ALTRALANG Journal
e-ISSN: 2710-8619 p-ISSN: 2710-7922
Volume 8 Issue 1 / June 2026 pp. 218-229

Insights into Learner-Centeredness Challenges during the AI Era: Fostering Capacities or Hindering the Mental Activity: The Case of Second year BA English Students at Tébessa University

Zineb Abid*
University of Tébessa - Echahid Chaikh Larbi Tébessi, Algeria
zineb.abid@univ-tebessa.dz

Received: 27/10/2025, **Accepted:** 24/04/2026, **Published:** 05/06/2026

ABSTRACT: *This research paper investigates how the prominent aspects of learner-centered approach manifest in the EFL classroom in correspondence with using artificial intelligence tools. A semi-structured survey was designed and distributed online to EFL teachers at Tébessa University to have insights on their perceptions towards the phenomenon. The study tackles two main questions: 1) Do EFL learners involve learner-centered aspects to accomplish their tasks during classes? 2) Does the use of AI ameliorate critical thinking and problem-solving capacities or threaten their development? The results demonstrate that the students of English develop low degree of autonomy, self-constructed and monitored learning. Besides, they intensively rely on artificial intelligence tools for easy and rapid access to information which in turns contribute to hinder their potential and mental capacities. Thus, it is recommended to strengthen the aspects of learner-centered approach inside EFL classroom and guide students towards the appropriate use of AI generators to protect the human mental activity.*

KEYWORDS: Artificial intelligence, autonomy, critical thinking, learner-centered approach, problem solving.

* Corresponding author
ALTRALANG Journal / © 2026 The Author(s). Published by the University of Oran 2 Mohamed Ben Ahmed, Algeria.
This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/)

Introduction

Learning English as a foreign language depends; in its nature, to multiple factors such as: setting, levels, age category, available materials, needs and objectives. In higher education, the roles of teachers and learners have been earlier re- defined by the issue of the communicative approach as a significant monitor of the EFL pedagogy and curricula. In other words, there was a shift of attention from tutor to learner who started to be recognized as the center in the EFL classroom. Accordingly, the present study aims to spot light on the most common challenges of learner-centeredness in EFL classroom mainly when the artificial intelligence starts to cross path into academic setting. This study also sheds light on the perceptions of English teachers towards learners' autonomy, critical thinking and knowledge construction when using the AI tool in learning.

2.The Relevance of Constructivism in Education

The Constructivist Theory has the same roots from the school of Cognitivism which dates back to the early 1950's in the United States of America established by Chomsky and also associated with the work of Jean Piaget (1976), Vygotsky (1978), Bandura and Bruner (Jordan, Carlile & Stack, 2008). They all agree upon one common principle which stands for the leaner's responsibility towards constructing knowledge and meaning through actively involving the mind. Von Glasersfeld (2009) believed that learning happens through experiencing and meaning is constructed when association is made between the old and new input. Hence, the constructivist theory encourages learners to take responsibility and be involved mentally and deeply in the learning process.

Besides, Garton (2004) asserted that learners need to think critically about knowledge and listen to the inside voices of their minds about what? who? why? when? and how? Further, Jackson (2009) called the instructors to assist learners in doing tasks rather than doing them by themselves just to satisfy their inner belief about their job as teachers i.e. he is inviting learners to rely on themselves and take responsibility of thinking, questioning, analyzing, synthesizing and problem solving.

3. The Real Roles of Learners and Teachers

No one can deny how significant the role of the teacher is inside the classroom regardless to the subject being taught or who the learners are. Learning is also a high demanding process for it requires many tasks and responsibilities from both learners and teachers.

By the emergence of modern approaches such as the competency- based and learner-centered approaches, the majority of tasks are assigned to learners who received new identity inside the language classroom. In the same vein, Jackson (2009) added that despite some teachers still feel the need to dominate the classroom and do all the tasks to feel that their mission is fulfilled, they need to worry more about how to push their learners to take roles and develop self-reliance. In addition, he says: "classroom is the community of learners" (p.173) meaning that the teacher's role is minimized into guidance while learners need to be entirely responsible and engaged in the process. Kardena (2014) further added that learners' reliance on teachers in the classroom can be a cultural belief as well when some communities still associate classroom tasks to teachers rather than learners.

4. Learner- Centeredness in EFL Classroom

Before explaining how learner- centeredness manifests in higher education setting, it is worth to highlight the distinction between when to teach children and when to teach adults. The former refers to "pedagogy" as the

American educationalist Malcolm Knowles defined in the 1980's when he coined the new term "Andragogy". Indeed, the same scholar believed that children and adults do not learn similarly because of many reasons:

a) Adults are more conscious towards their decisions, choices and achievements.
b) Adult learners are assumed to acquire the necessary experience which guides them in learning.
c) They are predisposed to learning and need to be actively involved in the process to test their skills and seek new knowledge.
d) Adults must not wait for ready input but rather explore it through problem solving tasks and mental activities (Jordan, Carlile & Stack, 2008).

Thus, "Andragogy" fits the requirements of learner- centered approach and became more expressive. In fact, the shift from teacher-centered to learner-centered pedagogy was for the aim of preparing adults; as future citizens for life issues and challenges. Besides, this approach tends to develop very prominent aspects any individual needs in academic experiences namely, autonomy, self monitoring, responsibility, decision making and problem solving. Furthermore, Donkoh&Amoakwah (2024)) added that learner- centered approach has long term effect on individuals' behaviours as well as ideologies. It affects their personality and psychology positively in the way that it prompts their motivation, attitudes and self reliance. These factors align together and permit the learner to monitor their learning and make it comprehensive.

5. Critical Thinking is Learner's Gift

Human beings unlike the other creatures are unique for their innate possession of working mind which makes us special and curious towards life phenomena. During the learning process, and at advanced stages, learners are expected to be mentally engaged in processing knowledge depending on their experiences, potential and mental skills. Foreign language learning at the university level covers multiple domains, disciplines and sciences which require from learners high mental skills as: concentration, perception, knowledge reconstruction and critical thinking.

Within the growth of research body on learner- centeredness and its implications in pedagogy (Amoakwah&Donkoh, 2024, Harris & Cullen, 2008, Madani, 2019), there was new emphasis on learner as the most prominent element in classroom who needs to be mentally, physically and even psychologically engaged and responsible for building up knowledge inside their mental structure (Webb, 2009).

In the same vein, the US educationalist Jack Mezirow (1970) under his famous theory of "Transformative Learning" asserted that learners' critical engagement in the classroom permits to build up knowledge through testing the already existing input from their earlier experiences. Therefore, they will be able to construct and reconstruct meaning (Jordan, Carlile & Stack ,2008).

Besides, critical thinking as a mental process is very essential for learners of advanced level, as it is the case for higher education learners, and stands also as an evidence for autonomy and independence in EFL classroom which are highly recommended by learner- centered approach. Stephen Brookfield (1995) highlighted that thinking critically means the ability to create subsumed notions or thoughts to what is under hands and getting mentally involved with deeper thinking to reach understanding. This way, learners will help themselves by developing autonomy and self-constructed knowledge.

6. Technology as a Facilitator in Education

Living in the modern era of globalization, the rapid spread of technology devices into people's life is unstoppable. Learners as individuals are using technology tools almost in all life domains among which learning and education are paramount. Many famous online platforms assist students in higher education to accomplish class work, make research and prepare assignments. Recently, the Artificial Intelligence (AI) is very commonly used among students for its rapid and easy access to solve problems and provide information. Norman (2014)

believed that technology is better to transmit information than any other tool if it is well explored. In other words, it should be well manipulated to increase motivation, engagement and problem solving skills of the learners. Yet, the learning outcomes would align well with the objectives of learner- centered approach.

Indeed, there is common agreement that AI crosses its path into the learners' lives and experiences. Looking at the positive side, it proves to be very effective and guiding for them. According to the" Office of Communication" (2024), AI tools start to be facilitators to the very common challenges the students meet in higher education at many levels such as: grammar, vocabulary, meaning, coherence, cohesion …etc. It fosters critical thinking, problem solving, creativity and motivation for many of them. Moreover, artificial intelligence tools help to find rapid answers to questions, solutions to problems and assist learners in selecting appropriate contents for assignments and tests.

However, it is very important to look at the empty side of the cup which stands for the shortcomings the AI may come with. The "Office of Communication" (2024) declared that artificial intelligence is sometimes dangerous because it works with algorithms that cannot be always true especially when it comes to human perceptions, knowledge contexts and language skills. In addition to these, the same office announced that artificial intelligence can also hinder critical thinking and interaction among learners which are considered as basic factors for knowledge construction and meaning creation. Thus, learners are invited to check after the results they obtain from AI and do not follow it blindly.

Accordingly, the present research is conducted to explore how aspects of critical thinking, autonomy and meaning construction manifest inside foreign language classroom under the learner-centered approach mainly when artificial intelligence tools are employed.

7. Research Design and Methodology

The present study is conducted to explore how learner-centeredness keeps its essence within the era of developed technology. In addition, it aims to shed light on how English students at higher education setting monitor their autonomy, meaning construction and critical thinking simultaneously when using artificial intelligence for academic purposes. Accordingly, this section is devoted to describe research design, population and sampling, data collection tools as well as the analysis procedure.

7.1. Research approach and tools

In order to achieve the aims of the investigation, a mixed methods approach is used. The qualitative analysis of the gathered data is found to be more suitable to explore perceptions of the teachers of English in higher education and gain more insights from their academic experiences in relation to the explored phenomenon. On the other hand, the quantitative analysis of the obtained data permits to calculate the frequency among the participants' responses. Leavy (2017) added that the mixed method is frequently used with complicated research areas as it is the case in this research which turns around two essential variables. The first variable stands for learner- centered approach that embodies autonomy, critical thinking and knowledge reconstruction as very prominent aspects. The second variable is modern technology which covers the artificial intelligence being very commonly spread among the students of English at higher education.

Indeed, the same data are obtained through survey method. A semi-structured questionnaire is designed and distributed online to English teachers at higher education. Lodico, Spaulding & Voegtle (2006) added that the descriptive survey method permits to collect perceptions and attitudes of individuals at a larger scale.

7.2. Population and sampling

The present research is based on the "case study" category, starting from already observed details about students of English during the ordinary classes of the researcher, being a permanent teacher of English at the University

of Tébessa. Kumar (2011) believed that this type of research is very appropriate when the researcher has prerequisite knowledge about the existence of the phenomenon and wants to have deep insights on it.

The sample of this study consists of Second year EFL teachers at Echahid Cheikh Larrbi Tébessi-Tébessa. Lodico, Spaulding & Voegtle (2006) said that the sample is very representative to the larger population it is taken from. The choice falls on second year level assuming that the students are neither beginners nor graduates. The participants are selected using purposive sampling; particularly the category of "convenience sampling" on the basis of observed interaction between the existing phenomenon and also exchanged thoughts and ideas with colleagues about them. Henceforth, the choice of the tutors of second year English classes to respond at the survey is assumed to be adequate.

7.3. Description of the survey content and procedure

A semi-structured questionnaire is designed through Google forms and used to collect necessary data to fulfil the objectives of this study. It is built upon a mixture of close-ended questions of the MCQ type that offers ability to get exact definite data and open-ended question which permit to have more insights on the participants' perceptions and opinions. It consists of four main sections. Section one covers questions about the teachers' profile mainly related to their qualifications and teaching experiences. Section two addresses learner-centeredness in EFL classroom throughout which perceptions can be gathered and explored. Section three is devoted to the students' use of artificial intelligence and its relation to their engagement, autonomy and mental activity during classes. Section four is left for the participants to add any further comments.

The survey is administered online to the teachers of second year level at the department of letters and English language at Tébessa University during the academic year of 2024/2025.

8. Piloting

Before the questionnaire is administered officially, the step of piloting was undertaken in order to increase the reliability of the results. First of all, the draft was send to three teachers belonging to the participants to have insight on the designed questions. Second of all and after receiving feedback from the participants, few adjustments regarding the content were done to guarantee the delivery of clear and comprehensive questions in the following step.

9. Data Analysis and Interpretation

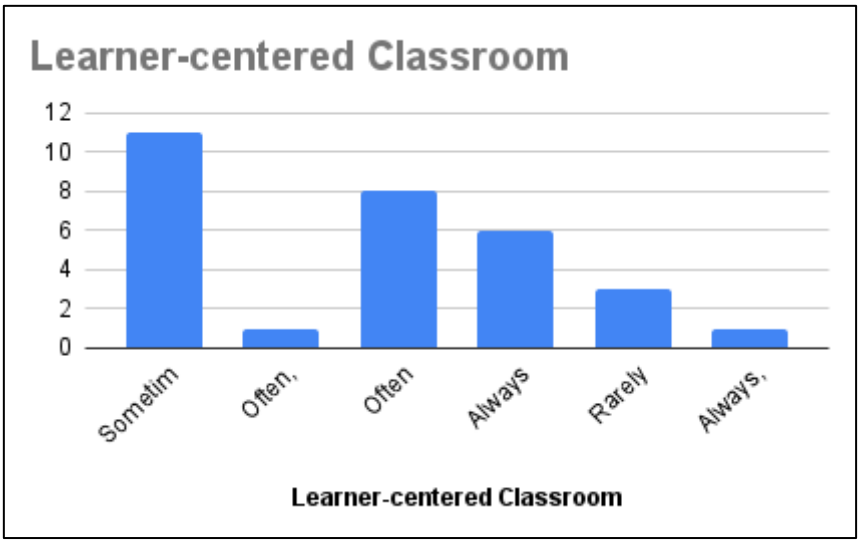


Figure1.Learner Centeredness in EFL Classroom

As the chart shows, nearly sixteen of the respondents (16) replied that their classroom is learner-centered while eleven (11) said that they sometimes use this approach and a minority of them answered by "rarely". Thus, learner-centeredness exists among the EFL classrooms in higher education which indicates the adoption of modern approaches to increase the quality of foreign language learning.

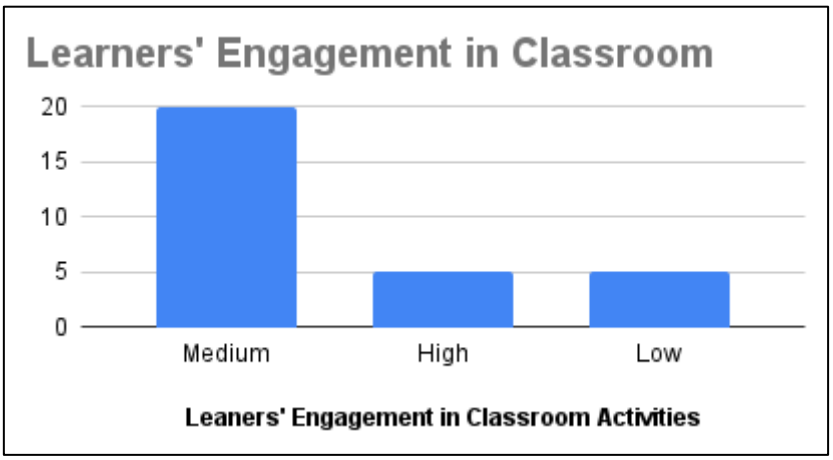


Figure2.Learner Engagement in EFL Classroom

When asking the participants about the learners' overall mental engagement in the classroom, the majority of them (20) said that it is moderate, five teachers (05) answered by "high" while five others (05) opted for "low". The result might well indicate that the EFL learners do occupy the central position in the classroom but are not fully engaged in its multiple tasks due to some challenges.

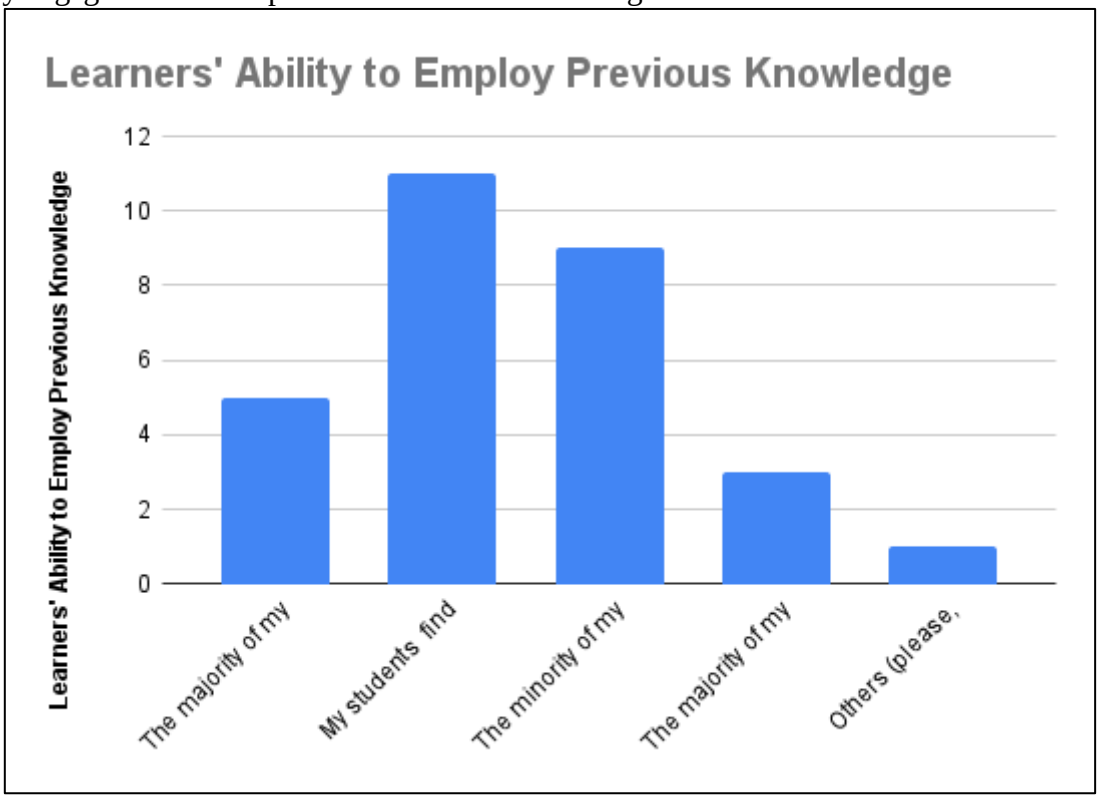


Figure3. Previous Knowledge Employment

When asking the tutors of English about learners' ability to employ previously discussed knowledge in classroom which is an evidence of self-constructed input, eleven (21) of them agreed that their students struggle with using previously discussed details unless they turn back to their notes or they replied incorrectly, three (03) of them noticed confusion and hesitation in the learners' responses while five (05) participants said that they are able to reply correctly. The overall reading of the results can indicate that the EFL students experience challenges to familiarize themselves with knowledge they receive during classes in their mental structure which stands in front of maintaining good understanding and self- constructed input.

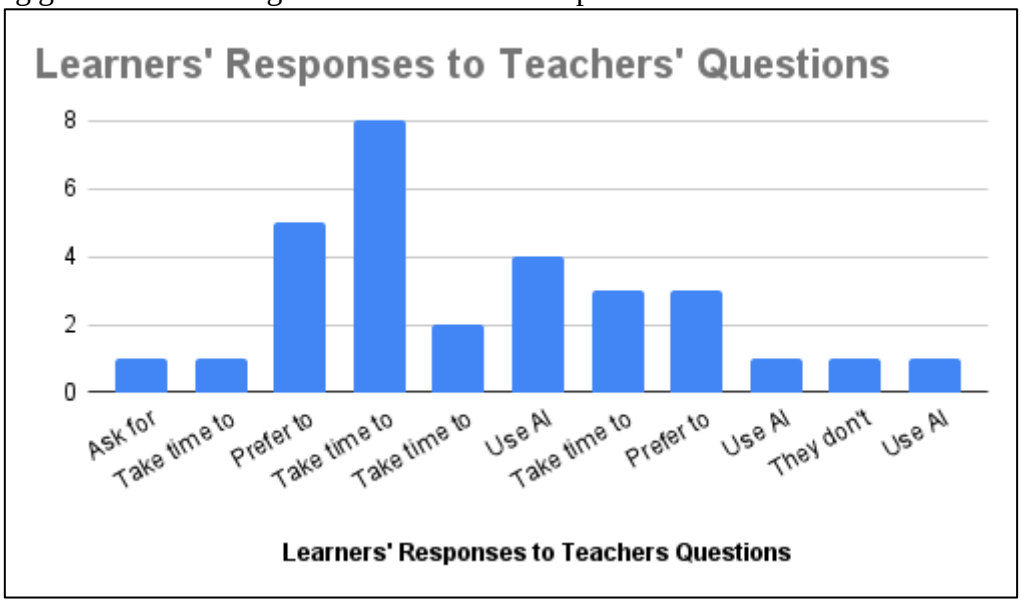


Figure4**.** Learners' Responses to Questions

The chart above indicates the responses on learners' ability to deal with complex questions during classes which demand high mental skills. Indeed, fourteen (14) of the tutors of English affirmed that their students are not able to respond to complex questions unless they take time to think and guess; thirteen (13) asserted that their students get back to the AI assistance while eleven (11) of them added that their learners prefer to discuss the topic again with the teacher to able to remember and the rest of the participants affirmed that the students usually wait for ready answers from them and do not prefer to be engaged. Thus, the learners of English in this study are found to be much relying on classroom setting, teachers or AI tools to employ the and discuss knowledge during classes. Yet, these findings contradict with the aspects of learner-centeredness and show low tendency of EFL students to take responsibility of self-constructed knowledge and be independent from the teacher.

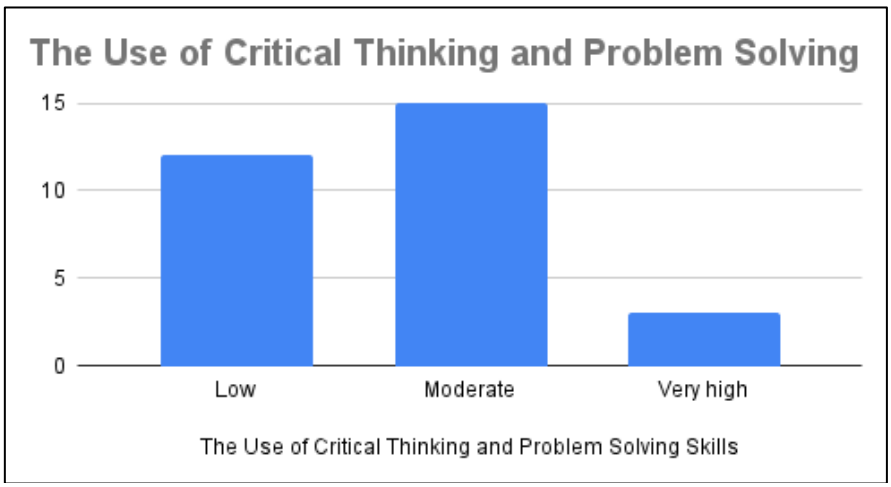


Figure5.Critical Thinking and Problem Solving Usage

When the participants are asked about their learners' ability to employ critical thinking and problem solving skills, half of them (15) described the students' performance by moderate, twelve (12) said that it is low while a minority opted for high performance. This can be interpreted by the fact that the EFL learners under investigation do not manipulate those high order mental skills which are very necessary to engage in multiple classroom tasks and contribute to achieve learning goals.

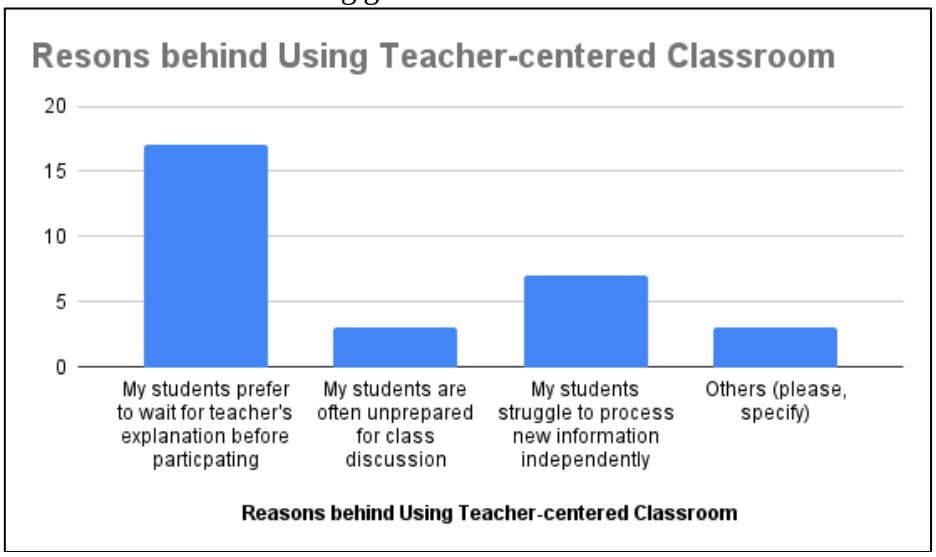


Figure6**.** Reasons why Using Teacher-centered Classroom

In some occasions, the EFL teachers are obliged to adopt the teacher-centered classroom and among the reasons which force them to do so are the learner' reliance on the teachers' explanation and guidance, lack of self-preparation and autonomy for construction of knowledge as the results show above. In other words, when the tutors find their learners less engaged during classes and show low degree of autonomy and responsibility towards knowledge construction, they turn back to be the center in the classroom to guarantee the smooth transmission of knowledge and fulfil the curricula objectives.

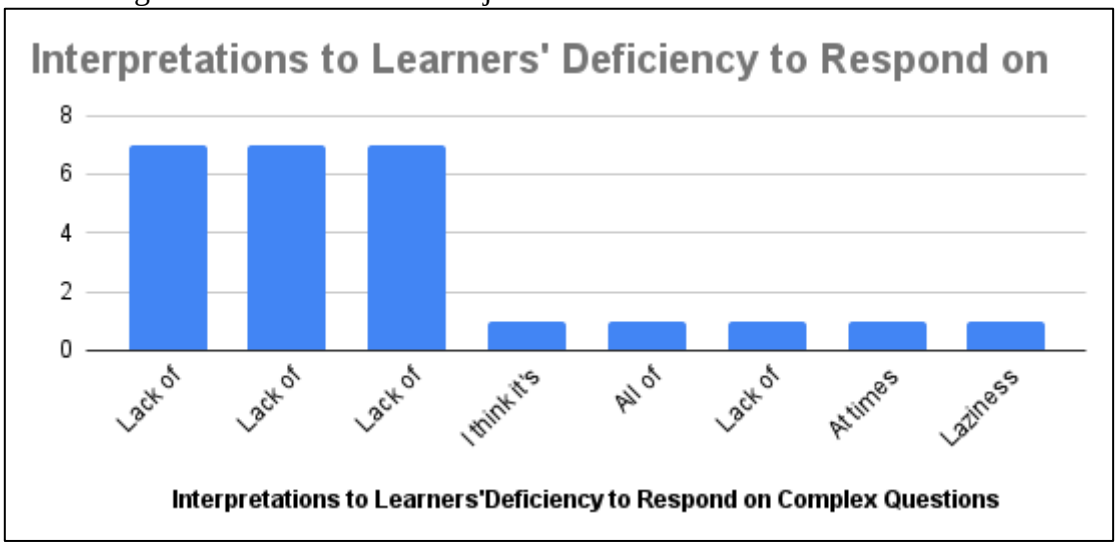


Figure7.Learner's Deficiency towards Complex Questions

In an attempt to understand the reasons behind EFL learners' deficiency to respond to complex questions, the tutors' responses were multiple. Eight (08) respondents believed that their students have lack of

knowledge in the subject; nine (09) related this deficiency to the absence of regular revision and eight (08) of them said that students do not develop the required mental skills such as critical thinking and problem solving. Furthermore, the rest of the participants declared that the level of proficiency, laziness and low motivation are other reasons leading to widen this gap of weakness.

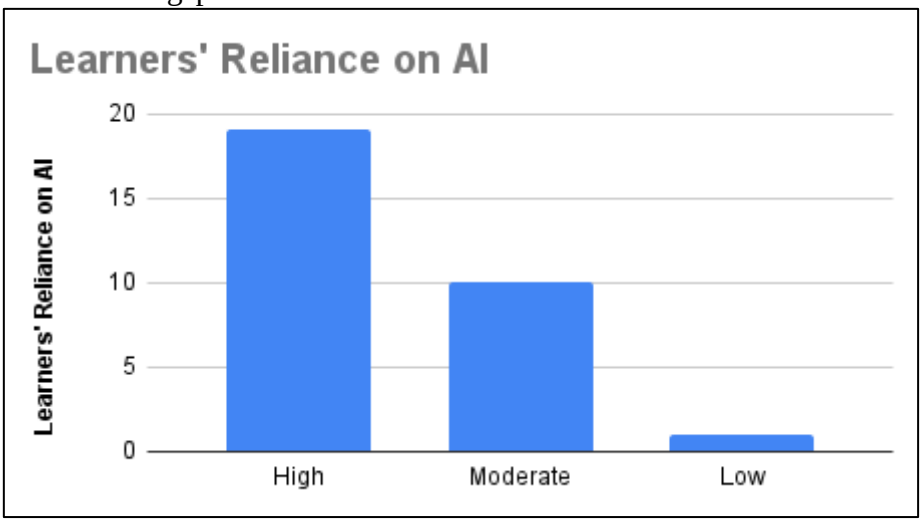


Figure8. Learners Reliance on AI

When asking the participants about their perceptions towards EFL learners' reliance on AI tools, nineteen (19) of them opted for the item "high"; ten (10) opted for "moderate" and just one (01) of them said it is "low". The findings may well indicate that the students of English rely noticeably on AI tools in doing their academic tasks which can prevent the development of autonomy and self-monitoring skills.

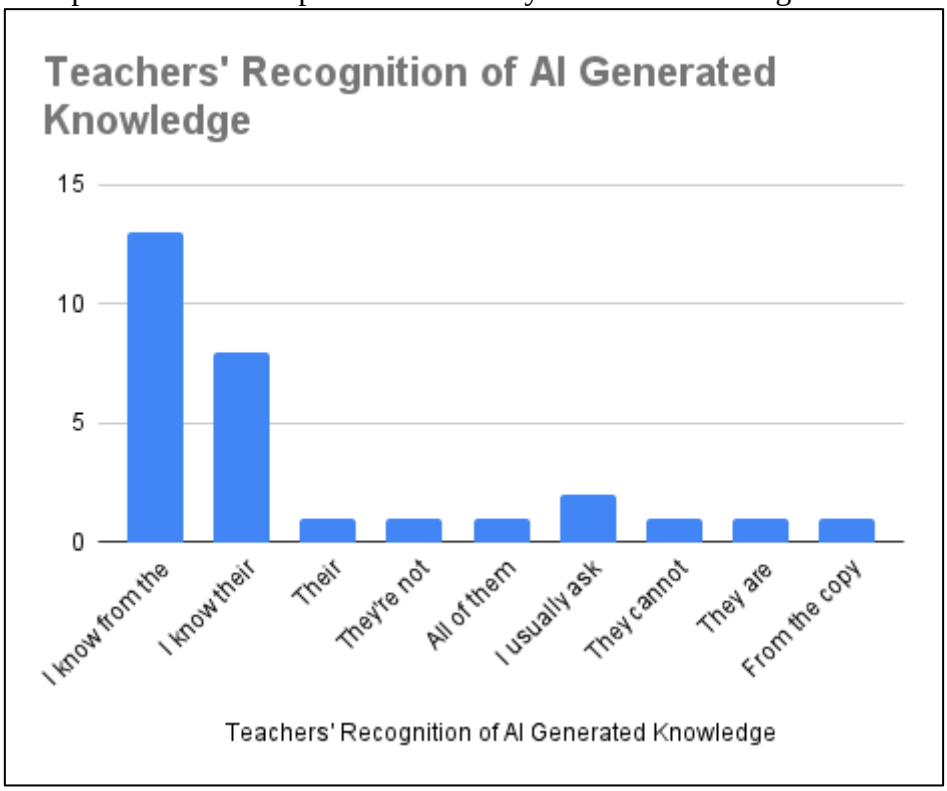


Figure9. How Teachers Distinguish AI Generated Knowledge

This chart represents the key factors which justify how the EFL teachers distinguish their learners' self-constructed knowledge from the one generated by the AI tools. Thirteen (13) of the participants know this from the refined quality of information, eight (08) of them know their students' real level in the subject while three (03) said that they ask them overtly during classes. The rest of the respondents justified by saying that the students use their phones in front of them and don't even ask for permission, others cannot develop responses when changing contexts while some said that they just copy and paste without verification or modifications. Therefore, these facts reflect the high degree of reliance on AI generating tools by EFL students which threatens the employment of their mental skills and prevents creativity, autonomy and self-constructed input being the very significant skills of the 21rst century.

Besides, twenty seven (27) EFL teachers are not satisfied about the quality of information their students bring from AI generators claiming that they do not understand it very well because they just seek for participation, grades and tasks fulfilment. In other words, they believed that their students are not mentally engaged with the information when doing research through AI assistance and rely extremely on its suggestions. In addition, 16 of the participants think that the AI tools contribute to deteriorate the mental activity of the EFL learners, twelve (12) believed that AI develops it moderately while just two (02) of them said that it refines it. Accordingly, the attitudes of EFL teachers lead to say that the students of English in this investigation need much guidance towards the safe and appropriate integration of artificial intelligence in the learning process and must learn how to use it to ameliorate and monitor their mental skills.

Furthermore, the participants are asked to add personal comments at the end of the survey and almost all of them agree that EFL students' tendency to develop self-reliance and responsibility is low. They are excessively using the AI generators to summarize lessons, get ready information and save deadlines. Yet, the instructors suggest further guidance to be offered to EFL students to prevent falling into the trap of over-reliance on artificial intelligence and instead using it to refine their mental skills.

10.Discussion of the Findings

The findings of the survey are discussed to offer answers to research questions and aims. They shed light on how the learner-centered aspects are employed inside EFL classroom intersecting with novice AI generators. Besides, the results also assist to have insights on whether AI tools foster the cognitive capacities of learners of English as a foreign language at higher education or decrease the human mental potential.

Accordingly, the careful analysis of the perceptions of EFL instructors leads to affirm that learner-centered approach inside the English classroom exists but is not fully integrated due to some challenges such as the low engagement of students in multiple tasks and excessive use of AI generators. This approach is characterized by increased autonomy, self-reliance and responsibility towards learning tasks which are found to be significantly challenging for the EFL students based on the obtained data. Similarly, the profound analysis of the perceptions of the tutors leads to say that even the ability to obtain clear understanding of knowledge presented in the classroom is critically low among EFL students who largely rely on their notes, teachers' explanation or AI generators. Therefore, the results contradict with the prominent aspects of learner-centered approach and provide clear vision towards how these skills are not manipulated appropriately. In the same vein, critical thinking and problem solving represent high order skills FL learners need to employ and develop during academic experiences as confirmed by Facione (2020) and Shobha Rani (2020) who insisted on their usefulness for learners of the 21rst century.

However, the responses indicated that EFL students have moderate and low degree of using CT and problem-solving skills and show deficiency to answer complex questions which sometimes provoke the instructors to intervene with necessary feedback. Besides, the lack of research, revision, learning without stated definite goals are among the prominent factors leading students to take responsibility of their learning experiences and ameliorate their mental skills further.

On the other hand, the artificial intelligence generators are intensively employed by the same students according to their teachers. In other words, AI is used blindly by the students who seek ready, easy and rapid access to knowledge, explanations and short contents not for the sake of meaning construction or looking at the deep structure of input. This contradicts with the suggestions of Wu (2023) about the need for using AI to verify, refine and intensively increase the quality of learning instead of relying completely on its outcomes. Indeed, Walczak &Cellary (2023) found in their study that students do not distinguish between correct and incorrect information generated by AI. Yet, AI replaces human cognition, processes information and finds solutions to problems the same issue that is addressed by Holmes & Tuomi (2022) who call for using this modern technology to complete human thought not to endanger it.

Accordingly, Aljuaid (2024) added that artificial intelligence should not substitute human mental activity but instead assists it. Thus, the interaction between learner-centeredness and AI generators in the context of the present study is found to be problematic and sensitive which minimizes learners' independent learning aspects, responsibility and hinders their critical thinking and problem-solving skills more than fostering them. Bates et al. (2020) emphasized that AI may threaten learners skills of thinking if it is not well manipulated. Therefore, the EFL students are not really engaged in active learning as modern approaches (competency-based & learner-centeredness) imply but they are just guided individuals who trust machine generated knowledge more than their sophisticated mental capacities.

Conclusions

The findings of this study enclose learner-centered pedagogy in higher education within the spread of artificial intelligence generators. The obtained results manifest how those learners struggle to develop the main aspects of learner-centered approach inside the EFL classroom which shows a considerable deficiency to engage their thoughts, monitor learning, construct knowledge and refine the higher order skills of critical thinking and problem solving. Further, the intensive reliance on the AI tools was just for lesson preparation, saving time, efforts and getting more opportunities for participation. However, there is no deep processing of knowledge or even critical analysis of the discussed material. Therefore, the AI tools represent a threat more than an advantage in the context of the present investigation because the students are found to be using it blindly to achieve their academic purposes easily and rapidly which at the same time increases the risks of narrowing the role of their mental activity.

According to these, the students of English must worry much about how to develop their mental skills with engagement, hard work, research and deep thinking. As students of the r21rst century, they need to develop self-reliance and responsibility for self- constructed knowledge and deep processing that guide them to meaningful learning. Additionally, EFL tutors and pedagogues need to raise awareness about the safe use of AI tools which can guide in learning but should not replace human thought.

References

- Aljuaid, H. (2024). The impact of artificial intelligence tools on academic writing instruction in higher education: A systematic review. *Arab World English Journal* (AWEJ) Speical Issue on ChatGPT, April 2024:26-55. DOI: https://dx.doi.org/10.24093/awej/ChatGPT.2
- Bates, T., Cobo, C., Mariño, O., & Wheeler, S. (2020). Can artificial Intelligence transform higher education? *International Journal of Educational Technology in Higher Education, 17*(42), 1-12. https://doi.org/10.1186/s41239-020-00218-x
- Brookfield, S. (1995). *Becoming a critically reflective teacher*. San Francisco, CA: Jossey Bass.

- Donkoh, S. &Moakwah, A. (2024). The use and challenges of learner-centered pedagogy: Basic school teachers' perspective: *European Journal of Education and Pedagogy, 5 (1),66-71*. DOI: 10.24018/ejedu.2024.5.1.774
- Facione, P. A. (2020). *Critical thinking: What it is and why it counts*. Insight Assessment. https://insightassessment.com/unlock-resources
- Garton, A.F. (2004). *Exploring cognitive development:* The Child as Problem Solver. Oxford: Blackwell Publishing.
- Holmes, W., & Tuomi, I. (2022). State of the Art and Practice in AI in Education. *European Journal of Education*, (*57),* 542–570.
- Jackson, R.R. (2009). *Never work harder than your students & other principles of great teaching*: Association for Supervision and Curriculum Development Alexandria, Virginia USA.
- Jordan, A, Carlile, O, & Stack, A (2008).*Approaches to learning*. O U P.
- Kardena, A. (2014). Problematic sides in implementing learners-centered instruction paradigm in English classroom: *KomposisiJurnal Pendidikan, Bahasa, Sastra, dan Seni*, XV (2), 101-118. https://ejournal.unp.ac.id/index.php/kompsisi
- Kumar, R. (2011). *Research methodology:* A Step by Step Guide for Beginners. Sage Publications, Inc.
- Leavy, P. (2017). *Quantitative, qualitative, mixed methods, arts-Based, and community –based participatory research approaches*. New York: London.
- Lodico, M. G, Spaulding, D. T., & Voegtle, K. H. (2006). *Methods in educational research:* from Theory to Practice. Jossey-Bass.
- Noman, D. A. (1996). Learner-centered education: *Communication of the ACM*, 39 (4), 24-27 DOI: 10.1145/227210.227215. https://www.researchgate.net/publication/202165703
- Office of Communication, (2024). *AI in schools: Pros & Cons*. College of Education. University of Illinois Urbana-Champaign https://illinois.edu/?utm_source=Illinois_App&utm_medium=web&utm_campaign=Header
- Shobha Rani, K. (2020). Learner-centered approach: *Research Journal of English Language and Literature* (RJELAL), (8) S1. 2020http://www.rjelal.com
- Von Glasersfeld, E. (2007). *An exposition of constructivism: Why some like it Radical*. Italy: Associazione Oikos. http://www.oikos.org/constructivism.htm
- Walczak, K &Cellary, W. (2023). Challenges for higher education in the era of widespread access to generative AI. *Economics and Business Review*, 9 (2), 71-100. https: //doi.org/10.18559/ebr.2023.2.743.
- Webb,N. M. (2009). The teacher's role in promoting collaborative dialogue in the classroom. *British Journal of Educational Psychology*,79 (1), 1-28. https://doi.org/10.1348/000709908X380772
- Wu, Y. (2023). Integrating generative AI in education: How Chat GPT brings challenges for future learning and teaching. *Journal ofAdvanced Research in Education, 2*(4), 6-10. https://www.pioneerpublisher.com/jare