained attention and active participation. Research has also shown that content aligning with students' prior knowledge and interests can trigger curiosity, provoke critical thinking, and facilitate meaningful learning experiences, thus reinforcing engagement at both individual and collective levels (e.g., Mitrulescu & Negoescu, 2024; Walsh et al., 2021).

Finally, the correlational findings indicated a significant positive relationship between the *Technical Quality* dimension of CD-ROM effectiveness and the *Management* dimension of teacher self-efficacy (see Table 3). The finding emphasizes the interplay between the technical quality and classroom management within educational contexts. This interaction is particularly significant because digital resources or instructional technologies characterized by high technical quality enable teachers to manage their instructional processes more effectively, thereby enhancing student engagement, self-efficacy, and learning outcomes (Fenyi & Owusu, 2022; Mahmoud & Bawaneh, 2025). Conversely, deficiencies in technical quality often undermine managerial efforts, generating inefficiencies that obstruct pedagogical objectives. As Li (2010) noted, her job confidence improved when she could rely on the usefulness of the available resources. Similarly, Chen and Yeung (2015) cited that Zhang (2010) "considered the availability of good technical support as a facilitator for her to implement communicative language teaching more effectively" (p. 37). Accordingly, educators and instructional designers should prioritize the development of materials that are both pedagogically sound and content-effective, capable of capturing learners' interest and maintaining their engagement throughout the learning process. Furthermore, material developers should equip teachers with technologically robust resources to enhance classroom management in CALL/TELL instruction.

In light of the regression results, the strongest predictive indices were found between *Content Quality* and the *Instruction* dimension (t = -2.846, β = -.297), as well as the *Engagement* dimension (t = 4.575, β = .357) of teacher self-efficacy (see Table 4). The findings indicate that meaningful content occupies a central position in the teaching and learning process while also fostering greater student engagement. As Galloway and Rose (2018) note, the lack of suitable content is one of the key barriers to incorporating new approaches and methods into ELT classrooms and developing the right learning perspectives in students. Additionally, McGrath (2013) argues that engaging

learners in the content is one way to arouse their curiosity. This result is consistent with the findings of Janfeshan (2018) and Taherkhani et al. (2017), who argued that the new EFL course books (Vision Series) used in Iranian senior high schools have been updated in accordance with shifts in teaching approaches and methods to offer more engaging content for students. Thus, CD-ROM resources may be considered effective in enabling EFL teachers to utilize varied instructional approaches and capture learners' interest in the content. A highest degree of prediction index was also observed between Technical Quality and Management (t = 4.215; Beta = .318) dimension of teacher self-efficacy (See Table 4). As indicated by the correlational results, the regression findings corroborated the interplay between the technical quality and classroom management, that is, functionally effective materials could dramatically decrease classroom disruptions, and let the teachers accomplish their duties effectively.

Lastly, the regression results demonstrated that the CD-ROMs' overall effectiveness accounted for 36.4 % of Engagement, 23.9 % of Management, and 10.6% of Instruction dimensions of teacher self-efficacy (See Table 4). The substantial shared variance between the first two variables (i.e., Engagement and Management) and the effectiveness of the CD-ROMs indicates that these digital resources effectively supported teachers in both promoting student engagement in instructional activities and managing classroom behaviors. This suggests that the CD-ROMs were intentionally designed to fulfill their intended functions within a technology-integrated classroom context. The finding supports Ozder's (2011) assumption that student engagement and classroom management "are the major aspects of teaching in which novice teachers demonstrate low teacher self-efficacy" (cited in Chen & Yeung, 2015, p. 33). Furthermore, as Marzano (2003) emphasized, effective teaching and learning are unlikely to occur in the absence of proper classroom management.

Overall, the findings indicated that most Iranian senior high school teachers expressed positive attitudes toward the integration of ICT in EFL instruction, reflecting their recognition of CD-ROM materials as valuable resources for enhancing instructional effectiveness and promoting pedagogical innovation. These materials were found to be sufficiently effective in achieving their intended instructional purposes, thereby strengthening teachers' confidence not only in employing technology but also in attaining desired educational outcomes. Moreover, the effectiveness of the CD-ROM materials in senior high schools was positively linked to teachers' self-efficacy perceptions, highlighting the role of high-quality digital resources in supporting coherent instruction, fostering student engagement, and facilitating effective classroom management. Accordingly, the provision of intuitive, reliable, and pedagogically relevant tools can reduce anxiety and cognitive overload among teachers and learners, enabling them to focus on meaningful instructional activities and ultimately achieve more successful learning outcomes.

6. Conclusion and Implications

The present study aimed to identify the extent to which Iranian senior high school teachers used CD-ROM materials in their classrooms, ascertain the efficiency of these materials and determine how the CD-ROMs' effectiveness influenced the teachers' self-efficacy tendencies. The results indicated that 71.23% of the sampled EFL teachers frequently used CD-ROM materials in their classes. Moreover, the CD-ROM materials were highly efficient in terms of TQ, CQ, and IQ, respectively. Finally, the results disclosed that the CD-ROMs' effectiveness (i.e., TQ, CQ, and IQ), positively relating to the teachers' self-efficacy perceptions, accounted for 36.4% of *Engagement*, 23.9% of *Management*, and 10.6% of *Instruction* dimensions of teacher self-efficacy, where the strongest predictor of Instruction and Engagement dimensions was CQ, and that of Management was TQ. Thus, the study concluded that Iranian EFL teachers hold technophile attitudes, the Vision Series CD-ROM materials demonstrate sufficient technical quality, and the well-structured

content of the CD-ROM resources significantly enhances Iranian teachers' self-efficacy by enabling them to deliver high-quality instruction, actively engage students in the learning process, and manage their behaviour effectively during the teaching process.

The findings could be beneficial for those Iranian teachers who are interested in integrating the CD-ROM technology into their instructional methods, increasing their self-confidence and knowledge in their use, and enhancing their awareness about the relation between the CD-ROMs' effectiveness and teacher self-efficacy. They may also improve the knowledge of investigators who are interested in teacher self-efficacy and its role in technology-supported educational contexts.

7. Limitations and Recommendations

The results of the study should be interpreted with caution because of its reliance on the self-report data, that is, the accuracy of the results depended on the degree to which the participants had wished to release their feelings. Moreover, the participants were Iranian in-service senior high school EFL teachers in the East Azerbaijan educational zone of Iran during the 2020-2021 academic year; therefore, the results should not be generalized beyond the studied region and period. However, the author believes that there is a need to test the self-developed CD-ROMS measuring tool with different groups to verify the robustness of the procedures and results.

References

Abdollahi-Guilani, M., Subakir Mohd Yasin, M., & Hua, K. T. (2011). Authenticity of Iranian English textbooks for schools. *English Language and Literature Studies, 1*(2), 25-30. www.ccsenet.org/ells

Aghazadeh, Z., & Ajideh, P. (2014). A comparative study of Iranian EFL teachers' versus learners' perceptions of high school English textbooks. *Advances in Language and Literary Studies, 5*(4), 1–16. https://doi.org/10.7575/aiac.alls.v.5n.4p.1

Ajideh, P., & Panahi, M. (2016). An analysis of culture-related content in English textbooks for Iranian students entitled 'Prospect' and 'Vision' Series. *International Journal of Language and Linguistics, 3*(6), 87-93. http://ijllnet.com/journals/Vol_3_No_6_December_2016/10.pdf

Albakri, R. H. (2024). Using self-assessment tools to enhance English language skills in an online learning environment. *Arab World English Journal (AWEJ), 15*(2), 40–51. https://doi.org/10.24093/awej/vol15no2.3

Albion, P. R. (2001). Some factors in the development of self-efficacy beliefs for computer use among teacher education students. *Journal of Technology and Teacher Education, 9*(3), 321-347.

Alibakhshi, G., Nikdel, F., & Labbafi, A. (2020). Exploring the consequences of teachers' self-efficacy: A case of teachers of English as a foreign language. *Asian Journal of Second and Foreign Language Education, 5*(23), 1-19. https://doi.org/10.1186/s40862-020-00102-1

Amirian, S. M. R. (2025). Understanding EFL teachers' formative assessment literacy: insights from a mixed-methods study. *Language Testing in Asia, 15*(25), 1-15. https://doi.org/10.1186/s40468-025-00363-y

Anderson, S. E., Groulx, J. G., & Maninger, R. M. (2011). Relationships among preservice teachers' technology-related abilities, beliefs, and intentions to use technology in their future classrooms. *Journal of Educational Computing Research, 45*(3), 321-338.

Artino, A. R. (2012). Academic self-efficacy: from educational theory to instructional practice. *Perspectives on Medical Education, 1*, 76-85. https://doi.org/10.1007/s40037-012-0012-5

Asabere, N. Y., & Enguah, S. E. (2012). Integration of expert systems in mobile learning. International *Journal of Information and Communication Technology Research, 2*(1), 55-61.

Ashton, P. T. (1985). Motivation and teachers' sense of efficacy. In C. Ames & R. Ames (Eds.), *Research on motivation in education: The classroom milieu* (Vol. 2, pp. 141–174). Academic Press.

Banaruee, H., Amiri, F., & Rashidi, N. (2023). Curricular evaluation of English textbooks for foreign language education in the Iranian high-school context. *Frontiers in Education, 8*, 112233. https://doi.org/10.3389/feduc.2023.112233

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Baroudi, S., & Shaya, N. (2022). Exploring predictors of teachers' self-efficacy for online teaching in the Arab world amid COVID-19. *Education and Information Technologies, 27*, 1–18. https://doi.org/10.1007/s10639-022-10946-4

Barzan, P., & Sayyadi, A. (2023). The evaluation of "Vision" English textbooks: A literature review. *Journal of Language and Translation Studies, 55*(2), 45-63.

Benek, K. (2025). EFL learners' and teachers' perceptions of AI-powered language learning technologies: Benefits and challenges. *International Journal of Instruction,18*(2), 103-120. www.e-iji.net

Benlioğlu, B., Şahin, B., Sönmez, E., & Solhi, M. (2023). Evaluating the ELT coursebooks for young learners: The issue of affective engagement. *Türk Eğitim Değerlendirmeleri Dergisi, 3*(3), 50–63.

Cahyono, S. I. H., Drajati, N. A., & Ngadiso. (2020). Am I a technophile? The narrative study of teachers' belief about digital literacy. *Linguistics and Education, 14*(1), 1–11. https://doi.org/10.24036/ld.v14i1.106724

Çakici, D. (2016). The use of ICT in teaching English as a foreign language. *Participatory Educational Research (PER), Special Issue IV*, 73–77. http://www.partedres.com

Carr, N. (2011). *The shallows: What the Internet is doing to our brains*. W. W. Norton and Company.

Celce-Murcia, M. (1991). *Teaching English as a second or foreign language* (2nd ed.). Heinle & Heinle Publishers.

Chapelle, C. A. (2009). The relationship between second language acquisition theory and computer-assisted language learning. *The Modern Language Journal, 93*(s1), 741-753. https://doi.org/10.1111/j.1540-4781.2009.00970.x

Chen, Z., & Yeung, A. S. (2015). Self-efficacy in teaching Chinese as a foreign language in Australian schools. *Australian Journal of Teacher Education, 40*(8). https://doi.org/10.14221/ajte.2015v40n8.2)

Cordes, C., & Miller, E. (Eds.). (2000). *Fool's gold: A critical look at computers in childhood*. Alliance for Childhood.

Dabbagh, A., & Safaei, A. (2019). Comparative textbook evaluation: Representation of learning objectives in locally and internationally published ELT textbooks. *Issues in Language Teaching (ILT), 8*(1), 249–277. https://doi.org/10.22054/ILT.2020.48071.440

Dashtestani, R. (2014). EFL teachers' knowledge of the use and development of computer-assisted language learning (CALL) materials. *Teaching English with Technology, 14*(2), 3–27. http://www.tewtjournal.org

Dolighan, T., & Owen, M. (2021). Teacher efficacy for online teaching during the COVID-19 pandemic. *Brock Education Journal, 30*(1), 95-16. https://doi.org/10.26522/BROCKED.V30I1.851

Fenyi, D. A., & Owusu, E. (2022). Classroom management practices of English language teachers: A study of senior high schools in Agona West Municipality. *Annals of Management and Organization Research, 2*(4), 271–287. https://doi.org/10.35912/amor.v2i4.964

Ferguson, S. (2005, June 6). How computers make our kids stupid. *Maclean's, 118*(23), 24–30. https://archive.macleans.ca/article/2005/06/06/how-computers-make-our-kids-stupid

Feroce, N., Liu, J., & Chattergoon, R. (2025). Exploring the impact of a CALL tool for emergent bilinguals. *Educational Technology Research and Development, 73*(6), 1655–1673. https://doi.org/10.1007/s11423-025-10462-5)&#x20

Ferrer, A. T. (1998). The evaluation of education systems: The view at the end of the 1990s. *Quarterly Review of Education, 28*(1). http://www.libe.unesco.org

Gacayan, J. B. (2025). Teachers' technological pedagogical and content knowledge (TPACK) competence and technology integration self-efficacy beliefs for science teaching. *Journal of Interdisciplinary Perspectives, 3*(7), 798- 811. https://doi.org/10.69569/jip.2025.323

Galloway, N., & Rose, H. (2018). Incorporating Global Englishes into the ELT classroom. *ELT Journal, 72*(1), 3-14, https://doi.org/10.1093/elt/ccx010

Ghaderinezhad, M. (2021). Evaluating the Iranian senior ELT high-school Vision textbooks. *Iranian Journal of Applied Language Studies, 13*(2), 111–130.

Ghaemi, H., & Attae, M. (2022). The cultuling analysis of technophobe and technophile EFL teachers' utterances in online classes. *The International Journal of Language and Cultural, 4*(1), 1–23. https://doi.org/10.5281/zenodo.6633866

Gholami, H. (2024). Evaluation of English textbooks (Vision 1–3) based on processability theory. *Teaching and Learning English Language and Translation, 13*(1), 23–45. https://oiccpress.com/oiccpress/article/view/421

Gomez Jr, C. F., Trespalacios, J., Hsu, Y., & Yang, D. (2022). Exploring teachers' technology integration self-efficacy through the 2017 ISTE Standards. *Tech Trends, 66*, 159-171. https://doi.org/10.1007/s11528-021-00639-z

Gunter, A. G., & Gunter, E. R. (2015). *Teachers discovering computers: Integrating technology in a changing world* (8th ed.). Cengage Learning.

Haddad, W., & Jurich, S. (2002). ICT for education: Potential and potency. In W. Haddad & A. Draxler (Eds.), *Technologies for education: Potentials, parameters, and prospects* (pp. 28–40). Academy for Educational Development; UNESCO.

Hershkovitz, A., Daniel, E., Klein, K., & Shacham, M. (2023). Technology integration in emergency remote teaching: Teachers' self-efficacy and sense of success. *Education and Information Technologies*. https://doi.org/10.1007/s10639-023-11688-7

Im, K. (2009). An analysis on the application of CD-ROMs for English teaching in Korean elementary schools. *Multimedia-Assisted Language Learning, 12*(3), 39-66.

Iraci, J. (2018). Blu-ray media stability and suitability for long-term storage. Restaurator. *International Journal for the Preservation of Library and Archival Material, 39*(2), 129–155. https://doi.org/10.1515/res-2017-0016

Jahanban-Isfahlan, H., Hadidi Tamjid, N., & Seifoori, Z. (2017). Educational technology in Iranian high schools: EFL teachers' attitudes, perceived competence, and actual use. *Education Research International, 2017*, Article 9738264. https://doi.org/10.1155/2017/9738264

Janfeshan, K. (2018). Investigating Iranian new senior high school book (Vision 1) based on book evaluation checklist from Kermanshah EFL teachers' perspective [In Persian]. *Language Related Research, 9*(5), 197–239. https://lrr.modares.ac.ir/article-14-16583-en.html

Jayanthi, S. N., & Kumar, V. R. (2016). Use of ICT in English language teaching and learning. *Journal of English language and literature, 3*(2), 34-38. http://joell.in/wp-content/uploads/2016/03/34-38Use-of-ICT-in-English-Language-Teaching.pdf

Joo, Y. J., Park, S., & Lim, E. (2018). Factors influencing preservice teachers' intention to use technology: TPACK, teacher self-efficacy, and technology acceptance model. *Educational Technology & Society, 21*(3), 48-59. http://www.jstor.com/stable/26458506

Kang, M. (2023). *An investigation of university English instructors' formative assessment literacy in China* (Unpublished Doctoral dissertation). Hong Kong Baptist University. https://scholars.hkbu.edu.hk/files/77481069/G23TTHS-026559T.pdf

Khalili, Z. (2024). An intersectional visual analysis of Iranian EFL textbook Vision 2. *Journal of Visual Literacy, 43*(1), 56–74.

Khatoony, S., & Nezhadmehr, M. (2020). EFL teachers' challenges in the integration of technology for online classrooms during coronavirus (COVID-19) pandemic in Iran. *The Asian Journal of English Language & Pedagogy, 9*,1-16. https://doi.org/10.37134/ajelp.vol8.sp.1.2020

Khezerlou, E. (2017). Professional self-esteem as a predictor of teacher burnout across Iranian and Turkish EFL teachers. *Iranian Journal of Language Teaching Research, 5*(1), 113-130. https://doi.org/10.30466/IJLTR.2017.20345

Langendorf, N. L. & Khalid, S. M. (2025). Systematic literature review on usability and training outcomes of using digital training technologies in industry. *Computers in Human Behavior Reports, 17*, 1-14. https://doi.org/10.1016/j.chbr.2025.100604

Li, F., Cheng, L., Wang, X., Shen, L., Ma, Y., & Atiquil Islam, A. Y. M. (2025). The causal relationship between digital literacy and students' academic achievement: A meta-analysis. *Humanities and Social Sciences Communications, 12*, 108. https://doi.org/10.1057/s41599-025-01325-1

Li, Y. (2010). *Constructing the identity of a Mandarin teacher in Australia: A narrative self-study* (Unpublished master's thesis). University of Western Sydney. http://arrow.uws.edu.au:8080/vital/access/manager/Repository/uws:8662

Livingstone, S. (2012). Critical reflections on the benefits of ICT in education. *Oxford Review of Education, 38*(1), 9-24. https://doi.org/10.1080/03054985.2011.577938

Maghsoudi, M., & Khodamoradi, A. (2023). An evaluation of the English language textbooks for Iranian junior high schools based on the objectives of the Fundamental Reform Document of Education (FRDE). *The International Journal of Humanities, 30*(2), 98–122. http://eijh.modares.ac.ir/article-27-64101-en.html

Mahmoud, E., & Bawaneh, A. K. (2025). Best practices of effective classroom management strategies supported by digital ICT in higher education. *International Journal of Evaluation and Research in Education, 14*(3), 529–540. https://doi.org/10.11591/ijere.v14i3.32178

Marzano, R. J. (2003). *Classroom management that works: Research-based strategies for every teacher*. Association for Supervision and Curriculum Development.

Matusiak, K. K. (2012). Perceptions of usability and usefulness of digital libraries. *International Journal of Humanities and Arts Computing 6*(1-2), 133–147. https://doi.org/10.3366/ijhac.2012.0044

McDonald, T., & Siegall, M. (1992). The effects of technological self-efficacy and job focus on job performance, attitudes, and withdrawal behaviors. *The Journal of Psychology, 126*, 465-475. https://doi.org/10.1080/00223980.1992.10543380

McDonough, J., Shaw, C., & Masuhara, H. (2013). *Materials and methods in ELT: A teacher's guide* (3rd ed.). Blackwell Publishing Ltd.

McGrath, I. (2013). *Materials evaluation and design for language teaching*. Edinburgh University Press.

Mitrulescu, C. M., & Negoescu, A. G. (2024). The role of authentic materials in EFL education: Maximizing student engagement and language acquisition. *Sciendo, 30*(2), 1–8. https://doi.org/10.2478/kbo-2024-0069

Nasution, F, Nasution, E. L., & Rangkuty, R. A. (2025). Using Technology in Teaching English Language: Perceptions of Teachers and Students. *Journal of Information System and Education Development, 3*(2), 1-4.

Nichol, J., Watson, K., & Waites, G. (2003). Rhetoric and reality: Using ICT to enhance pupil learning. *British Journal of Educational Technology, 34*(2), 151-167.

Norwegian Centre for ICT in Education. (n.d.). *Quality criteria for digital learning resources*. https://iktsenteret.no/sites/iktsenteret.no/files/attachments/quality_criteria_dlr.pdf

Ozder, H. (2011). Self-Efficacy beliefs of novice teachers and their performance in the classroom. *Australian Journal of Teacher Education, 36*(5), 1-15. http://dx.doi.org/10.14221/ajte.2011v36n5.1

Patel, C. (2014). Use of multimedia technology in teaching and learning communication skill: An analysis. *International Journal of Advancements in Research & Technology, 2* (7), 116-123. http://www.ijoart.org/ResearchPaperPublishing_July2013.shtml

Pirzad, A., & Abadikhah, S. (2022). An evaluation of Iranian tenth-grade English textbook (Vision 1) using Willis's TBLT framework and teachers' perspectives. *Journal of English Language Teaching and Learning, 14*(28), 133–158. https://doi.org/10.22034/JELTL.2022.28.5

Pokrivcakova, S. (2017). Evaluating CD ROMs for pre-primary English courses in the Czech Republic and Slovakia. *International Journal on Language Literature and Culture in Education, 4*(2), 3-25. http://dx.doi.org/10.1515/llce-2017-0006

Portaro, M. (2024). *Preservice Teachers' Self-Efficacy for Technology Integration and Levels of Planned Technology Integration: A Mixed-Method Study*. (Unpublished Ph.D. Dissertation). Boise State University. https://doi.org/10.18122/td.2191

Rabanes, L. L., & Paglinawan, J. L. (2025). Instructional materials availability and learner's engagement in science. *International Journal of Research and Scientific Innovation, 12*(6), 1265–1278. https://doi.org/10.51244/IJRSI.2025.120600103

Remmen, V. J., Wartzack, S., & Miehling, J. (2025). A systematic literature analysis of influencing factors affecting the balance between usability and emotional product design. *Journal of Engineering Design*. Advance online publication. https://doi.org/10.1080/09544828.2025.2455365

Roe, J., Perkins, M., & Furze, L. (2025). From assessment to practice: Implementing the AIAS framework in EFL teaching and learning. *arXiv*. https://doi.org/10.48550/arXiv.2501.00964

Ross, J. A. (1992). Teacher efficacy and the effect of coaching on student achievement. *Canadian Journal of Education, 17*(1), 51–65.

Sadeghi, A. (2024). Evaluating textbooks in the Iranian EFL context: Vision 1 in focus. *Journal of English Language Teaching and Applied Linguistics, 6*(1), 77–92.

Sailer, M., Maier, R., Berger, S., Kastorff, T., & Stegmann, K. (2024). Learning activities in technology-enhanced learning: A systematic review of meta-analyses and second-order meta-analysis in higher education. *Learning and Individual Differences, 112*, Article 102446. https://doi.org/10.1016/j.lindif.2024.102446

Safari, P., & Rashidi, N. (2015). A critical look at the EFL education and the challenges faced by Iranian teachers in the educational system. *International Journal of Progressive Education, 11*(2), 14–28. https://ijpe.inased.org/makale/2402

Samir, A., & Tabatabaee-Yazdi, M. (2023). EFL learners' mobile affordances: A focus on technophobia and technophilia. *Journal of Contemporary Language Research, 2*(3), 129–138. https://doi.org/10.58803/jclr.v2i3.73

Sander, U., Kerlen, G., Steinke, M., Huk, T., & Floto, C. (2003). Evaluation of Two CD-ROMs from a Series on Cell Biology. *Cell Biology Education, 2*(4), 256-265. https://doi.org/10.1187/cbe.03-01-0002

Schreck, R., & Schreck, J. (1991). Computer-assisted language learning. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (2nd ed., pp. 472–486). Heinle & Heinle Publishers.

Solati, N. (2024). A comparative textbook evaluation of Vision and the former English series (FES). *Iranian Journal of Foreign Language Education, 9*(2), 101–120.

Soodmand Afshar, H., Ranjbar, N., Yousefi, M., & Afshar, N. (2018). A qualitative analysis of Prospect series and Vision 1 in light of intercultural and meta-cultural competence perspectives. *Journal of Educational Measurement and Evaluation Studies, 8*(21). 107-139. https://jresearch.sanjesh.org/article_30963_en.html

Spitzer, M. (2014). Information technology in education: Risks and side effects. *Trends in Neuroscience and Education, 3* (3-4), 81-85. https://doi.org/10.1016/j.tine.2014.09.002

Taherkhani, R., Afzali Mir Malmir, S. A., Montazeri, A., & Arash, Z. (2017). The critical study of new Iranian high school textbook grade 10 in national level [In Persian]. *Critical Studies in Texts and Programs of Human Sciences, 7*, 77–91.

Tang, F. (2024). Understanding the role of digital immersive technology in educating the students of English language: Does it promote critical thinking and self-directed learning for achieving sustainability in education with the help of teamwork? *BMC Psychology, 12*, 144. https://doi.org/10.1186/s40359-024-01636-6

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*(2), 202–248. https://doi.org/10.3102/003465430680022

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783–805. https://doi.org/10.1016/S0742-051X%2801%2900036-1

Tzafilkou, K., Perifanou, M. A., & Economides, A. A. (2021). Teachers' trainers' intention and motivation to transfer ICT training: The role of ICT individual factors, gender, and ICT self-efficacy. *Education and Information Technologies, 26*(5), 5563–5589. https://doi.org/10.1007/s10639-021-10541-z

UNESCO. (n.d.). *Information and communication technology (ICT)*. In *UNESCO glossary*. Retrieved August 28, 2025, from https://uis.unesco.org/en/glossary-term/information-and-communication-technologies-ict

Vahdany, F., Shirvan, M., & Saeidi, M. (2025). Probing into the communicative nature of speaking sections of Iranian high school EFL textbook: Vision 1 vs. an international coursebook. *Journal of Language Education Research, 12*(1), 65–84.

Valtonen, T., Kukkonen, J., Kontkanen, S., Dillon, P., & Sointu, E. (2015). The impact of authentic learning experiences with ICT on pre-service teachers' intentions to use ICT for teaching and learning. *Computers and Education, 81*, 49-58.

Wang, L., Ertmer, P. A., & Newby, T. J. (2004). Increasing preservice teachers' self-efficacy beliefs for technology integration. *Journal of Research on Technology in Education, 36*(3), 231–250. https://doi.org/10.1080/15391523.2004.10782414

Walsh, J. N., O'Brien, M. P., & Costin, Y. (2021). Investigating student engagement with intentional content: An exploratory study of instructional videos. *The International Journal of Management Education, 19*(2), 100505. https://doi.org/10.1016/j.ijme.2021.100505

Wijnen, F., Walma van der Molen, J., & Voogt, J. (2021). Primary school teachers' attitudes toward technology use and stimulating higher-order thinking in students: A review of the literature. *Journal of research on Technology in education*. https://doi.org/10.1080/15391523.2021.1991864

Yang, Z. (2024). Examining the relationship between teacher self-efficacy and student engagement in technology-enhanced learning environments. *International Journal of New Developments in Education, 6*(2), 115–119. https://doi.org/10.25236/IJNDE.2024.060219

Yang, L., & Wang, J. (2023). Exploring the causes, consequences, and solutions of EFL teachers' perceived technophobia. *The Asia-Pacific Education Researcher*, 1–12. https://doi.org/10.1007/s40299-023-00780-8

Zhang, W. (2010). *Journey to the west: Reading communicative language teaching in Australia* (Unpublished master's thesis). University of Western Sydney. (http://arrow.uws.edu.au:8080/vital/access/manager/Repository/uws:8661

Zhou, W., & Liu, Q. (2025). Effect of university teachers' teaching style on EFL learners' classroom engagement: The mediating role of self-efficacy. *BMC Psychology, 13*, 749. (https://doi.org/10.1186/s40359-025-03069-1

Appendix A. The CD-ROMs Evaluation Scale

Instructional Quality												
Subscales	Items	SD		D		U		A		SA		Mean
		F	%	F	%	F	%	F	%	F	%	scores
Focus: M= 80.9	Q1. The instructional goals are easily achievable through the current CD-ROMs materials.	36	24.7	53	36.3	6	4.1	34	23.3	17	11.6	76.2
	Q2. The CD-ROMs materials serve the intended objectives well.	27	18.5	59	40.4	9	6.2	28	19.2	23	15.7	79.8
	Q3. The CD-ROMs materials are suitable for a wide range of teaching styles.	43	29.4	35	24	14	9.6	39	26.7	15	10.3	77.2
	Q4. The CD-ROMs materials help teachers benefit from an innovative and constructive pedagogy in their classes.	21	14.4	37	25.3	19	13	45	30.8	24	16.5	90.4
Engagement: M= 89.8	Q5. The CD-ROMs materials help teachers easily engage the students in teaching activities and tasks.	16	11.0	32	22.0	3	2.0	57	39.0	38	26.0	101.4
	Q6. The CD-ROMs materials help teachers easily stimulate students.	12	8.2	23	15.8	2	1.4	78	53.4	31	21.2	106.2
	Q7. The CD-ROMs materials effortlessly attract the students' attention.	29	19.9	57	39.0	11	7.5	35	24	14	9.6	77.2
	Q8. The CD-ROMs materials help teachers build upon the students' background knowledge.	37	25.3	49	33.6	17	11.6	28	19.2	15	10.3	74.6
Informativeness: M= 70.2	Q9. The CD-ROMs materials provide scoring and evaluating rubrics and tools for student performance.	49	33.6	62	42.5	0	0	23	15.7	12	8.2	65
	Q10. The CD-ROMs materials help teachers develop their assessment abilities of the student performance.	38	26.0	51	34.9	6	4.1	36	24.7	15	10.3	75.4
Total frequency= 1460, and Percentage= 100 Sum Scores= 4117.00		308	21.0	458	31.4	87	6	403	27.6	204	14	-
		308	-	916	-	261	-	1612	-	1020	-	823.4
Content Quality												
Accuracy: M=102	Q11. The CD-ROMs materials contain up-to-date information.	12	8.2	26	17.8	3	2.0	68	46.6	37	25.4	106
	Q12. The contents of the CD-ROMs materials are accurate and objective.	8	5.5	25	17.1	3	2.0	74	50.7	36	24.7	108.6
	Q13. The CD-ROMs materials are free from misleading and confusing information.	12	8.2	37	25.3	8	5.5	66	45.2	23	15.8	97.8
	Q14. The contents of CD-ROMs materials do not need to be modified or augmented with additional materials.	19	13.0	38	26.0	4	2.7	54	37.0	31	21.3	95.6
Adequacy: M=86.2	Q15. The contents of CD-ROMs materials explicitly address the curriculum outcomes.	24	16.5	65	44.5	4	2.7	34	23.3	19	13.0	79.4
	Q16. The contents of CD-ROMs materials are adequate to fully support the instructional and learning goals.	28	19.2	47	32.2	26	17.8	27	18.5	18	12.3	79.6
	Q17. The contents of CD-ROMs materials are adequate to meet the educational objectives.	12	8.2	34	23.3	17	11.6	47	32.2	36	24.7	99.8

Appropriateness: M=105.0	Q18. The CD-ROMs materials are suitable to the needs and interests of the target audience.	11	7.5	28	19.2	5	3.4	54	37.0	48	32.9	107.6
	Q19. The difficulty level of the CD-ROMs materials is appropriate for the intended audience.	16	11	23	15.8	5	3.4	63	43.1	39	26.7	104.8
	Q20. The CD-ROMs materials help the target audience gain real-world experiences.	9	6.2	37	25.3	7	4.8	56	38.4	37	25.3	102.6
Total frequency= 1460, and Percentage= 100		151	10.3	360	24.7	82	5.6	543	37.2	324	22.2	-
Sum Scores= 4909.00		151	-	720	-	246	-	2172	-	1620	-	981.8
Technical Quality												
Purpose: M=103.9	Q21. The technology features of CD-ROMs materials are practical for teaching and learning purposes.	18	12.3	21	14.4	4	2.7	58	39.7	45	30.9	105.8
	Q22. The technology elements of CD-ROMs materials clearly enhance content presentation and instruction.	15	10.3	19	13.0	17	11.7	67	45.9	28	19.1	102.4
	Q23. The technology features of CD-ROMs materials are relevant to the pedagogical goals.	9	6.1	22	15.1	18	12.3	74	50.7	23	15.8	103.6
Reliability: M=105.4	Q24. The technology features of CD-ROMs materials function reliably as intended in the context.	12	8.2	27	18.5	9	6.1	56	38.4	42	28.8	105.4
Usability: M=99.5	Q25. The information on CD-ROMs materials is clear and easy to use.	6	4.1	25	17.1	0	0	68	46.6	47	32.2	112.6
	Q26. The auditory and visual features of CD-ROMs materials are pleasing to the ears and appealing to the eyes.	24	16.5	37	25.3	26	17.8	31	21.2	28	19.2	88.0
	Q27. The content organization of CD-ROMs materials is logical.	16	11.0	26	17.8	24	16.4	48	32.9	32	21.9	98.4
	Q28. The narration of the CD-ROMs materials is reasonable and easy to follow.	12	8.2	39	26.7	7	4.8	55	37.7	33	22.6	99.2
Accessibility: M= 99.9	Q29. The technology elements of CD-ROMs materials can readily be transferred to different educational environments and learning sequences.	17	11.6	25	17.1	28	19.2	47	32.2	29	19.9	96.8
	Q30. The auditory and visual features of the CD-ROMs materials can effortlessly be accommodated to the learners' needs.	15	10.3	23	15.8	14	9.6	58	39.7	36	24.6	103
Total frequency= 1460, and Percentage= 100		144	9.9	264	18.0	147	10.1	562	38.5	343	23.5	-
Sum Scores= 5076.00		144	-	528	-	441	-	2248	-	1715	-	1015.2