

The Effectiveness of Project-Oriented Problem-Based Learning (POPBL) As A Pedagogical Approach in Promoting Critical Thinking Among EFL Undergraduates In A Private University in Kuwait.

Sana Alwadaini

sana.alwadaini@iuk.edu.kw

University Foundation Department, International University of Science & Technology in Kuwait, Kuwait

Noor Almomani

Statistics Department, Yarmouk University, Irbid, Jordan

noor.m@yu.edu.jo

Prof. Mona Tahseldar

monatahseldar@lu.edu.lb

Doctoral School of Literature, Humanities & Social Sciences, Lebanese University, Beirut, Lebanon

Abstract

In today's interconnected world, proficiency in language and cultural knowledge is crucial for effective global communication, surpassing geographical boundaries. This research investigates the impact of Problem-Oriented Project-Based Learning (POPBL) on the critical thinking skills and language proficiency of English as a Foreign Language (EFL) undergraduates in Kuwait. The study addresses the significant gap between traditional high school teaching methods and rigorous university admission standards, underscoring the essential role of critical thinking in higher education. The collaborative teaching strategy of the integration of POPBL serves as a bridge between traditional teaching methods and the demands of a dynamic global environment, ensuring that students are well-equipped with the competencies necessary for success in the 21st century. The methodology employed a two-phase investigation, combining quantitative and qualitative components. Initial findings indicate subtle changes in perceived critical thinking skills, with a distinct improvement observed within the experimental group. Further analysis, including content scrutiny of final projects and a comprehensive evaluation of language proficiency, strengthens the positive impact of POPBL. Although minimal changes may be noted in perceived critical thinking skills, the study highlights a tangible enhancement in actual critical thinking abilities, especially within the experimental group. Future research should delve into specific strategies contributing to this improvement and refine pedagogical practices in similar contexts.

Keywords: Critical Thinking; Learners' Perception; Project-Oriented Learning; Problem-Solving; Performance based Assessment; Language Proficiency

1. Introduction

Critical thinking (CT), encompassing the ability to analyze information, evaluate its relevance, and interpret it for effective problem-solving, demands high-level cognitive processes such as analysis, evaluation, reasoning, and reflection (Jeevanantham, 2005). Its significance for university students entering the workforce has been emphasized (Gagné, 1988). In Kuwait, like other countries, the education system strives to adapt teaching methods, learning materials, and assessment strategies to prepare graduates for a skills-oriented workplace and meet evolving societal demands. However, the challenge lies in teaching and assessing critical thinking skills, which traditional methods and summative assessments struggle to address.

The research problem canters on the substantial gap between high school teaching methods and the admission criteria of Kuwaiti universities, particularly regarding English language proficiency. High admission standards, including passing an English language placement test,

pose a hurdle for numerous senior graduates who excel in high school English but struggle with these assessments. Reported by the ministry of Education in 2023, with limited governmental scholarships and an annual influx of 40,000 to 45,000 graduates, the discrepancy leads to many qualified students being unable to secure university placement. This gap is attributed to public schools relying on traditional teaching methods, while universities demand more contemporary approaches.

Acceptance policies, dependent on placement tests that assess higher-order thinking skills rather than memorization, often result in seniors failing and losing opportunities for university admission. Even those who manage to enrol face challenges in English programs that require critical thinking skills. Acknowledging the importance of critical thinking in student learning, this research emphasizes the necessity for performance-based assessments (PBAs) to evaluate critical thinking skills effectively. Traditional methods often fall short, prompting a call for an approach that assesses real-world problem-solving abilities. The study aligns with contemporary frameworks, such as the 6cs of the 21st-century skills, employing the Project-Oriented Problem-Based Learning (POPBL) approach to assess students' critical thinking levels. Recognizing the difficulty of explicitly teaching these skills, the integration of Project-Oriented Problem-Based Learning (POPBL) becomes crucial. This approach not only fosters 21st-century skills but also cultivates problem-solving, critical thinking, digital literacy, and teamwork—essential elements for success in a dynamic global environment.

Despite extensive research on Problem-Based Learning (PBL) and Project-Based Learning (PjBL), the integrated approach, POPBL, and its impact on 21st-century skills in Kuwaiti English as a Foreign Language (EFL) contexts remain unexplored. This study aims to fill this gap by investigating the enhancement of critical thinking skills among EFL graduates in Kuwait. The focus will be on the integrated English Language, technology, foundation program utilizing the POPBL approach as its fundamental pedagogy. This research seeks to contribute valuable insights to the understanding of critical thinking skill development in the Kuwaiti higher education landscape by addressing key questions.

- 1- What is the perception of EFL undergraduates regarding their level of critical thinking when engaged in the implementation of Problem-Oriented Project-Based Learning (POPBL) within the English Language program?
- 2- How do EFL undergraduates' abilities in critical thinking transform following the implementation of the Problem-Oriented Project-Based Learning (POPBL) approach in English Language programs?
- 3- How does the implementation of Problem-Oriented Project-Based Learning (POPBL) within the English Language program affect the language proficiency of EFL undergraduates?

2. Methodology

This research employed a two-phase methodology to assess the impact of Project-Oriented Problem-Based Learning (POPBL) on the critical thinking skills of English as a Foreign Language (EFL) undergraduates at a private university in Kuwait. The initial phase involved gauging pre-implementation critical thinking perceptions in both the control and experimental groups to establish a baseline understanding. Subsequently, the implementation phase introduced POPBL to the experimental group, while the control group followed standard learning methods. Post-implementation surveys then assessed changes in perceived critical thinking abilities. This research utilized a mixed-methods design, integrating quantitative and qualitative components. Adopting a sequential exploratory design, the methodology began with the collection of quantitative data through the bAEST2 (Appendix A) questionnaire, and the non-random participant selection rendered the quantitative section quasi-experimental. Triangulation involved studying final projects and quantitatively analysing critical thinking

skill scores based on final project rubrics (and questionnaires). The qualitative interpretation of classroom observations and semi-structured interviews enriched the analysis, offering insights into students' perceptions and success in critically analysing emerging problems and proposing solutions through engagement with the POPBL approach. The overarching objective of the methodology was to provide a comprehensive assessment of the impact of POPBL on critical thinking skills, contributing valuable insights into its application in the context of EFL education at a private university in the state of Kuwait..

3. Data Analysis and Discussion

3.1 Quantitative Data Analysis

The research involved a pre-implementation phase, measuring initial perceptions in both control and experimental groups, followed by an implementation phase introducing POPBL to the experimental group. Post-implementation, both groups were surveyed again to evaluate changes in perceived critical thinking abilities. The final projects submitted by the students were studied to determine their ability to propose solutions to emerging problems. Additionally, the overall grades in the English course were collected and analysed to draw conclusions. Statistical analyses were conducted to determine the impact of POPBL.

Data shows that out of 165 participants, a refined sample of 150 was obtained after a thorough screening process. The sample overview in (Table 1) presents the distribution and classification of participants from the targeted university. Within the final sample, 69 students formed the control group, and 81 students comprised the experimental group. Table 1 provides a breakdown of the sample distribution, emphasizing the categorization of participants within the community.

Table 1

		Participants T= 165	Control	Experimental
Valid	Frequency	150	69	81
	Total Percent	100	46	54

Initial Perceptions of Critical Thinking Skills

The initial perceptions of critical thinking skills were similar between the control and experimental groups. Both groups had comparable mean scores (3.099 for the control group and 3.1399 for the experimental group), before the introduction of POPBL. Learners in both groups seem to have held similar views about their own critical thinking abilities within the English Language program. This similarity in the baseline perceptions sets the stage for a meaningful comparison to assess any changes or differences following the implementation of the POPBL approach (Table 2).

Table2

Group	Skill	Mean	N	Std. Deviation	Std. Error Mean
Control	CT	3.0990	69	.36304	.04370
Experimental		3.1399	81	.35006	.03890

Perceptions of Critical Thinking After the Implementation of POPBL

Analysis of the changes in perception revealed slight non-significant improvements in critical thinking abilities for both control and experimental groups after exposure to POPBL (Table 3). When analysing the post-implementation survey the paired samples tests showed no statistically significant differences in mean scores. Although t-tests (Table 4) showed no statistically significant differences, emphasizing the minor variance between the groups. However, comparing mean scores before and after POPBL between control and experimental groups revealed marginal increases in perceived critical thinking skills where the means for the control group (pre-POPBL: 3.0990, post-POPBL: 3.1836) and the experimental group (pre-POPBL: 3.1399, post-POPBL: 3.2058) indicated marginal increases in perceived critical thinking skills for both groups.

CT Skill	Group	N	Mean	Std. Deviation	Std. Error Mean
before	Control	69	3.0990	.36304	.04370
	Experimental	81	3.1399	.35006	.03890
after	Control	69	3.1836	.37393	.04502
	Experimental	81	3.2058	.38754	.04306

CT Skill	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
before	-.701	148	.484	-.04088	.05833	-.15616	.07439
after	-.355	148	.723	-.02219	.06247	-.14564	.10127

The discussed results above emphasize the minor variance in perceived critical thinking skills after the implementation of POPBL between the two groups based on self-assessment approaches. Further exploration is crucial to uncover factors that could significantly impact critical thinking abilities, particularly in the practical application and implications of POPBL within English Language classrooms. Engaging EFL learners in real projects, discussing raised problems, and proposing solutions could be instrumental. Additionally, the performance of content analysis on these final projects, adopting the PBAs complemented by interviews and classroom observations, is positioned to provide valuable insights. This exploration leads us to the discussion of research question 2 below.

Transformation in Critical Thinking Abilities

After collecting students' scores in the final project, accounting for 15% of the overall English course grade, these scores underwent analysis and comparison in both the pre- and post-implementation phases. Considering critical thinking (CT) as one of the 6Cs criteria influencing project grading, it held a weight of 3% within the overall 15%. The statistical data reveals significant changes in critical thinking abilities post-POPBL. The control group experienced a decline, while the experimental group demonstrated a noteworthy increase, with both changes being statistically significant (table 5). Table 6 illustrates the comparison of Critical Thinking Abilities Between Control and Experimental Groups after the implementation. The results highlight a substantial difference in critical thinking scores post-implementation, underscoring the influence of POPBL on enhancing critical thinking abilities ($t = -5.507$, $p = 0.000$).

Table 5

Phases	Group	Group Descriptive Statistics			
		N	Mean	Std. Deviation	Std. Error Mean
CT- Pre	control group	69	1.362	.4991	.0601
	experimental group	81	1.253	.3963	.0440
CT-Post	control group	69	1.116	.3943	.0475
	experimental group	81	1.481	.4142	.0460

Table 6

t-test for Equality of Means							
Phases	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
CT-Pre	1.493	148	.137	.1092	.0731	-.0353	.2538
CT-Post	-5.507	148	.000	-.3655	.0664	-.4967	-.2344

Possible improvement in language proficiency

A comprehensive assessment of 100 % overall grades was conducted by the English department at the end of each semester to examine the effectiveness of (POPBL) on participants language proficiency. The pre-implementation phase involved analysing participants' overall grades, reflecting their language proficiency before the implementation in the first semester of the academic year. The post-implementation phase included grades at the end of the second semester, where POPBL had been integrated. The Group Statistics (Table 7) indicates the mean, standard deviation, and standard error mean for both the control and experimental groups in the pre and post phases:

Phases	Group	N	Mean	Std. Deviation	Std. Error Mean
Pre-100	control group	69	73.72	12.706	1.530
	experimental group	81	72.09	12.856	1.428
Post-100	control group	69	71.90	12.349	1.487
	experimental group	81	74.75	11.784	1.309

For the pre total marks out of 100, there was a slight, non-significant difference between the experimental and control groups. However, a significant difference was observed between the post grades of the control and experimental groups, highlighting the impact of POPBL on language proficiency."

Further analysis involved comparing pre and post scores within each group. In the control group, a paired t-test revealed a significant difference, with the mean total marks decreasing from 73.72 to 71.90. Conversely, in the experimental group, there was a significant improvement, as the mean total marks increased from 72.09 to 74.75. These findings suggest that the implementation of POPBL had a notable impact on language proficiency, resulting in an enhancement of language proficiency for the experimental group and a decline for the control group.

Phases	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Pre-100	.782	148	.435	1.638	2.095	-2.051	5.778
Post-100	-1.446	148	.150	-2.855	1.974	-6.755	1.046

3.2 Quantitative Data Analysis

Non-random interviews with a subgroup of 20 participants, representing a quarter of the experimental sample was conducted and these interviews aimed to gather in-depth feedback on the participants' experiences with (POPBL) approach. The participants consistently provided positive feedback, highlighting a noticeable enhancement in their sense of critical thinking. They expressed an improved ability to reflect on problems, analyse them, and propose feasible and reasonable solutions. Moreover, the participants conveyed a deeper understanding of emerging issues and a heightened capacity to evaluate their progress. To triangulate these self-reported improvements, content analysis of the students' project submissions was conducted. By coding the content, the researcher identified tangible evidence supporting the reported gains in critical thinking. The content analysis revealed a real and measurable improvement in the participants' critical thinking skills, substantiating the positive impact of POPBL on their cognitive abilities.

4. Conclusion

The initial findings underscored the consistency in baseline perceptions of critical thinking skills between the control and experimental groups, emphasizing a uniform self-assessment among students before the introduction of POPBL. Post-implementation, the marginal increases in perceived critical thinking skills for both groups indicated a positive trend, although statistically insignificant. However, the real impact became apparent when assessing actual critical thinking abilities through the analysis of final projects, where the experimental group demonstrated a significant increase compared to the control group.

Additionally, the study considered language proficiency an essential facet of overall competency. The results revealed a substantial difference in language proficiency between the control and experimental groups post-POPBL implementation, further emphasizing the positive influence of this pedagogical approach on language skills. The qualitative component, including non-random interviews and content analysis, enriched our understanding. Participants consistently reported enhanced critical thinking skills, aligning with the tangible evidence found in their project work. However, as with any research, this study has its limitations. The sample size, while representative, might benefit from expansion for broader generalizability. Moreover, the study focused on a specific educational context, and its findings may not be universally applicable. These limitations offer avenues for future research to delve deeper into the intricacies of POPBL implementation, considering diverse settings and expanding the participant pool.

In conclusion, this research contributes valuable insights into the efficacy of POPBL in promoting critical thinking skills and language proficiency among EFL undergraduates. The tangible improvement in actual critical thinking abilities highlights the merit of integrating POPBL into EFL education. The identified limitations and the nuanced findings pave the way for future research to refine and expand upon these findings, ensuring a continuous evolution of pedagogical practices in similar contexts. This study, aligned with the evolving landscape of 21st-century skills, underscores the importance of innovative teaching approaches in preparing students for the challenges of our interconnected world.

References

- Barrows, H. S. (1996). Problem-based learning in medicine and beyond A brief overview. *New Directions for Teaching and Learning*, 1996(68), 3-12.
<https://doi.org/10.1002/tl.37219966804>
- Bell, S., Wilson, J. M., & Izsák, A. (2018). A meta-analysis of the impact of PBL on student attitudes toward learning. *PLoS ONE*, 13(11), e0206587.
<https://doi.org/10.1371/journal.pone.0206587>
- Bravo, M. C. M., Chalezquer, C. S., & Serrano-Puche, J. (2021). Meta-framework of digital literacy: A comparative analysis of 21st-century skills frameworks. *Revista Latina de Comunicacion Social*, (79), 76-109.
- Gagné, R. (1988). Some Reflections on Thinking Skills. *Instructional Science*, 17(4), 387-390
- Rodzalan, S. A., & Mohamed Saat, M. (2015). The Perception of Critical Thinking and Problem Solving Skill among Malaysian Undergraduate Students. *Procedia - Social and Behavioral Sciences*, 172, 725-732. <https://doi.org/10.1016/j.sbspro.2015.01.425>
- Jeevanantham, L. S. (2005). Why Teach Critical Thinking? *Africa Education Review*, 2(1), 118-129.
- González-Pérez, L. I., & Ramírez-Montoya, M. S. (2022). Components of Education 4.0 in 21st century skills frameworks: systematic review. *Sustainability*, 14(3), 1493.
- Griffin, P., McGaw, B., & Care, E. (2012). *Assessment and teaching of 21st century skills*. Springer Science & Business Media
- International Society for Technology in Education (ISTE). (2016). *ISTE Standards for Students*. Retrieved from <https://www.iste.org/standards/for-students>
- Martins-Pacheco, L. H.; Degering, L. P.; Mito, F.; Gresse von Wangenheim, C.; Borgatto, A. F.; Petri, G. Improvements in bASES21: 21st-Century Skills Assessment Model to K12. In: *Proc. of the 21th International Conference on Computer Supported Education*, Prague/Czech Republic, 2020, Pages 297–310.
- Paul, R. and Elder, L. (2001). *Critical Thinking: Tools for Taking Charge of Your Learning and Your Life*. Upper Saddle River, N.J.: Prentice.
- Partnership for 21st Century Learning (P21). (2015). *P21 Framework Definitions*. <https://www.p21.org/our-work/p21-framework>
- Ribble, M., & Bailey, G. D. (2007). Digital citizenship in schools. *International Society for Technology in Education*.
- Rotherham, A. J., & Willingham, D. T. (2010). 21st-century” skills. *American educator*, 17(1), 17-20.

Thomas, J. W., & Mergendoller, J. R. (2017). PBL research review: Project-based learning's impact on content knowledge acquisition and retention. Buck Institute for Education.
<https://www.pblworks.org/resource/pbl-research-review>

Vega, A., & Brown, C. G. (2013). The implementation of project based learning. National Forum of Education Administration & Supervision Journal, 30(2), 4-29.

Walsh, A. (2009). Information literacy assessment Where do we start? Journal of Librarianship and Information Science, 41(1), 19-28.

Witte, S.D., Gross, M.R. & Latham, D.L. (2014/2015). Mapping 21st century skills: Investigating the curriculum preparing teachers and librarians. Education for Information, 31, 209-225

Appendix A

The BASES21 questionnaire

I- LEARNING AND TEAMWORK (21 questions)

1. I like to ask and to answer questions to learn something new.
2. I try to understand a problem before trying to solve it.
3. I choose and organize the material that I need when I am going to do .
4. I ask myself if I am doing my tasks well at school.
5. I make an effort when I do my school tasks.
6. I plan how to study (which tasks I am going to do, in which days/time, etc.)
7. If I have difficulty in a subject of a course, I spend more time studying this subject
8. I like to learn new things.
9. I can keep concentrated for a long time.
10. I listen attentively to understand what others are saying.
11. I always do my part when I work in a group.
12. I like to be a good example for others.
13. I commit to doing the necessary tasks to achieve a goal in group work.
14. I do not easily give up.
15. I usually finish the things that I start.
16. I can find the necessary information to do a task/ to solve a problem.
17. I always do my homework.
18. When I get a low score in school, I try to understand the reason for this.
19. I make a to-do list.
20. I avoid as much as possible to talk or to use a cellphone during classes.
21. I can achieve the goals that I create for myself.

I. التعلم والعمل الجماعي (21 سؤالاً)

1. أحب أن أطرح الأسئلة وأجيب عليها لتعلم شيء جديد.
2. أحاول فهم المشكلة قبل محاولة حلها.
3. أختار وأنظم المواد التي أحتاجها عندما أقوم بأي عمل.
4. أسأل نفسي إذا كنت أقوم بمهامي جيدًا في الكلية التعليمية.
5. أبذل مجهودًا عند قيامي بمهامي الدراسية.
6. أخطط كيفية الدراسة (المهام التي سأقوم بها، في أي أيام/أوقات، إلخ).
7. إذا واجهت صعوبة في مادة من المواد الدراسية، أقضي وقتًا أكثر في دراستها.
8. أحب تعلم أشياء جديدة.
9. أستطيع الانتباه لفترة طويلة دون فقد انتباهي.
10. أستمع باهتمام لفهم ما يقوله الآخرون.
11. أقوم دائمًا بدوري عندما أعمل في مجموعة.
12. أحب أن أكون مثالًا حسنًا للآخرين.
13. ألتزم بالقيام بالمهام اللازمة لتحقيق هدف في العمل الجماعي.
14. لا أستسلم بسهولة.
15. عادةً ما أنهي الأشياء التي أبدأها.
16. أستطيع العثور على المعلومات اللازمة للقيام بمهمة/حل مشكلة.

17. دائماً ما أقوم بواجباتي المنزلية.
18. عندما أحصل على درجة منخفضة في المدرسة، أحاول فهم سبب ذلك.
19. أقوم بعمل قائمة تنظيمية بالمهام التي يجب القيام بها.
20. أتجنب قدر الإمكان التحدث أو استخدام الهاتف الجوال خلال الفصول الدراسية.
21. أستطيع تحقيق الأهداف التي أضعها لنفسي.

II- CITIZENSHIP AND SOCIAL RESPONSIBILITY (16 questions)

22. I learn from my mistakes or when my ideas go wrong.
23. I like to talk and listen to different opinions.
24. I regard as wrong copying, sharing, or changing (information, text, pictures, etc.) that belong to other people without their permission.
25. I have the right to give my opinion.
26. I respect that people can express different cultures, religions, lifestyles, and opinions.
27. I can establish a good relationship with people with personalities or interests different from my own.
28. I am friendly and kind with new colleagues in the classroom.
29. I can learn many things from other people.
30. I can teach something to other people.
31. I make an effort to, as much as possible, fulfill the promises that I make.
32. I treat people as I would like to be treated.
33. I admit my errors, and I apologize.
34. I know that government decisions can affect me in different ways.
35. I understand what is necessary for a healthy life.
36. I know how to prevent common diseases.
37. I know how to take care not to catch a cold.

II. المواطنة والمسؤولية الاجتماعية (16 سؤالاً)

22. أتعلم من أخطائي أو عندما تخطئ أفكارى.
23. أحب التحدث والاستماع لآراء مختلفة.
24. أعطي بأن نسخ ومشاركة أو تغيير (المعلومات والنصوص والصور، وما إلى ذلك) التي تنتمي لأشخاص آخرين بدون إذنهم هو خاطئ.
25. لدي حق الإبداء برأىي.
26. أحترم حق الناس في التعبير عن ثقافات وأديان وأساليب حياة وآراء مختلفة.
27. أستطيع إقامة علاقات جيدة مع الأشخاص ذوي الشخصيات أو الاهتمامات المختلفة عن خاصتي.
28. أنا ودود ولطيف مع زملاء الجدد في الفصل.
29. أستطيع التعلم من الأشخاص الآخرين الكثير من الأشياء.
30. أستطيع تعليم شيء ما للآخرين.
31. أبذل قصارى جهدي لتنفيذ الوعود التي أقدمها قدر الإمكان.
32. أعامل الآخرين كما أحب أن يعاملوني.
33. أعترف بأخطائي وأعتذر.
34. أعرف أن قرارات الحكومة يمكن أن تؤثر علي بطرق مختلفة.
35. أفهم ما هو اللازم لحياة صحية.
36. أعرف كيفية الوقاية من الأمراض الشائعة.
37. أعرف كيفية الحفاظ على عدم الإصابة بالبرد.

III - ICT PROFICIENCY (11 questions)

38. I analyze if a piece of information is truthful or not.
39. I can interpret graphics and tables.
40. When I study, I access the internet to find useful information.
41. I use instant message Apps (WhatsApp, Messenger, etc.)
42. I know how to create documents (doc, pdf, spreadsheets, etc.) or presentations in the computer.
43. I can use electronic devices (computer, internet, cellphone, etc.) to do my tasks.
44. I understand the importance of taking care of my personal information on the internet.
45. I can identify the most important parts of a computer.
46. I know the risk of using a simple password.
47. I know how computers communicate on the internet.
48. I know how to identify, to test, and to correct an error in a computer program.

.III مهارات تقنية المعلومات والاتصالات (11 سؤالاً) .

38. أستنتج ما إن كانت قطعة المعلومات صحيحة أم لا.
39. أستطيع تفسير الرسومات البيانية والجداول.
40. عندما أدرس، أستخدم الإنترنت لأجد معلومات مفيدة.
41. أستخدم تطبيقات الرسائل الفورية (واتساب، ماسنجر، إلخ).
42. أعرف كيفية إنشاء مستندات doc ، pdf ، جداول بيانات، إلخ ، أو عروض تقديمية على الحاسوب.
43. أستطيع استخدام الأجهزة الإلكترونية (الحاسوب، الإنترنت، الهاتف المحمول، إلخ) لأداء مهام.
44. أفهم أهمية الاعتناء ببياناتي الشخصية على الإنترنت.
45. أستطيع تحديد أهم أجزاء الحاسوب.
46. أعرف مخاطر استخدام كلمة مرور أو كلمة سر بسيطة.
47. أعرف كيفية توصيل الحواسيب على الإنترنت.
48. أعرف كيفية تحديد الأخطاء واختبارها وتصحيحها عند استخدام برنامج الحاسوب.

IV - COMMUNICATION (8 questions)

49. I am not embarrassed to talk about my ideas.
50. I can explain my opinions and decisions.
51. Other people understand what I say.
52. When I read a text, I understand what I am reading.
53. I can argue well in a discussion.
54. In group work, my colleagues usually agree with my ideas.
55. I can explain why I change my opinion.
56. I speak/understand well another language (Spanish, French, etc.) beyond English.

.IV مهارات التواصل (8 أسئلة)

49. نا لا أشعر بالإحراج عند التعبير و التحدث عن أفكار.
50. أستطيع شرح آرائي وقراراتي.
51. يفهم الآخرون ما أقوله.

52. عندما أقرأ نصًا، أفهم ما أقرأه.
53. أستطيع طرح جدلا بشكل جيد في مناقشة.
54. في العمل الجماعي، يتفق زملائي عادةً مع أفكاري.
55. أستطيع شرح سبب تغيير رأيي.
56. أتحدث / أفهم لغة أخرى بشكل جيد (الإسبانية ، الفرنسية ، إلخ) بالإضافة إلى اللغة الإنجليزية