
CYPRUS TESOL TEACHERS' PROFESSIONAL KNOWLEDGE AND ATTITUDES OF 21ST CENTURY SKILLS

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Abstract

Building on research related to the importance of the integration of 21st century skills (C21 skills) in second language education, this study examines Cyprus-based Teachers of English to Speakers of Other Languages' (CyTESOL teachers) professional content knowledge of C21 skills, their attitudes towards integrating these in the English class and their perceptions as to whether they incorporate the C21 skills in their teaching practice. The interest and significance of the present research lies primarily in its research context which is the private supplementary tutoring of English as a foreign language within the shadow education sector in Cyprus, a highly under-researched area compared to English teaching in state schools. Within this framework, this research contributes to understandings of CyTESOL teachers' proficiency of teaching C21 skills. To this end, following a cross-sectional survey design, the responses of 100 teachers were collected through a self-designed online questionnaire and analysed following a mixed-methods data analysis. The findings indicated that despite CyTESOL teachers' partial knowledge of the content and breadth of the C21 skills, they foster positive attitudes towards developing C21 skills in the English class, and reported enacting a range of C21 skills in their teaching. These results imply that CyTESOL teachers' proficiency of teaching C21 skills is shaped by their professional context, highlighting the need for further research on the impact of contextual variables' on C21 skill instruction.

Keywords: 21st century skills, Second Language Education (L2), Teaching English to Speakers of Other Languages (TESOL), Private supplementary tutoring (shadow education)

Introduction

Education serves as a catalyst for social change and development by instilling values, honing skills, and shaping mindsets. The socio-economic changes and technological advances of the 21st century indicate a shift towards more robust learning approaches, emphasizing the cultivation of well-rounded citizens engaged in active, discovery-oriented learning processes. This is proposed by the concept of 21st century skills (C21 skills) which holds a cross curricular place in modern education systems (OECD, 2019). Following the definition of Scott (2015) C21 skills are 'the competencies and skills that are deemed necessary for today's societies' in order to 'help learners navigate the challenges of the twenty-first century' (p. 2).

In the realm of second language (L2) teaching, research supports a shift towards developing learners' C21 skills, underscoring the need for instructional methods that not only develop language proficiency but also foster broader knowledge, skills (such as communi-

cation, collaboration, critical thinking, and creativity), attitudes, and values that facilitate global connectivity (Chu et al., 2021; Czerkowski & Berti, 2020; Goswami & Rahman, 2023; Lenz, 2011; Urbani et al., 2017). Consequently, educators must adapt to these changes by mastering these skills themselves and being fully prepared to teach them to students (Chu et al., 2021).

In turn, relevant Continuing Professional Development (CPD) programmes must be tailored to equip teachers with the expertise required to effectively implement these changes. Advancing updates or reforms in CPD programs, courses, or curricula in language education underscores the critical importance of conducting a thorough needs assessment. This assessment aims to identify the specific needs of stakeholders, gain context-specific insights into teaching practices, and explore effective methods to support the professional development of teachers (Kim et al., 2019; Richards, 2017). Against this backdrop, this action research project is set to explore the area of promoting learners' C21 skills through English as a Foreign Language (EFL) teaching in order to gain insights in the local context that will at a later stage inform the development of a relevant professional learning programme. Hence, the overall aim of this research is to enable a needs analysis examining Cyprus-based Teachers of English to Speakers of Other Languages' (henceforth CyTESOL teachers) self-reported proficiency of C21 skills. In order to explore the aforementioned aim, the following questions were formulated:

1. What is CyTESOL teachers' self-reported professional knowledge of C21 skills?
2. What are CyTESOL teachers' attitudes towards integrating C21 skills in a TESOL class?
3. What are teachers' perceptions of their incorporation of C21 skills in their teaching practice?

Private supplementary tutoring: The case of English Language teachers

The interest and significance of the present study lies primarily in its research context, the private supplementary tutoring of English as a foreign language within the shadow education sector in Cyprus, a highly under-researched area. The term 'shadow education' refers to private supplementary tuition that operates in parallel to formal education (Bray, 2017). According to Lamprianou & Afantiti-Lamprianou (2013), in Cyprus, shadow education has a critical impact on students' learning as by 2009, 80% of students had attended private supplementary tuition classes (called *frontistiria*), which is the second highest figure in Europe (Bray, 2021). The figures from the Cyprus Ministry of Education (Moec, 2022) show that TESOL teachers in Cyprus, are mainly employed in the shadow education sector, as opposed to state education (see Table 1). This disparity is exacerbated as according to a featured article in the local newspaper, an additional 50% of TESOL teachers work freelance (Psilou, 2017). This suggests a significant portion of TESOL educators may lack stable employment, benefits, and consistent income, potentially widening the gap between those with secure teaching positions and those reliant on freelance work. The fact that the number of freelance teachers in Cyprus remains unspecified (see Table 1), adds to the existing discrepancy in the employment context of TESOL teachers in Cyprus since it shows that there is no control, government resources or a teachers' union that freelance teachers could potentially refer to seeking advice and support.

Table 1
Cyprus TESOL teachers' employment sector. Source: Cyprus Ministry of Education (2022).

Employment Sector	Number of Teachers
English language institutes	170
Freelance TESOL Teachers	Unspecified
Public Secondary Schools	132

Another peculiarity pertinent to TESOL teachers in the shadow education sector relates to their continuous professional development (CPD). State-school English teachers' professional development encompasses both mandatory and optional centralized teacher training, including induction courses, school-based seminars, and e-learning courses (Eurydice, 2022). In contrast, CPD opportunities for CyTESOL teachers are voluntary, teacher-initiated, and varied. These opportunities range from sporadic seminars or workshops to short courses provided by book publishers, examination boards, and international TESOL organizations. This contrast marginalizes CyTESOL teachers from their public school counterparts/colleagues as the latter pursue their own professional development goals on top of busy work schedules and at their own expense. This bears implications for the 'interacting dynamics' of the two systems that remain to be researched (Bhorkar, 2023).

Despite the implications deriving from their professional context, CyTESOL teachers prepare the majority of Cypriot students for high-stakes language certification exams such as Cambridge FCE, IELTS, IGCSE (Tsagari & Giannikas, 2021). Such certification is indispensable for students who want to become more competitive in the job market or enter a private university. This highlights the necessity for CyTESOL teachers to 'move beyond "language" in the language classroom' adding 'a layer of C21 skills to any lesson' with the aim of giving learners the opportunity to practice essential skills for success in global work and education (Parrish, 2018). To this end, multiple EFL publishers have launched updated textbooks that integrate C21st skills in their learning curriculum (Express Publishing, 2024; mm publications, 2024; Oxford University Press, 2024). In particular, their textbooks explicitly indicate the activities that foster C21 skills and even offer assessment grids to measure learners C21 skills. Moreover, publishers offer webinars to train teachers in integrating C21 skills in their language classes (British Council, 2022; National Geographic Learning, 2024) while Cambridge assessment board has incorporated C21 skills into their assessment practice (Suto et al., 2014). This highlights the importance for CyTESOL teachers to keep up to date with developments in the area of C21 skills and EFL teaching, in order to enhance students' learning and achievement (Richardson & Díaz Maggioli, 2018).

In terms of literature findings pertinent to the enactment of C21 skills in the shadow education sector in Cyprus, the literature review indicates a gap in relevant research as it limits its focus on in-service state school teachers, higher education teachers or teacher students (Charalambous & Michaelidou, 2001; Committee on Educational Reform, 2004; European Commission, 2002; Hajisoteriou et al., 2018; Karagiorgi & Symeou, 2006; Karagiorgi & Lymbouridou, 2009; Kourieos & Diakou, 2019; Kyriakides, 2001; OECD, 2020; Rentzou, 2021; Savvidou, 2011; Zachariou & Kadji-Beltran, 2022). This is in line with further research findings which conclude that despite its 'scale and significance for educational, economic and social develop-

ment' (Zhang & Bray, 2020, p.326), there is little scholarly attention on teaching and learning practices in the shadow education sector and their possible impact on the development of learners' academic and non-academic skills (Yung et al., 2023). Hence, mapping CyTESOL teachers' professional knowledge of C21 skills can provide solid ground for relevant professional development initiatives thereby contributing further to the relatively scarce body of knowledge in this field.

C21 Skills: New Knowledge Base for Teachers

Extensive research in the field of C21 Skills (Haug & Mork, 2021; Lamb et al., 2017; National Research Council, 2012; Trilling & Fadel, 2009; Voogt, Joke & Roblin, 2010; World Economic Forum, 2015) highlights the variation in categorization, definitions, and specifications of these skills across different educational policy frameworks (P21, Gauge, ATCS, NETS / ISTE, EU, OECD). For example, the terms '21st century competences', 'life skills', 'transversal skills', 'literacies' are generally regarded as synonymous to the term '21st Century Skills' (Joynes et al., 2019). To this end, a comparative review of several synthesis studies (Chalkiadaki, 2018; Scott, 2010; Voogt, Joke & Roblin, 2010) regarding C21 skills terminology and context reveals a consensus on skill development encompassing communication, collaboration, ICT literacy, social/cultural awareness, creativity, critical thinking, and problem-solving. Particularly, the majority of relevant frameworks emphasize the following five key areas:

1. Communication skills, including language and presentation of ideas.
2. Collaborative skills, including management of group activities and social interaction.
3. Individual learning approaches, including critical thinking, metacognition and new skills acquisition.
4. Individual autonomy, including flexibility, adaptability and entrepreneurship.
5. ICT and digital literacy, including use of technology as tools for learning, communication and collaboration (Joynes et al., 2019, p. 5).

Overall, literature reflects the range of diversity of the notion of C21 skills with policymakers using 'the term 21st Century Skills' as a broadly encompassing concept referring to multiple skills or subcategories of skills' which attend to the need for new forms of learning to tackle global challenges (ibid, p. 9). For the purposes of this research this study adopts the skills and terminology from the analytical framework of the Partnership for 21st Century Learning (P21) initiative. The P21 Framework was chosen over other C21 skills policy documents because it offers a comprehensive and well-structured approach to modern education. It effectively integrates essential skills needed for success in today's global and digital landscape, including learning and innovation skills, information, media, and technology skills, as well as life and career skills. Additionally, the P21 Framework is widely recognized and supported by a diverse coalition of business, government, and education leaders, which adds to its credibility and relevance (Batelle for Kids, 2019). In particular, the P21 Framework comprises eleven competencies categorized into three main elements: (1) learning and innovation skills, (2) information, media, and technology skills, and (3) life and career skills (see Figure 1).

Overall, the previously-discussed policy documents i.e. P21,

Skill	Literacy	Descriptor
Learning and Innovation Skills	Critical Thinking & problem Solving	<i>Effectively analyse and evaluate evidence, arguments, claims, and beliefs</i>
	Communication	<i>Articulate thoughts and ideas effectively using oral, written, and nonverbal communication skills</i>
	Collaboration	<i>Collaborate with others</i>
	Creativity	<i>Use a wide range of idea creation techniques (such as brainstorming)</i>
Information, Media, and Technology Skills	Media Literacy	<i>Use technology as a tool to research, organize, evaluate, and communicate information</i>
	Information Literacy	<i>Manage the flow of information from a wide variety of sources</i>
Life and Career Skills	Flexibility and Adaptability	<i>Incorporate feedback effectively</i>
	Initiative and Self-Direction	<i>Be self-directed learners</i>
	Social and Cross-Cultural Skills	<i>Respond open-mindedly to different ideas and values</i>
Productivity and Accountability	Manage Projects	<i>Prioritize, plan, and manage work to achieve the intended result</i>
Leadership and Responsibility	Guide and Lead others	<i>Use interpersonal and problem-solving skills to influence and guide others toward a goal</i>

Figure 1

The C21 Skills, Literacies and Descriptors included in the questionnaire.

Gauge, ATCS, NETS / ISTE, EU, OECD and education reforms emphasize the teachers' role to enable students to acquire C21 skills (Darling-Hammond et al., 2009; Kennedy & Sundberg, 2020). Learners are now involved in a more active discovery-oriented learning process (Moallem, 2019) thus, apart from focusing solely on the traditional core subject areas, they also need to focus on 'Creativity and Innovation Skills; Critical Thinking and Problem-Solving Skills; Communication and Collaboration Skills; Information Media and Technology Skills' which comprise the so-called C21 Skills (Batelle for Kids, 2019). In particular, the Partnership for 21st century skills highlighted Learning and Innovation Skills or otherwise called the 4Cs (ie. creativity, critical thinking, communication and collaboration) as key skills in preparing students for more complex life and work environments and which teachers need to focus on (Trilling & Fadel, 2009).

Despite an increased emphasis on C21 skills globally, bibliography in the field of C21skills highlights the challenges and issues of incorporating C21 Skills in education (Kennedy, T. J. & Sundberg, 2020; Rentzou, 2021; Rotherham & Willingham, 2009). Findings from a recent report on emerging issues related to C21 skills highlight that "ambiguity in terminology and definitions is hindering the ways in which such skills are taught" (Joynes et al., 2019 p. 8). Another challenge relates to curriculum development (lack of space within the curriculum) and a lack of well-established, evidence-based approaches on how to teach the skills and how to implement relevant educational technologies for this purpose (Care et al., 2017; Voogt, J. et al., 2013). In particular, the authors (ibid) comment on issues related amongst others to teacher capabilities, teacher training, school infrastructure and resourcing with regards to the use of information and communications technology (ICT). Therefore, it becomes clear that teachers' qualifications, competence, commitment and motivation to embrace change hold a central role in implementing innovations in the teaching practice (Morales, 2016) while CPD, policy-makers and other education stakeholders also play a vital role.

Involving teachers in a change process towards teaching C21 skills requires a thorough examination of multiple factors. Literature emphasizes that teachers' comprehension of C21 skills (van de Oudeweetering & Voogt, 2018), relevant teaching competence (Bewick & Fraser, 2019), and positive attitudes (Tsourapa, 2018) serve as catalysts for advancing students' learning in this domain. How-

ever, Kennedy & Kennedy (1996, p. 359), caution that relying solely on attitudinal measures is insufficient for effective change without considering the interplay of teacher beliefs and teaching behaviors.

A critical contributing factor identified in this context is teacher agency. Defined by Calvert (2016, p. 4) as “the capacity of teachers to act purposefully and constructively to direct their professional growth and contribute to the growth of their colleagues,” teacher agency is shaped by both personal characteristics and professional contexts (ibid). Teng (2019) underscores that teacher agency results from a complex interaction of personal efforts, institutional resources, policies, and contextual factors. Archer (2002) adds that agentic teachers engage collaboratively, reflecting on social contexts to promote transformative practices through collective action. Therefore, by assessing CyTESOL teachers' attitudes, knowledge and professional context in relation to teaching C21 skills, the current study aims to initiate and enhance their teacher agency, empowering them to purposefully shape educational practices and foster professional growth.

Overall, initiatives that involve change of teaching practices to integrate C21 skills need to be seen within the wider ecosystem they are introduced and across all disciplines. To this end, the role of formal and informal education contexts needs to be recognized (Almazroa & Alotaibi, 2023a; OECD, 2019; Voogt, Joke & Roblin, 2012). Research in the field of English language teaching supports these suggestions prompting TESOL teachers globally to enhance their instructional knowledge (Murray, 2020; Rose et al., 2020) with teachers' attitudes, beliefs, competences, and practices being determinant factors (Voogt, Joke & Roblin, 2012). These research conclusions underline the importance of the current study in terms of exploring the conceptualization of C21 skills in the local informal English teaching education context bearing implications for future actions pertinent to CyTESOL teachers' professional practice and development.

Materials and Methods

Participants and Sampling procedure

The target population was TESOL teachers in the shadow education sector in Cyprus. Snowball sampling was used as a means of expanding the participant pool by leveraging existing contacts and referrals within the target population facilitating an in-depth exploration of a central phenomenon (Creswell, 2015). Despite the inherent limitations of snowball sampling such as potential bias stemming from the initial contact and limited generalizability (ibid), this method was chosen to align with the aim of the study, enabling a comprehensive investigation of shadow education teachers' perceptions, given their pivotal role in the local language teaching context and their under-researched status. Specifically, to be included in the study participants had to be TESOL teachers offering private tuition (freelancers) or employed in language centers across Cyprus. This posed limitations as not all TESOL teachers are registered with the 'Association of Private Tutors of Cyprus' or the 'Ministry of Education Approved Private Tutors', while they are also a dispersed community across the island.

The sampling procedure was implemented as follows. First, a survey invitation was disseminated to former colleagues and then based on referrals and research on the local social media and Google Maps (search term: English lessons / language institutes / *frontistiria*), the

Region	N	Gender	N	Nationality	N	Employment Status	N
Ammochostos	3	Male	9	Cypriot	87	Freelancers	14
Nicosia	29	Female	90	Greek	5	Full time	56
Larnaca	5	Prefer not to say	1	British	4	Part time	11
Limassol	48			Other	4	Lang. School Owners	4
Paphos	15					Fixed term contract	18

Table 2
Participant teachers’ region, gender, nationality and employment status.

invitation was further disseminated to reach possible participants residing in the rural or remote areas of Cyprus. After a 2-month period the research sample reached 100 teachers (N = 100). The sample comprised teachers coming from all five regions of Cyprus, with their mean age being 35 years and with 90% being female. Table 2 provides an overview of the demographic characteristics of the sample.

Data Collection and Analysis

Data were gathered using an online questionnaire that included both open-ended and closed-ended questions, as well as Likert scale items to measure the extent of agreement. This study, being a subset of a larger research project, specifically focuses on five sections of the questionnaire (see Table 3).

Sections 2 and 3 contained three open-ended questions focused on obtaining more detailed responses regarding teachers’ self-reported content knowledge of C21 skills and their attitudes. Section 4 (Appendix A) consisted of 11 Likert scale items (ranging from 1 for completely disagree to 5 for completely agree) corresponding to the 11 statements/descriptors/skills outlined in the Framework for 21st Century Learning (Batelle for Kids, 2019). These items aimed to investigate the implementation of these skills in the classroom. Figure 1 below illustrates the 11 descriptors which appeared in the ques-

Table 3
Structured Overview of the Online Questionnaire.

Section Number	Section Title	Description
1	Consent form	Explanation of the purpose and instructions
2	C21 Skills Content Knowledge	2 Questions about the respondent’s knowledge of 21st-century skills.
3	Teachers’ Attitudes	4 Questions focusing on teachers attitudes towards integrating C21 Skills in their lessons
4	Teachers’ Situated Practice Regarding C21 Skills	12 Questions identifying how teachers are currently incorporating 21st-century skills into their practice.
5	Demographics	11 Questions about the respondents’ background (age, teaching experience, educational qualifications, employment status)

tionnaire in the following wording: “as an English teacher I teach students to effectively analyze and evaluate evidence, arguments, claims, and beliefs.” The inclusion of the descriptors rather than the literacies i.e creativity, media literacy etc. was purposefully done so as to reassure teachers’ deeper understanding of the content of the particular literacy. This set of scale items was measured for internal consistency. The value for Cronbach’s Alpha for this part of the survey was $\alpha = 0.90$ which suggests the reliability of the measurement instrument is high (DeVellis, 2012).

Data analysis was conducted following a mixed-methods approach. Survey data obtained from Likert scale questions, close-ended questions, and multiple-choice questions, was analysed descriptively in order to identify patterns and trends in respondents’ opinions, preferences, and behaviors (Creswell & Guetterman, 2021). The answers to the open-ended questions underwent thematic analysis. An inductive approach was employed to categorize data, involving the generation of codes followed by the synthesis of these codes into overarching themes (Braun & Clarke, 2022).

Results

Using the data analysis method described above, the following results were obtained, shedding light on teachers’ C21 skills content knowledge, attitudes towards C21 skills in TESOL and their perceptions of their own C21 skills related teaching practice. The results in relation to teachers’ self-reported content knowledge of C21 skills indicated moderate general knowledge among participants: 44% responded they had heard about C21 skills before, 33% expressed uncertainty, and 23% reported no prior exposure to C21 skills. To gain deeper insights into their self-reported content knowledge, participants (those responded Yes / Not Sure) were further asked to list five keywords associated with C21 skills. Noteworthy responses included critical ‘thinking and creativity’ (mentioned by 69% of respondents), ‘collaboration’ (33%), ‘technology’ (29%), and ‘communication skills’ (7%). Additional, albeit less frequently, responses encompassed ‘leadership’, ‘initiative’, ‘problem-solving’, ‘personal growth’, ‘autonomy’, ‘citizenship’, ‘digital skills’. Interestingly, one participant associated the term ‘C21 skills’ with language skills citing ‘reading, writing, listening, speaking, [and] technology’ as relevant key words. These results highlight participants’ partial understanding of the components encompassing C21 skills.

Regarding teachers’ attitudes toward C21 skills, the results from section 3 showed strong support for their positive attitudes on incorporating these skills into their lessons. In particular, 88% of the respondents favoured the development of C21 skills. Interestingly, only one teacher responded negatively stating that ‘you cannot teach creativity, critical thinking etc. It’s a trace of your character that you are born with’. Looking into the reasons for integrating C21 skills in their lessons thematic analysis revealed that participants associated developing students’ C21 skills with future preparedness; students’ holistic development; active learning and critical thinking; real-life relevance (authentic communication); collaboration and communication; engagement and motivation during language learning and global citizenship. Overall, 77% of participants viewed C21 skills as essential components of language teaching (item 2 in Table 4) and recognized their significance for student achievement, especially in English language exams (items 4 & 5 in Table 4). Furthermore, 33% of participants acknowledged the integration of C21 skills into their

	1	2	3	4	5	6	7
Strongly disagree	8.7%	53.4%	16.5%	4.9%	2.9%	13.6%	23.3%
Disagree	13.6%	23.3%	31.1%	14.6%	1%	19.4%	33%
Neutral	59.2%	19.4%	35%	30.1%	14.6%	41.7%	28.2%
Agree	15.5%	1.9%	16.5%	31.1%	36.9%	17.5%	12.6%
Strongly agree	2.9%	1.9%	1%	19.4%	44.7%	7.8%	2.9%

Table 4
Distribution of answers showing the level of agreement with statements 1–7.

Note: Statements 1–7

1. In an ESOL class, teaching language skills is more important than developing the 21st skills.

2. Teaching English does not relate to developing the 21st century skills in our learners.

3. Modern English textbooks do not encourage development of the 21st century skills.

4. Preparing students for English language exams involves developing some of the 21st century skills.

5. I can positively affect student achievement by developing 21st century skills.

6. My tests do not require students to use some of the 21st century skills.

7. In my lessons students are not required to use some of the 21st century skills.

lessons and assessments (items 6 &7 in Table 4), with 48% of participants indicating that modern English textbooks encourage the development of C21 skills (item 3 in Table 4). However, 59% of participants remain sceptical about prioritizing language skills over C21 skills (item 1 in Table 4).

The findings regarding participants’ C21 skills related teaching practices in section 4 (Appendix A) revealed unanimous agreement among all participants in teaching all eleven literacies, with mean ratings ranging from 3.80 to 4.53. Table 5 presents the mean values and standard deviations for each literacy corresponding to the relevant skill descriptor. The mean comparison for each literacy showed that participants enact teaching practices that mainly support social and cross-cultural skills, creativity, collaboration, and communication, with information literacy receiving the lowest average score. Interestingly, looking into the reasons why participants partially refrain from teaching some skills, the three most prominent answers were concerns about the time required for developing these skills (19%), a lack of knowledge about how to teach them (9%) and lack of understanding as to how C21 skills fit their daily language teaching practice (4%).

Discussion

The emergent research findings provided an insight into CyTESOL teachers’ knowledge, attitudes and teaching of C21 skills. The find-

Table 5

Descriptive statistics of literacies
(Mean values, St. Deviations)
taught by CyTESOL teachers.

Skill Descriptors	M	SD
Critical Thinking	4.17	0.89
Communication	4.38	0.82
Collaboration	4.43	0.84
Creativity	4.45	0.75
Media Literacy	4.16	0.98
Information Literacy	3.80	1.13
Flexibility	3.99	0.98
Initiative / Self-direction	4.07	0.88
Social / Cross-cultural Skills	4.53	0.68
Productivity	4.33	0.75
Leadership	3.94	0.96

Note: C21 Descriptors as they appear in the questionnaire

ings revealed that CyTESOL teachers' have limited knowledge of the breadth and content of C21 skills, mainly focusing on communication, collaboration, critical thinking, creativity (the 4Cs), and social/ cross-cultural skills, also predominant in current educational reports (Halverson, 2018; World Economic Forum, 2023). These findings are consistent with prior empirical studies which show that teachers identify the 4Cs as key concepts of the C21 skills. (Klimas & Baran-Lucarz, 2020; Tsourapa, 2018; Urbani et al., 2017; van de Oudeweetering & Voogt, 2018).

While teachers have a basic understanding of C21 skills, the findings indicate they need to expand their knowledge to include more skills from the P21 Framework i.e. leadership and responsibility, flexibility and adaptability etc. This is essential for providing the best learning opportunities for students, in line with recent research (Patel et al., 2023a). On the basis that teachers' incomplete understanding of C21 skills may hinder their ability to perceive their interconnected nature (Almazroa & Alotaibi, 2023b), the present findings underscore the need for professional development programs that offer comprehensive content and pedagogical knowledge, as well as assessment strategies, to support CyTESOL teachers with successfully integrating C21 skills in their teaching.

Findings pertaining to CyTESOL teachers' attitudes towards the enactment of the C21 skills, suggest that the majority of teachers (89%) hold a positive attitude recognizing their importance for future employability and academic success. In light of prior research (Bullock, 2004; Player-Koro, 2012), suggesting that positive attitudes can serve as enabling factors catalyzing the development of C21 skills, it can be concluded that CyTESOL teachers' positive attitudes can provide fertile ground for further integration of C21 skills in the TESOL class. Looking into the specific reasons for developing C21 skills i.e globalization, future preparedness, independent learning, authenticity, critical thinking, collaboration and communication, it can be inferred that local teachers are up to date with new approaches and policies in education realising the necessity and

applicability of these skills in the 21st century. Notably, respondents perceived C21 skills as beneficial for student achievement, language exam preparation, and general language skills development. This is a key finding in the field of TESOL and L2 certification as updates in assessment increasingly focus on supporting classroom-based assessment for 21st-century learning environments (Care & Luo, 2016; Nurul Asri, 2019; Suto et al., 2014; Urbani et al., 2017). However, it remains to be further investigated as to what extent CyTESOL teachers' perceived favourable attitudes are reflected in their situated teaching practice in terms of their C21 skills classroom pedagogy and assessment.

With reference to CyTESOL teachers' perceptions of their C21 skills related teaching practice, findings indicated that despite partial declarative knowledge of C21 skills, teachers reported incorporating these skills into their teaching with particular emphasis on creativity, collaboration, communication (three of the 4Cs) and cross-cultural skills. In particular, Pardede (2020) highlights that the 4Cs and integrated skills are two overlapping processes that can coexist in a TESOL classroom once teachers create an effective learning environment. Significantly, another finding relates to teachers' rating information literacy with the lowest score. This is worthy of further investigation as it could be attributed to teachers' lower levels of technological self-efficacy or institutional deficiencies (Patel et al., 2023b). These conclusions are consistent with the aforementioned positive attitudes observed among CyTESOL teachers, corroborating existing research in the field of C21 skills suggesting that teachers possessing favourable attitudes towards C21 skills are more likely to foster their development (Fotiou & Zeniou, 2022; Klimas & Baran-Lucarz, 2020; Sahin & Han, 2020; Tsourapa, 2018; Utami et al., 2021; Valtonen et al., 2021). Overall, this finding is noteworthy as 'the accuracy of teachers' judgments about one's own knowledge and skills may be a professional competence in itself that probably grows with experience and expertise of the teacher' (Ulferts, 2019 p.8). The findings concerning participants' reported partial inclusion of C21 skills in their teaching practice aligns with prior research suggesting that insufficient professional development and teacher education may lead to students' inadequate development of essential C21 skills (Bell et al., 2018). With regards to the primary barriers to teaching C21 skills – 'lack of time', lack of knowledge about how to teach them' and 'lack of understanding as to how C21 skills fit their daily language teaching practice' – these bear implications for CyTESOL teachers' professional context. The exam oriented and competitive nature of shadow education and a lack of centralised professional development programmes may hinder teachers' relevant C21 skills proficiency. Furthermore, teaching materials, particularly in language institutes where teachers are often bound to specific syllabi, may not emphasize the teaching of C21 skills. As a result, teachers, influenced by the exam-focused nature of English as a Foreign Language (EFL) in supplementary education, may hesitate to integrate these skills into their teaching, which notably is one of the twelve professional practices outlined in the British Council's CPD framework for teachers (British Council, 2015).

Conclusion

This study examined shadow education English teachers' (CyTESOL) self-reported content knowledge and attitudes toward 21st-century skills, as well as their perceptions of their related teaching practices.

Overall, the study builds on existing research on the development of C21 skills in mainstream education but goes a step further researching solely the shadow education sector. The literature review showed that shadow education English language teachers' (CyTESOL) practices, attitudes and needs are underrepresented in the local research context although they teach English to the majority of students in after-school supplementary classes. Findings reveal that while teachers have a partial understanding of C21 skills, mainly associating them with the 4Cs (communication, collaboration, critical thinking, and creativity), they express positive attitudes toward integrating these skills into TESOL classes and report enacting a range of C21 skills in their teaching.

In light of the findings presented in this study, it is evident that the implications extend far beyond the scope of the research itself. Firstly, the crucial role of CyTESOL teachers working in the shadow education sector in preparing students for high-stakes exams is highlighted. Additionally, the results imply that CyTESOL teachers' proficiency in teaching C21 skills is shaped by their professional context, indicating the need for further research on the impact of contextual variables on C21 skill instruction. Understanding CyTESOL teachers' professional development needs and mapping their C21 skills knowledge can inform targeted professional development initiatives, enriching the existing body of knowledge.

Overall, including C21 skills in language education in the shadow education sector is essential for enhancing students' employability, fostering lifelong learning, and encouraging innovation in teaching practices. It aligns private language institutes with global educational standards, promotes equity and access to quality education, and supports continuous professional development for teachers. By prioritizing C21 skills, institutes can better prepare students for future challenges, support teachers' growth, and ensure inclusive, dynamic, and effective learning environments.

The research results are subject to certain limitations. One limitation concerns the inherent complexities of studying shadow education, where obtaining a comprehensive list of all teachers posed challenges, resulting in some teachers being inaccessible or declining participation. This limitation may compromise the data completeness and accuracy in representing the target population. Also, the given results may not typify the target teaching population as the sample includes a disproportionately big number of females. Additionally, respondents were not provided with a detailed framework of C21 literacies, potentially leading to preconceived notions influencing their responses and affecting the accuracy of their self-assessments. The conclusions drawn in this study are based on teachers self-reported classroom practice. Since such reports are susceptible to subjective validation, they represent teachers' perception of their practices rather than the actual activities. Moreover, there are many other factors in the school context, like assessments, benchmarks or material resources that affect the implementation of C21 skills. Furthermore, while interviews could have provided deeper insights, the study primarily aims to provide an overview of CyTESOL teachers' knowledge, attitudes, teaching practices, and CPD related to 21st-century skills.

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