INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN INNOVATION, MANAGEMENT & SOCIAL SCIENCES
DOI: https://doi.org/10.57109/242 ISSN: 2958-6453
VOLUME 7, ISSUE 1, September-2024

Integrating Transversal Skills into EFL Course Design: English Teachers' Perceptions

Fatima-Zahra Zouali [1,*], Nassira Houat [2]

[1] *Communication , Education, Digital Usage and Creativity Laboratory, Mohamed the First University, Oujda, Morocco*
[2] *ENCG Oujda, Mohamed the First University, Oujda, Morocco*

PAPER **INFO**

Paper History
Received August 2022
Accepted June 2024

Keywords
Transversal skills,
Course design,
Critical thinking,
Problem-solving,
EFL

ABSTRACT

This study aims at exploring the perceptions of Moroccan teachers of English as a Foreign Language (EFL) regarding the strategies they use to incorporate critical thinking and problem-solving skills in their course design. A mixed approach was implemented to investigate the most effective strategies for developing the transversal skills being studied, the frequency of use of these strategies in English classes and the most effective skill for incorporating them. In addition to the relationships between these practices and factors such as teaching experience, number of workshops and teachers' education level. Quantitative data was gathered via a web-based questionnaire that included questions related to 22 critical thinking and problem-solving strategies. A focus group was held for collecting qualitative data. The data were analysed via SPSS and QDA Miner software. Data analysis revealed that designing English courses for transversal skills development is essential for learners' academic success. Teaching learners to evaluate evidence, consider different perspectives and defend their points of view will make them able to solve their own problems and face the challenges of the digital age.

Introduction

Currently, technology is rapidly changing, and industries are evolving. Educators around the world are discussing the importance of learner-centred education, co-construction of knowledge, and meeting the 21st-century needs. Learners need to develop a set of capabilities known as 21st century skills, which include literacy skills, learning skills, and life skills. Hard skills include information literacy, media literacy, and technology literacy, while soft skills, also known as transversal skills, include critical thinking, creative thinking, collaboration and communication, initiative-taking, flexibility, social skills, efficiency, and leadership. These transversal skills are highly valued by employers as they are essential for success in most roles and can contribute to a more productive and positive work environment. Transversal skills which can be applied in various industries and fields, are often referred to as interpersonal, social, or people skills, and more recently as power skills. They have become increasingly important in the workplace. They enable individuals to navigate complex situations, work effectively in diverse teams, and be more adaptable to change.

*Corresponding author. Email: XXXX@XXXX.com

1. Background of the Study

According to a report by the World Economic Forum, transversal skills such as complex problem-solving, critical thinking, and creativity are among the top skills needed in the workplace in 2020 and beyond. (The Future of Jobs Report 2020, s. d.). In Morocco, teachers are adjusting their teaching methods to meet the needs of their digital native learners. The focus is on developing learners' transversal skills through implementing active learning approaches and methods. Enhancing learners' transversal skills is essential for personal development and lifelong learning. Fostering critical thinking, problem-solving, and creativity is crucial for individuals to integrate the workforce and work effectively in multicultural environments and with people from diverse backgrounds. The Strategic Vision 2015-2030, the newest reform of the educational system, aims to improve the quality of teaching and learning by promoting language proficiency and developing scientific research and the culture of innovation and excellence. The strategic objectives include developing a good citizen, responding to the demands of the society project, contributing to integrating Morocco in the knowledge economy and society, and promoting the transition from a society that consumes knowledge to a knowledge producing society. To achieve these objectives, the Higher Council for Education, Training and Scientific Research recommends a new language framework based on plurilingualism and language alternation. The mobilization of society and instilling the notions of transversal skills throughout the school subjects are essential to implement the levers of change that have been outlined by the strategic vision of reform in Morocco. (csefrs, 2015)

2. Problem Statement and purpose of the study

Despite the fact that thinking is innate to humans, many learners engage in biased and prejudiced thought processes, leading to unsatisfactory thinking quality. These students need to focus on improving the quality of thought and striving for perfection. One way to help them do this is by incorporating critical thinking and problem-solving strategies into our educational systems. It is important to possess these abilities to process information effectively in order to make sound decisions.(Almeida & Morais, 2021)

According to Dewey, the purpose of school education is to organize the powers that ensure growth and foster an inclination to learn from life (Dewey, 2001). Incorporating critical thinking and problem-solving skills into English language learning classes can help achieve this goal. The thesis question is, how do English teachers integrate critical thinking and problem-solving skills into their EFL course design?

The aim of this research project is to understand teachers' perceptions of incorporating critical thinking and problem-solving strategies (CTPS) in English course design. The paper is divided into two parts: a theoretical phase, which will present the research theoretical models and concepts that align with this research thesis, and an empirical framework that will describe the research tools and methods used to answer research questions. The methodology, variables, results and their interpretation.

In order to provide answers to our thesis statement, we opted for the following research questions:

1) What are the most effective strategies to incorporate critical thinking and problem solving in an English course?
2) Is there a correlation between the number of critical thinking workshops attended by teachers and the frequency of use of the CTPS strategies?
3) What is the most effective skill to enhance critical thinking and problem solving among high school learners?

The subsequent hypotheses were formulated

(H1) reading and writing are the most effective skills to develop students' critical thinking.

(H2) Teachers who benefited from critical thinking and problem workshops incorporate these skills more frequently than teachers who have never attended training in these soft skills.

3. Course design

The process of creating educational and training materials and experiences in a way that maximizes learning outcomes is known among educators as instructional design, also known as course design. There are varied models for course design. One of the most popular instructional design models is ADDIE. It involves analysing the needs of learners, designing and developing instructional materials and activities, implementing them and evaluating their effectiveness. (Branch, 2009) The ADDIE model provides a systematic approach to instructional design that ensures that instructional materials and programs are effective, efficient, and relevant to the needs of learners. (Peterson, 2003). Course design is the focal point that serves as the foundation for the class and learning experiences. It creates learning environments that positively impact learning conditions (Merrill, 1994).

Several design principles have been identified by Jonassen (1991), as cited by (Lazareva, 2014). These principles include the creation of a real-life environment that is contextually rich and relevant to learning, a focus on genuine approaches for facing real-life situations, and the teacher's role as a guide and analyser of the strategies used to solve problems. Additionally, conceptual interrelatedness should be emphasized by providing different representations or views on the content, and instructional objectives should be negotiated rather than enforced. Evaluation should serve as a self-analysis instrument, and tools and resources should be provided to help learners perceive different perspectives of the world.

4. The power skills

The term "21st Century Skills" gained prominence in 2008 after technology giants Cisco, Intel, and Microsoft expressed their concerns over the lack of adequate skills possessed by graduates entering the job market from higher education institutions. As the job market shifted from material to weightless production, these corporations were worried about the future of the workforce. Therefore, they urged schools and universities to prioritize the development of 21st century skills which are essential for success in the digital era and meeting the changing job market requirements (Care & Griffin, 2015).

The labelling of these skills might cause confusion as there is a difference between soft skills and 21st century skills. Soft skills or transversal skills refer to a set of personal attributes or characteristics that enable individuals to effectively interact with others, such as communication skills, teamwork, critical thinking, problem-solving, adaptability, and time management. On the other hand, 21st century skills are a broader set of skills that are necessary for success in today's rapidly changing digital world, including digital literacy, critical thinking, creativity, collaboration, communication, and global awareness. Although the two terms are often used interchangeably, their importance in succeeding in the job market is undeniable.

There are several frameworks or models that have been developed to define and categorize transversal skills. These frameworks provide a structure for understanding and developing these skills.

The Organisation for Economic Co-operation and Development (OECD) identifies and categorizes the skills that are most important for success in the modern workforce. The skills are grouped into three main categories: foundational skills (such as literacy, numeracy, and digital literacy), cross-functional skills (such as critical thinking, problem-solving, and communication), and occupational-specific skills (such as technical and job-specific skills). (OECD, 2022)

The 4Cs and Paul and Elder’s critical thinking models are transversal skills models that identify essential skills for success in the 21st century workplace. The 4Cs model focuses on critical thinking, creativity, collaboration, and communication (Khoiri et al., 2021). While The Paul-Elder Critical Thinking Framework is a model that highlights eight essential elements necessary for effective critical thinking, developed by Richard Paul and Linda Elder (R. Paul & Elder, 2014). These elements include identifying the purpose of thinking critically, asking meaningful questions, analysing credible information, drawing accurate conclusions based on available evidence, identifying and assessing assumptions, recognizing and analysing different perspectives, understanding key concepts, and considering consequences and implications. The framework emphasizes the importance of these elements working together to promote effective and rigorous thinking, and is commonly used in educational and professional settings to develop critical thinking skills and improve decision-making

abilities. Developing these skills can improve job performance, build careers, and increase chances of success in the workforce.

Binkley and his colleagues developed the 21st Century Skills model, which is a framework that highlights four categories of skills considered crucial for success in the modern era. These include Ways of Thinking, Ways of Working, Tools for Working, and Living in the World. The first category encompasses skills like creativity, critical thinking, and problem-solving, while the second emphasizes communication, collaboration, teamwork, and leadership. The third category involves technological literacy, including media and ICT literacy, and the fourth covers global awareness, civic literacy, and cultural competence. (Binkley et al., 2012) . These models have become widely used in various educational and professional contexts to facilitate the development of these core skills.

4.1 The features of critical thinking

Critical thinking is a cognitive process that involves analysing, evaluating, and synthesizing information to form a well-reasoned judgment or conclusion (Kim, 2019) . In the educational approach, critical thinking is seen as an essential skill that enables students to learn and make decisions independently, rather than relying solely on the opinions of others (R. W. Paul, 1990). Enhancing critical thinking abilities involves bringing together different aspects of capability development, such as questioning assumptions, identifying biases, considering multiple perspectives, and evaluating evidence to arrive at informed and reasoned conclusions. Critical thinking is a key component of problem-solving, decision-making, and creative thinking, and it is highly valued in many academic disciplines and professional fields. It is widely recognized that critical thinking is important for workforce integration. Employers value employees who possess critical thinking skills because they are better able to solve problems, make decisions, and adapt to changes in the workplace. (Paul & Elder, 2014 ; De Bono, 2016)

4.2 Critical thinking models

Robert H. Ennis created a critical thinking model comprises two components, namely critical thinking skills and critical thinking dispositions. Ennis argues that critical thinking skills can be developed through practice and include interpretation, analysis, evaluation, inference, explanation, and self-regulation. Additionally, Ennis suggests that critical thinking dispositions, such as open-mindedness, systematicity, confidence in reasoning, intellectual humility, intellectual perseverance, and intellectual integrity, facilitate the use of critical thinking skills. Ennis's model emphasizes that critical thinking involves both skills and dispositions, and that both can be improved through practice and reflection. (Ennis, 2011)

On the other hand, Dewey identified four modes of thinking - imagination, belief, stream of consciousness, and reflection. He viewed reflection as essential to critical thinking and defined it as actively and persistently considering a belief in light of its supporting grounds and potential conclusions. According to (Dewey, 1998) ,critical thinking requires involving emotional and intellectual components and contrasted it with unreflective decision-making. Reflective thinking involves encountering a state of perplexity, doubt or hesitation, and embarking on an investigation to corroborate or nullify a suggested belief. For Dewey, problem-solving involves recognizing a difficulty, locating and defining it, suggesting a possible solution, developing the suggestion logically, and approving or disapproving it through observation and experimentation. Collaboration and communication are crucial in the problem-solving process. Education involves sharing experiences through communication, which leads to the acquisition of knowledge. Exchanging ideas with others in a collaborative reflection is essential for students to engage in critical thinking. (Dewey, 1998).

Another main framework that has been widely used in education to guide curriculum design, assessment, and instruction is Bloom's Taxonomy. It was named after educational psychologist Benjamin Bloom, is a hierarchical classification of educational objectives that was created in 1956. The taxonomy classifies the intellectual operations used during learning, from the simplest to the most complex, and provides a series of verbs that describe the intellectual behaviours of each level. The six hierarchical levels of Bloom's Taxonomy are Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The first two levels deal with automated intellectual operations, while the last four involve complex intellectual acts. In 1991, Bloom's former student Lorin Anderson modified the taxonomy, changing the names of the levels to action verbs and

emphasizing more active forms of thinking. Anderson also changed the order of the top thinking skills, placing creative thinking as the most complex cognitive skill, followed by critical thinking represented by the evaluation stage. (Anderson & Krathwohl, 2001). The revised Bloom's Taxonomy is a tool used by educators to evaluate students' thinking, particularly the outcome of the creative thinking or creating stage. By gradually increasing the complexity of the cognitive skills required by each learning objective, Bloom's Taxonomy helps students develop critical thinking skills. Students are challenged to think deeply about the material they are learning and to use evidence and reasoning to support their ideas. They learn to question assumptions, consider multiple perspectives, and make connections between different pieces of information. Overall, Bloom's Taxonomy is a powerful tool for developing critical thinking skills in students, and it has been commonly used by educators to promote higher-order thinking and problem-solving in the classroom. (Jaenudin et al., 2020)

5. Instructional approaches to promote transversal skills

Incorporating strategies that enhance critical thinking and problem solving in English course design can be achieved via implementing some active learning approaches. Project-based learning and Inquiry-based learning are among the approaches that help teachers foster the development of such transversal skills.

5.1 Project-based learning

The idea of project-based learning has its roots in long-standing theoretical frameworks. John Dewey, a proponent of "learning by doing," advocated for the benefits of experiential, student-driven learning as early as the 1900s. Similarly, project-based learning aligns with the principles of social constructivism. Social constructivists contend that individuals construct knowledge by interacting with their environment, and that each person's knowledge is unique. Therefore, through learner-centred activities like surveys, investigations, and role plays, individuals can build new knowledge that fits with their prior experiences and understandings. (Perkins, 1991) (Piaget, 1969). PBL (Project-Based Learning) involves students working together on a project or series of projects that call for them to examine and employ their knowledge and abilities from diverse fields of study. PBL aims to encourage profound comprehension, analytical thinking, ingenuity, and problem-solving skills by offering students chances to use what they have acquired in meaningful and realistic ways. PBL usually consists of the following aspects: a problem or question that drives the project, a connection to the real world, activities that are centred around the students, collaborative work, and a final product or presentation that illustrates the students' learning (Kokotsaki et al., 2016). The approach of the project focuses on the learner and involves multiple disciplines to facilitate significant learning experiences. It encourages students to establish connections between different subject areas, which enhances their understanding and engagement.

5.2 Inquiry-Based Learning

Inquiry-based learning is an educational approach that prioritizes active student involvement and exploration of real-life issues, and involves several stages. These stages are orientation, conceptualization, investigation, conclusion, and discussion, each stage has distinct objectives and tasks. Throughout the inquiry cycle, the teacher’s guidance and support in facilitating students’ progress is very significant (Pedaste et al., 2015). IBL involves students actively participating in their learning by investigating problems and responding to open-ended questions. It is a form of social constructivist learning that promotes social interaction and enhances students' communication skills. IBL enhances active learning, emphasizing the importance of collaborative knowledge-building through addressing issues and projects that are relevant to students' interests (Eppes et al., 2020). By engaging in this process, learners develop a deep understanding of the subject matter by asking questions, analysing data, interpreting findings, and effectively communicating their ideas both verbally and in writing, thereby internalizing the knowledge they have acquired. Inquiry-Based Learning is regarded as one of the most effective methods for fostering cognitive abilities associated with information processing, including skills like critical thinking, practical application of knowledge, and logical deduction (Chu et al., 2017).

6. Method

6.1 Sample / Participants

This study focuses on English teachers in public high schools affiliated with the Oriental Academy of Education and Training in Morocco. For quantitative data gathering, the participants were selected using

stratified sampling, which grouped them based on common characteristics, such as being teachers of English in a Moroccan high school belonging to the same academy. Whereas, the focus group participants were selected through purposive sampling, which took into account factors such as their availability, school of employment, and level of teaching experience.

6.2 Instruments

The data collection instrument used in this study was adapted from a previous research project that explored the perceptions of Technical and Vocational Education and Training (TVET) programs on critical thinking. The researchers received permission from the original researcher (Sulaiman, 2012) to use the survey, and they reduced the number of strategies from 58 to 22 items that they deemed relevant to their study. The questionnaire includes three sections: a demographic survey, a Likert scale section asking about the effectiveness of the critical thinking strategies, and a section on the frequency of use of these strategies. The demographic section gathers information about participants' age, gender, number of teaching years, attendance at critical thinking workshops, highest academic degree, and whether they work in public or private schools. The Likert scale section includes five response options ranging from "Very Ineffective" to "Very Effective," and three open-ended questions that provide insight into teachers' perspectives on critical thinking and problem-solving skills. The final section assesses the learning skill that students use to better develop their critical thinking and problem-solving skills through a multiple-choice question.

6.3 Data collection procedures

To conduct the survey, the researchers used Google Forms to create a web-based questionnaire. The link and a QR code to the questionnaire were shared with potential participants through social media platforms such as private Facebook group dedicated to educational resources and WhatsApp groups for Moroccan English teachers. To encourage participation, the questionnaire began with an introduction providing a brief overview of the study's purpose, field, estimated completion time, and confidentiality explanation. Upon submission, participants received a message thanking them for their participation.

The questionnaire was distributed and data was collected from teachers using Google Forms. To reach a large number of English teachers, the survey link and a QR code were shared on a popular Facebook group dedicated to educational resources and lesson plans. A reminder message was posted one week later to encourage teachers who had not completed the survey. The survey consisted of seven questions related to demographic information, 22 questions related to critical thinking teaching strategies, and a third section on the frequency of use of different teaching strategies. The final question asked teachers to rate the most effective skill in teaching critical thinking abilities, and there were also three open-ended questions about expectations of use and assessments regarding critical thinking.

To obtain an in-depth understanding of how critical thinking and problem-solving strategies are integrated into English course design, a focus group was organized with English teachers from various high schools in the Oujda-Angad Directorate. These teachers voluntarily participated in a one-hour focus group. During the session, six teachers shared their thoughts on the efficiency of critical thinking and problem-solving strategies in English classes. Prior to commencing the focus group, the researchers obtained the participants' consent to record their contributions using the mobile phone recorder. We have chosen this instrument because it’s less time consuming, compared to interviews. In addition, it helps the researcher get an overall idea of participants’ answers who express themselves without interruption.

6.4 Data analysis

After completing data collection, quantitative data were analyzed using the Statistical Package for the Social Sciences (SPSS) software. The data analysis started by importing data from Google Forms to SPSS, making the necessary coding. The data collected were analyzed according to their types. The perceptions of effectiveness and Frequency of use require a descriptive analysis. The open- ended questions require another type of analysis since the answers are not quantitative. Yet, there are three ways to analyze answers for open-ended questions: conventional, directed and summative. All these methods are theme based. Which means that a coding is necessary for each open-ended question in order to facilitate the counting and the reformulation of ideas. In this study, the summative method is appropriate for analyzing this kind of answers.

For answering the research questions, researchers needed to resort to the inference data analysis. These data results from associations made between dependent and independent variables, mentioned earlier. The test used to figure out the existence of correlation between variables is Pearson correlation coefficients test.

The qualitative data were analyzed using QDA Miner Software for Qualitative Data Analysis. The audio files collected were transformed into transcript using an online automated transcription tool, OTranscribe. Some transcription mistakes were corrected before coding the transcription in the QDA Miner Software for the necessary coding and analysis of teacher's attitudes, perceptions and feedback.

7. Findings

The objective of this study is to investigate the different teaching strategies Moroccan English teachers incorporate in their English course design to improve students' critical thinking and problem-solving abilities.

Out of 624 English teachers, the total number of high school English teachers in term of the year 2020/2021, according to the statistics provided by the academy of education and training in the Oriental region of Morocco, 49 (7.85%) responded to the Critical Thinking Teaching Strategies survey, with 48 of them completing both the demographic information and teaching strategy sections. One participant (0.16%) completed all sections except the demographics.

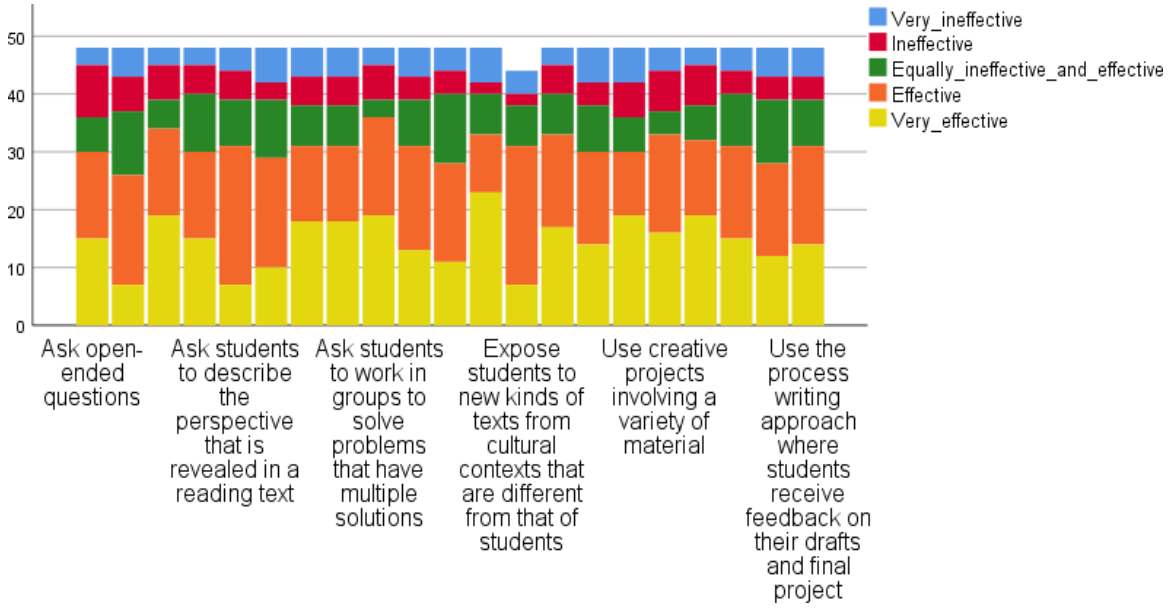

Fig. 1. The most effective strategies for developing critical thinking and problem- solving

The figure (1) and the table of strategies effectiveness (see Appendix A) show the ranking order of the different critical thinking and problem-solving strategies studied along this research. They are ordered in an ascending rank listing the most effective strategies for these cognitive abilities development as thought by the teachers of English who participated in the data gathering for this study. The five most effective strategies for developing critical thinking and problem-solving are: first, Expose students to new kinds of texts from cultural contexts that are different from that of students with a frequency of 50% of cases that judged it as "very effective", followed by the strategy Ask students to work in groups to solve problems that have multiple solutions with a frequency of 48,9% as "very effective". The third most effective strategy is Create an environment in which students can ask questions without fear or anxiety with a frequency of 47,9% as being "very effective". The fourth position is shared equally between Ask questions that provide opportunities for students to respond with critical thinking skills to assess a problem and Ask students to analyse material by making comparisons with a

frequency of 39,6% as “very effective”. The strategy Ask questions that provide opportunities for students to respond with critical thinking skills to assess a problem got a Mean of 2,89 compared to the strategy Ask students to analyse material by making comparisons which got a Mean of 2,85. The difference between their effectiveness is very slight which makes them almost equal in term of effectiveness.

TABLE I. TEACHERS’ PERCEPTIONS TOWARDS THE MOST EFFECTIVE SKILL IN ENHANCING CRITICAL THINKING

		Frequency	Pourcentage	valid Pourcentage	Cummulated Pourcentage
Valid	***Reading***	***9***	***18,8***	***19,1***	***19,1***
	Writing	***3***	***6,3***	***6,4***	***25,5***
	Speaking	***5***	***10,4***	***10,6***	***36,2***
	Listening	***5***	***10,4***	***10,6***	***46,8***
	Function	***10***	***20,8***	***21,3***	***68,1***
	Vocabulary	***4***	***8,3***	***8,5***	***76,6***
	Grammar	***9***	***18,8***	***19,1***	***95,7***
	All the above	***2***	***4,2***	***4,3***	***100,0***
	Total	***47***	***97,9***	***100,0***	
Missing	***System***	***1***	***2,1***		
Total		***48***	***100,0***		

The table (1) states the different frequencies of the skills, teachers think they are the most effective for enhancing students’ critical thinking abilities. As the table shows, the function got the lion’s share with a frequency of 20,8 % followed by grammar and reading with a frequency of 18,8 %. Listening and speaking skills were ranked in the third position with a frequency of 10.4.

So, according to the participants of our sample, the most effective skills to enhance critical thinking abilities among students in English classes, are Function and Grammar.

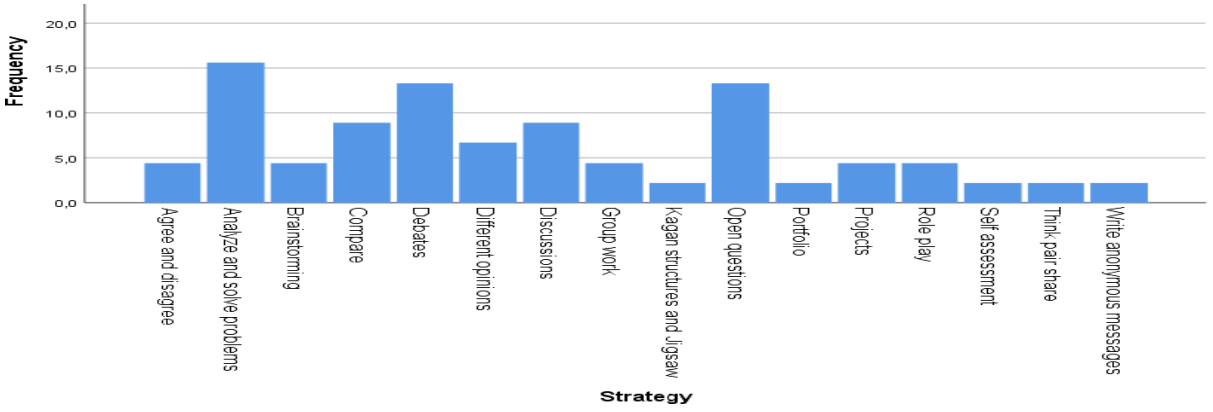

Fig. 2. The strategies that teachers use for enhancing critical thinking and problem solving

In order to know more about the strategies, teachers of English, use in their classes, the participants were asked to mention the strategies that they incorporate in order to enhance their students’ critical thinking and problem-

solving abilities. The participants were asked to mention the strategies that do not figure in the list shared via the form they filled in. Their answers were as stated in the figure 2. The most cited strategies are “Analysis and solve problems” with a frequency percentage of 15,6%, followed by “debates” and “ask open-ended questions” with a frequency of 13,3%. The participants also opt for other strategies like discussions, comparing and considering different opinions and perspectives. Some participants opt for brainstorming, role plays, group work and self-assessment (4%).

To check if there is any relationship between the educational level of the participants and the frequency of use of Critical thinking and problem-solving strategies, and since we have two categorical variables of same nature (qualitative variables) Chi-square test is used.

TABLE II. RESULTS OF CH-SQUARE INDEPENDENCE TEST (EDUCATION LEVEL*FREQUENCY OF USE

Tests du Chi-square			
	Value	*df*	*Asymptotic Significance (2-sided)*
Pearson Chi-Square	*24,506a*	*9*	*,004*
Likelihood Ratio	*16,263*	*9*	*,062*
Linear-by-Linear Association	*5,191*	*1*	*,023*
N of Valid cases	*48*		
a. 12 cells (75,0%) have expected count less than 5. The minimum expected count is ,08			

Since the value of Person’s Chi-square test is smaller than our chosen significance level 0,05, Researchers can reject the null hypothesis. The researchers conclude that there is an association between the educational level of teachers and their frequency of use of Critical thinking and problem-solving strategies in English classes. There is a significant association between the Education level and the frequency of use of CTS.

TABLE III. FINDINGS OF THE FOCUS GROUP

Participant	**Directora te**	**Frequency of use**	**Skills Effectivness**	**Assessment**	**Expectations**	**Strategies**
1	*Oujda*	*Always*	*Reading, writing and speaking*	*Yes*	*Be able to use the language*	*Group work, Open-ended Questions*
2	*Oujda*	*Usually*	*All the skills*	*Sometimes*	*To question everything.T o reflect on knowledge*	*Projects, compare and make connections*

3	*Jerada*	*Never*	*Listening*	*No*	*Not much*	_____
4	*Berkan*	*Usually*	*Speaking and writing*	*No (Assessment tools)*	*Be ready for the world changes*	*Team work, games,*
5	*Driouch*	*Sometimes*	*No idea*	*No*	*creative thinkers independent*	*Group work, explore other points of view*
6	*Oujda*	*Sometimes*	*Reading, listening, writing*	*Sometimes*	*-Be able to manage their emotions and capacities.* *-Better performance at school*	*As a post stage: discussion, writing for / against essays*

TABLE IV. THE FREQUENCIES OF USE OF CTPS BASED ON THE SURVEY RESULTS

Frequency of Use	**Count**	**% Codes**	**Cases**	**% Cases**
Sometimes Use	*26*	*55.3%*	*26*	*52.0%*
Seldom	*11*	*23.4%*	*11*	*22.0%*
Always	*3*	*6.4%*	*3*	*6.0%*
Frequently	*7*	*14.9%*	*7*	*14.0%*

The table (4) presents the frequency of use of the different critical thinking strategies used by teachers in our sample, in order to enhance their learners' critical thinking and problem-solving skills. The mode that mostly appears in our sample is 'sometimes' with a frequency of (55,3%), followed by "seldom" with a frequency of (23,4%). Which means that more than two-thirds of the participants in our sample do not incorporate critical thinking and problem-solving strategies regularly in English classes. These results might have an impact on the perception of effectiveness of the strategies being studied withing our research.

TABLE V. THE FREQUENCIES OF USE OF CTPS BASED ON THE FOCUS GROUP RESULTS

Frequency of use	**Never**	**Sometimes**	**Usually**	**Always**
Percentage	*16,66 %*	*33,33 %*	*33,33 %*	*16,66 %*

The table above shows the frequency of use of different Critical Thinking and problem-solving skills by the participants in the focus group. The results have shown that only 16,66 % of the number of participants who integrate these transversal skills on a regular basis in their classes. 33% is equally shared between 'Sometimes' and 'Usually. Almost 17% of teachers have never integrated these transversal skills in their teaching.

TABLE VI. THE FREQUENCIES OF STRATEGIES SUGGESTED BY TEACHERS TO INTEGRATE CRPS SKILLS.

Strategies	**Group work**	**Projects**	**Open-ended questions**	**Exploring other views**	**Games**
Percentage	*37,5 %*	*12,5 %*	*25 %*	*12,5 %*	*12,5 %*

The table (6) shows the frequencies of the strategies suggested by the teachers to integrate CT and PS soft skills. Group work is widely used by teachers of English with 37,5 % followed by Open-ended questions with a percentage of 25 %. We conclude that teachers of English use socio-affective strategies more frequently than cognitive and metacognitive skills.

TABLE VII. THE FREQUENCIES OF LANGUAGE SKILLS AND LANGUAGE COMPONENTS EFFECTIVENESS

Skills effectiveness	**Reading**	**Writing**	**Speaking**	**Listening**	**Vocabulary**	**Function**	**Grammar**
Percentage	*37,5%*	*50 %*	*37,5 %*	*37,5 %*	*25 %*	*25 %*	*25 %*

The table (7) shows the frequencies of the most effective language skills to integrate Critical Thinking and Problem-Solving skills. According to these results, the most effective skill is writing with a percentage of 50% followed by reading and speaking with 37,5% for each skill. We can deduce that Critical thinking and problem-solving are better integrated in the productive skills rather than the receptive ones.

TABLE VIII. DOES THE NUMBER OF THE CRITICAL THINKING WORKSHOPS BEING ATTENDED AFFECT TEACHERS' FREQUENCY OF USE OF THE CRITICAL THINKING STRATEGIES?

ANOVA					
Use_Frequency					
	Sum of squares	**ddl**	**Mean square**	**F**	**Sig.**
Between groups	*1,024*	*4*	*,256*	*,372*	*,827*
Within groups	*28,891*	*42*	*,688*		
Total	*29,915*	*46*			

In the table (8) we notice that the signification value of the relationship between the use of Critical thinking Strategies and the number of Critical Thinking workshops attended by the participants is 0,827. So, we deduce that there are no statistically significant differences between the group means. Thus, there is not enough evidence to suggest a relationship between these variables.

8. Discussion

The aim of this study was to check to which extent teachers of English as Foreign Language in the Academy of the Oriental, Morocco, incorporate Critical Thinking and Problem-Solving strategies in their English course design.

The findings of this study showed the frequency of use of critical thinking strategies according to teachers in our sample and their perceptions of the strategies' effectiveness.

The findings related to the perception of effectiveness of the strategies studied through this research indicated that the most effective strategies for developing critical thinking and problem solving abilities are the ones related to 'exposing students to materials that prompt their critical thinking skills creating a free-anxiety atmosphere' and 'asking open-ended questions' that provide opportunities for students to respond with critical thinking skills, in addition to 'equipping them with tools for analysing and assessing problems'. The ability to evaluate and examine a problem is classified as a High Order Thinking Skill (HOTS) because it requires the analysis of a complex issue by deconstructing it into its constituent parts, and determining how those parts interrelate with each other and with the broader context. The process of acquiring analytical skills involves acquiring proficiency in implicit processes that begin with the capacity to identify the pertinent components of a message (differentiating), the manner in which those components are structured (organizing), and the intended purpose of the message (attributing). (Anderson & Krathwohl, 2001). In the addition to the analysis, teachers judged group work very effective. Assigning problem-solving activities for students to solve in groups makes use of two fundamental Critical thinking strategies that are problem-solving and cooperative learning. Working in groups helps learners co- build knowledge withing their Zone of Proximal Development. (Vygotskiĭ & Cole, 1978)

Furthermore, while working in groups, shy students or the learners with special abilities can take part in the construction of knowledge without fear or anxiety. The cooperative learning activities encourage inclusive education and foster critical thinking abilities development.

Most teachers suggested Critical Thinking Teaching Strategies that were already listed in the survey. A few came up with other strategies: Using Jigsaw and Kagan activities, Think Pair Share, creating portfolios and writing anonymous messages. The most cited strategies were debates, discussions, comparison and analysis activities in addition to open-ended questions.

Teachers were asked about the most effective skill to incorporate Critical Thinking Strategies. The hypothesis we wanted to affirm was that the most effective skills to incorporate critical thinking strategies are grammar and reading. The findings of the quantitative data indicated that teachers better incorporate critical thinking strategies while teaching grammar and function. Whereas the results of the focus group data analysis revealed that writing and grammar develop students' critical thinking better. So, we couldn't confirm nor refute the first hypothesis. The integration of skills while teaching English would certainly develop students' cognitive abilities and helps them have a reflective reasoning to solve problems appropriately.

The results related to the frequency of use of Critical Thinking Teaching Strategies indicate that teachers of English do not incorporate Critical Thinking Strategies on a regular basis. 55% of the participants declared that they sometimes use these strategies in their teaching. Only 6,4% of the teachers who always make use of these strategies while teaching. The rate of use is very low compared to the effectiveness of these teaching strategies. In order to check the second hypothesis underlying this research: Teachers who benefited from critical thinking and problem workshops incorporate these skills more frequently than teachers who have never attended training in these soft skills. To know if the use of these strategies was affected by the number of critical thinking workshops teachers attended, results correlation showed that there is not enough evidence to suggest a relationship between the frequency of use and the training workshops nor the number of teaching years. So, the second hypothesis was refuted. Results of correlation tests illustrated a significative relationship between the educational level and the frequency of use of Critical Thinking Teaching Strategies. The higher the Education degree obtained by the teachers is, the more frequently they use these strategies. This show that continuing higher studies is an opportunity of professional development for teachers. The demographic information findings indicated that 26,5% of participants got their master's degrees compared to only 4,1% who got their

doctoral degrees. Teacher's reluctance towards continuing higher studies can be related to conditions of working in remote places, the conditions of eligibility to master and doctoral programs...etc.

9. Conclusion

Although critical thinking and problem-solving skills are crucial for academic and professional success, these transversal skills are often overlooked. This study concluded that teachers tend to focus on socio-affective strategies like group work and open-ended questions, but neglect cognitive and metacognitive strategies. It is important to integrate these skills more effectively into education and provide training for educators on how to teach and assess them. Accredited e-learning programs can also help teachers improve their professional practices. Teachers of all subjects should be encouraged to pursue higher education for professional development. Moreover, competitions in critical thinking and problem-solving can motivate students to learn these skills. In addition to schools, families also have a responsibility to teach critical thinking skills to their children from an early age. Parents can encourage their children to ask questions and make choices, which help develop cognitive competencies among which are critical thinking skills and problem-solving. The study's results helped the authors understand teachers' perceptions of the integration of two essential skills in English course design for facing the 21st century challenges, in English classes. These conclusions may serve as a starting point for instructors and researchers to conduct more research on improving teaching practices for transversal skills development among high school learners.

The results of this study cannot be generalized as the sampling was limited to one region in Morocco. More comprehensive studies are needed to fully explore transversal skills teaching and assessment in secondary education.

Acknowledgements

We would like to thank our research participants for generously giving their time and sharing their experiences with us. We also would like to thank the head of the Academy of education and training in the Oriental region, Morocco, for providing access to research facilities.

References

1. Almeida, F., & Morais, J. (2021). Strategies for Developing Soft Skills Among Higher Engineering Courses. Journal of Education, 002205742110164. https://doi.org/10.1177/00220574211016417
2. Anderson, L. W., & Krathwohl, D. R. (Éds.). (2001). A taxonomy for learning, teaching, and assessing : A revision of Bloom's taxonomy of educational objectives (Complete ed). Longman.
3. Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). Defining Twenty-First Century Skills. In P. Griffin, B. McGaw, & E. Care (Éds.), Assessment and Teaching of 21st Century Skills (p. 17-66). Springer Netherlands. https://doi.org/10.1007/978-94-007-2324-5_2
4. Branch, R. M. (2009). Prologue. In R. M. Branch (Éd.), Instructional Design : The ADDIE Approach (p. 1-20). Springer US. https://doi.org/10.1007/978-0-387-09506-6_1
5. Chu, S. K. W., Reynolds, R. B., Tavares, N. J., Notari, M., & Lee, C. W. Y. (2017). Twenty-First Century Skills Education in the U.S. : An Example of an Inquiry-Based Game Design Learning Approach. In S. K. W. Chu, R. B. Reynolds, N. J. Tavares, M. Notari, & C. W. Y. Lee, 21st Century Skills Development Through Inquiry-Based Learning (p. 79-105). Springer Singapore. https://doi.org/10.1007/978-981-10-2481-8_5
6. csefrs. (2015). Vision stratégique de la réforme : Pour une école de l'équité, de la qualité et de la promotion. Le Conseil Superieur de l'education, la formation et de la recherche scientifique. https://www.csefrs.ma/publications/vision-strategique-de-la-reforme/?lang=fr
7. De Bono, E. (2016). Six thinking hats (Revised and updated). Penguin Life, an imprint of Penguin books.

8. Dewey, J. (1998). How we think : A restatement of the relation of reflective thinking to the educative process. Houghton Mifflin.
9. Dewey, J. (2001). Democracy and Education. Jim Manis, Electronic Classics Series Faculty Editor, Hazleton. https://hazleton.psu.edu/faculty/jmanis/jimspdf.htm
10. Ennis, R. H. (2011). The Nature of Critical Thinking : An Outline of Critical Thinking Dispositions and abilities. https://www.coursehero.com/file/45922081/Ennis-R-2011-The-Nature-of-Critical-Thinkingpdf/
11. Eppes, T., Milanovic, I., & Wright, K. (2020). Improving Student Readiness for Inquiry-Based Learning : An Engineering Case Study (p. 4-17). International Association of Online Engineering. https://www.learntechlib.org/p/218040/
12. Jaenudin, R., Chotimah, U., Farida, F., & Syarifuddin, S. (2020). Student Development Zone : Higher Order Thinking Skills (Hots) in Critical Thinking Orientation. International Journal of Multicultural and Multireligious Understanding, 7(9), 11. https://doi.org/10.18415/ijmmu.v7i9.1884
13. Khoiri, A., Evalina, Komariah, N., Utami, R., Paramarta, V., Siswandi, Janudin, & Sunarsi, D. (2021). 4Cs Analysis of 21st Century Skills-Based School Areas. Journal of Physics: Conference Series, 1764, 012142. https://doi.org/10.1088/1742-6596/1764/1/012142
14. Kim, B. (2019). Critical Thinking. Oklahoma State University Libraries. https://open.library.okstate.edu/criticalthinking/
15. Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning : A review of the literature. Improving Schools, 19(3), 267-277. https://doi.org/10.1177/1365480216659733
16. Lazareva, I. (2014). Incorporating Inquiry Investigation into Language Arts Curriculum. American Journal of Educational Research, 2(12B), 78-82. https://doi.org/10.12691/education-2-12B-14
17. Merrill, M. D. (1994). Instructional Design Theory (D. G. Twitchell, Éd.; 1st edition). Educational Technology Publications.
18. OECD. (2022). Skills Imbalances in the South African Labour Market : OECD Skills for Jobs database. Labour Market Intelligence. https://lmi-research.org.za/publication/oecd-skills-for-jobs-database-skills-imbalances-sa-labour-market/
19. Paul, R., & Elder, L. (2014). Critical thinking : Tools for taking charge of your professional and personal life (Second Edition). FT Press.
20. Paul, R. W. (1990). What Every Person Needs to Survive in a Rapidly Changing World.
21. Pedaste, M., Mäeots, M., Siiman, L. A., de Jong, T., van Riesen, S. A. N., Kamp, E. T., Manoli, C. C., Zacharia, Z. C., & Tsourlidaki, E. (2015). Phases of inquiry-based learning : Definitions and the inquiry cycle. Educational Research Review, 14, 47-61. https://doi.org/10.1016/j.edurev.2015.02.003
22. Perkins, D. N. (1991). What Constructivism Demands of the Learner. Educational Technology, 31(9), 19-21.
23. Peterson, C. (2003). Bringing ADDIE to Life : Instructional Design at Its Best. Journal of Educational Multimedia and Hypermedia, 12(3), 227-241.
24. Piaget, J. (1969). Mechanisms Of Perception. Basic Books.
25. Sulaiman, N. L. (2012). INCORPORATING CRITICAL THINKING: TEACHING STRATEGIES IN MALAYSIAN TECHNICAL AND VOCATIONAL EDUCATION (TVE) PROGRAMS. Colorado State University.
26. The Future of Jobs Report 2020. (s. d.). World Economic Forum. Consulté 6 mars 2023, à l'adresse https://www.weforum.org/reports/the-future-of-jobs-report-2020/

AUTHOR BIODATA

Fatima-Zahra Zouali is an English teacher and a researcher at the Communication, Education, Digital Usage and Creativity laboratory (CEDUC), Mohamed the First University, Oujda. She holds a master degree in instructional design, educational technologies and communication. She is interested in e-learning, transversal sills, course design and English Language Teaching (ELT).

Nassira Houat is professor at the National School for Commerce and Management, affiliated with Mohammed the First University, and a member of the Communication, Education, Digital Usage and Creativity laboratory. Her research interests are Course design, Communication, English for Specific Purposes and Soft skills

Appendix A. The ranking order of the most effective critical thinking strategies

	N	Minimum	Maximum	Mean	StdDeviation
Expose students to new kinds of texts from cultural contexts that are different from that of students	47	0	4	3,02	1,294
Ask questions that provide opportunitiesfor students to respond with critical thinking skills to assess aproblem	48	0	4	2,90	1,242
Ask students to work in groups to solveproblems that have multiple solutions	47	0	4	2,89	1,371
Create an environmentin which students can ask questions withoutfear or anxiety and ask questions without fear or anxiety	48	0	4	2,87	1,393
Ask students to analyze material by making comparisons, identifying similaritiesand differences and drawing conclusions	48	0	4	2,85	1,255
Make students reflect on their decision-making process during the development of a project	48	0	4	2,81	1,214

Use questions to apply what students havelearned previously to new situations	48	0	4	2,79	1,288
Ask students to describe orally or in a written form data that are shownto them. e.g: interpretation of graphs or tables	48	0	4	2,71	1,202
Use creative projects involving a variety of material	48	0	4	2,71	1,304
Ask students to identify a real-world problem and evaluate its possible solutions	48	0	4	2,71	1,352
Use small group discussions with specific tasks assigned	48	0	4	2,71	1,237