

Chat-GPT in Learning Environment in an Iranian EFL Context: EFL Learners' Perception

Shiva Farmoudi, Ph.D. Candidate, Department of Foreign Languages, South Tehran Branch,

Islamic Azad University, Tehran, Iran

Rasa.english4@gamil.com

Massood Yazdanimoghaddam, Assistant Professor, Department of Foreign Languages,
Garmsar Branch, Islamic Azad University, Garmsar, Iran

massood.yazdanimoghaddam@gmail.com

Ali Rabi, Assistant Professor, Department of Foreign Languages, South Tehran Branch,
Islamic Azad University, Tehran, Iran

ali.rabi22@gmail.com

Abstract

Based on the peculiarities of developing AI technology, learning English among EFL learners has become easier and the significance of studying the way English skills interact with AI technology such as Chat-GPT, and EFL learners' internal and social factors have become highly important. Social factors include may greatly affect the problem-solving skills of the students. It might also lead to a decline in students' writing skills as they rely on the model to generate content rather than developing their own communication abilities. Social factors might include issues related to job or individual growth. Adopting a transformative learning ground, the present study attempted to use a qualitative-method approach to investigate how EFL learners experience AI, on one hand, and how they perceive Chat-GPT in this process through understanding changes in their job, attitudes toward themselves and etc, on the other hand. This study is based on a detailed investigation of the learning experiences of 46 Iranian EFL learners (intermediate and upper intermediate level) from Qom and Tehran provinces; selected based on convenience sampling procedure. Semi-structured interviews were used as the primary data collection method. Thematic analysis was used to analyze the recorded and transcribed data and theme extraction, which combined with an abductive approach helped derive broader meaning. The results indicated an overall positive perception of Chat-GPT among the participants. These findings provide valuable insights into the participants' perceptions of Chat-GPT and highlight the influence of factors such as gender, major, and prior experience on their perceptions. The result also showed that Chat-GPT understands and generates humanlike text, so it is useful for tasks such as generating content, answering questions, engaging in conversations and providing explanations. Based on the content

analysis of the interviews, the study also found that EFL learners believed that there is a risk that it may be misused to spread misinformation or fake news. It is important to pay attention to the quality of the content generated and ensure that it is reliable. The participants also believed that the key to actually using Chat-GPT in one's real life is knowing what tasks to use it for, and more importantly, what not to use it for. A general rule of thumb is to automate small tasks that are relatively low-stakes. This can free one up to think about more impactful decisions. The implications of these findings can inform the designing and implementation of educational technologies involving AI-based chat systems in higher education settings. The study concludes with a discussion on the findings and stating a number of recommendations for further research.

Keywords: Transformative learning, adult learning, artificial intelligence, Chat-GPT

Introduction

AI-powered tools have always provided a number of unforeseen challenges for EFL learners' transformative learning experiences (Chen & Wei, 2021). As an example, Chat-GPT is an artificial intelligence program that generates dialogue. Created by Open AI, this high-capable chatbot uses machine learning algorithms to process and analyze large amounts of data to generate responses to user inquiries. It means that Chat-GPT stands for Chat Generative Pre-Trained Transformer and was developed by an AI research company, Open AI. It is an artificial intelligence (AI) chatbot technology that can process our natural human language and generate a response. Simply put, you can ask Chat-GPT a question, and it will give you an answer.

Additionally, transformative learning is about personal experiences, personal interpretation, and meaning making (Hinton, 2018). Through this, we reflect on our individual growth and development. Teachers and practitioners apply all necessary conditions to teach based on promoting reality, where participants face real challenges and critically question and assess their internal assumptions and how they are related to the outside world (Mezirow & Taylor, 2012).

Personal development and growth rely on the active learning (Buchan, 2011), where adult learners can experience their learning, and achieve feedback from their experiential learning which is called learning by doing, learning through thinking, discovery learning, and assimilation of the experiences based on everyday manners and behaviors (Fanning & Gaba, 2007). Experiential learning, therefore, can pave the way for learners who may engage in a fundamental reconsideration of how one thinks, feels, or acts. Thus, transformative learning becomes not only a possibility, but a necessity.

Creating disorientations and challenges might act just like a great reason to arise transformative learning. In the light of online English teaching, mindsets are fully disoriented due to the fact that they need to adopt themselves with the modern platforms and apps. When our expectations are questioned, we are no longer able to act and react based the old traditional way of learning (Malkki, 2019). The

experience of the new area, unfamiliar way of learning, or the challenge of knowing about the technology itself with its isolation, which is resulted from the absence of a teacher, provide the kind of disorientation that transformative learning called it as disorienting the dilemmas (Calleja, 2014).

Mezirow (1991) introduced ten phases within the process of transformative learning. It is started with (1) a disorienting dilemma, which sets the stage for (2) an exploration of feelings like guilt or shame that arise due to the crisis or dilemma. In step (3), learners critically assess and reflect on their guiding assumptions underlying their current meaning perspective. This is followed by (4) the realization that one's personal problem is shared, and learners realize that others have undergone comparable changes and overcome similar challenges. In the next phase, (5) learners explore alternative ways of being and living in terms of relationships, roles, and actions. This phase is complemented by another phase, where (6) learners plan (new) courses of action and then (7) acquire new knowledge in order to put these courses of action into practice. Next, learners provisionally try out these new roles (8), and in the next stage, they (9) build (self-) confidence and competence and ultimately, (10) re-integrate new practices into their lives, employing a new, transformed meaning perspective, as well as experience individual growth and development. The concept of individual growth to achieve transformative learning through working with others is also discussed by Branshaw (2009).

Holt (2010) believed that what becomes transformed as a result of transformative learning is what he called as a frame of reference or a meaning perspective. This engages cognitive, affective, and conative dimensions. It literally forms and delimits perception, cognition, feelings, and disposition by predisposing one's intentions, expectations, and purposes. Kegan (2000) comments that all good learners are able to engage with the learning environment via their previous knowledge that can influence both their current and upcoming learning.

Some believe that transformative learning is likely to be passive, a positive learner-centered environment using self-actualization (Rosebrough & Leverett, 2011; Cranton, 2011). However, it is challenging due to the fact that it psychologically involves going out of comfort zone, taking risks, and using unfamiliar technology as a tool for learning instead of using a well-known traditional way of leaning (Hoggan, 2015).

Brookfield (2000) introduced different phases of transformative learning, all of which are reflected in the current online learning setting: psychological stability is put at risk as emotionally charged situations arise and are experienced individually; social networks are at risk due to the necessary isolation that has to be lived through physical distancing. The experience of being physically distant while being connected through technology poses additional challenges. In identifying the increasing propensity for mature participants to avail of on-line learning, Cranton (2021) identified strategies for encouraging how transformative learning might be carried into that environment.

Additionally, transformative learning is able to enrich self-learning strategies. The first step is to disorient the dilemma and make sense of the situation. This situation is adapting to new online learning environment and new context which may no longer be fruitful and sufficient. When a meaning and well-organized self-concept is established, transformation has just begun (Vancour,2017).

The way one's online academic instructor behaves and teaches is very crucial in promotion of plans to support online learners (Wingo et al, 2017). Nichols et al. (2020) investigated the reality of pursuing academic qualifications through transformative learning in an online platform. All these needs might be reinvestigated through the light of disorientation when concepts of traditional way of learning and traditional way of teaching are disrupted. Several studies have been conducted which highlighted the importance of strong participants-centered and institutional support for online learning (Meyer, 2013; Ahn,2023; Qadir,2022). Estes (2004) argues that while experiential educators may claim to value participants-centered learning, the values, as evidenced in practice, may often be more teacher-centered.

Many studies have investigated online learning process; however, relatively Huang et al, (2011) studied how educators get along with technology and online setting. Buchan et al. (2011) studied the transformational effect of applying new learning technology. This study found that in an online learning setting where acceptance plays a vital role, any resistance might challenge participants' acceptance of such practices. This might cause a lot of demands and dilemmas. The real purpose of using technology is to have a meaningful and useful learning environment. While faculty members believe that there might be numerous challenges for online learning, they prefer online courses to teach (Maguire, 2009). Orr, Williams, and Pennington (2009) stated that well-organized structures, practices, and sources are crucial components of online teaching and learning environment. These three components might lead to creation of quality standards in relation to technology and distance learning. In this line, Al-Qadri and Ahmed (2023) investigated a predetermined set of statistical assessment questions to evaluate the effectiveness of Chat-GPT based on the fundamental principles of statistics. Their findings showed that Chat-GPT exhibited a robust comprehension of and proficiency in generating responses pertaining to significant statistical principles.

Additionally, a significant concern has been given to practitioners and learners' technical skills and their abilities to use technology effectively in an online-learning setting. Most of the studies emphasize that there is a need for expanding open and shared data on participants' learning process and practitioners' comfortable zone (Hoskins,2013). Providing an interactive online learning would bring practitioners out of their comfort zone and transform their old-fashioned way of teaching. Additionally, providing a fruitful online learning environment must be in line with learners' needs and context as well as practitioners' well-being.

However, in the context of the current transformative learning issues, it would appear that, over time, both learners and practitioners have become accustomed to, and therefore become more comfortable

with using such AI-powered tools and mechanisms. As there is evidence of a gradual emergence AI tools, in Iranian culture, experiencing as well as gaining skills have kept emerging over the past number of years. However, due to the fast changes of technology and online applications, learning and teaching environment in Iran has also changed and there has been little opportunity to investigate learners' transition. This might impose an additional burden in Iran since due to the sanctions, limitation, and lack of budget, Iranian learners may become more disoriented and lose their ability to go back to the previous learning environment.

By using reflective accounts, which were created and organized using Mezirow's ten phases of transformative learning, participants could recognize their views, insights, opinions, and experiences. Based on the information resulted from investigations, a number of themes and patterns were identified-called individual incidents (Moran & Moloney, 2022) job, conditions, individual growth, and self-assurance- all of which provided a vital clue of the achievement of transformative learning among the participants in this study.

Learning Experiences

In 1991 Mezirow worked the ideas of communicative and emancipatory knowledge, as well as the role of establishing new opinions and arguments in transformative learning theory. From this perspective, it is important to see adult learning process in a free and unrestrained communication. AI-assisted learning environment can meet the requirement in this regard. Adults need to be active in an online learning environment in order to fulfill their roles as active learners. Transformative learning concentrates on the individual learning process and is primarily concerned with promoting the kind of online learning which is suitable for a free decision-making environment.

Transformative learning always adds extra element to the course, including personal development, disorientation of old habits, and even sometimes ambiguity (Kreber, 2012; Tsimane & Downing, 2020). It is somehow hidden and unknown in Iranian context. Many Iranian participants need to tackle their challenges and difficulties in this regard. Transformative learning might have the potential to change the Iranian participants' learning style and provide a better learning experience as a result of combining individual and society experience.

learning experience is linked to the adult learners and may have specific features as following:

Self-concept: Adults may be more likely to resist or resent instances when others impose their will upon them (Merriam & Bierema, 2014).

Importance of experience: When people participate in experiential education opportunities, they gain a better understanding of course material, a broader view of the world and an appreciation of community, insight into their own skills, interests, passions, and values.

Being ready to learn: Unlike many children, adults need to know the utility and value of the content they are learning.

Determined to learning: Adults are life-centered and/or problem-centered in their desire to learn.

Based on the above feature, it might be possible to hypothesize that transformative learning is in line with experiential learning. It might encourage learners to develop experiences and reflect on new skills, new attitudes, or new ways of thinking (Brookfield, 2000; Estes, 2004; Mälkki, 2019). The purpose of this study was to gain a deeper understanding of the Iranian EFL learners from different majors who were forced to an unknown environment of using AI educational tools. In compliance with this, the aim of this research was to capture the experience of EFL adult learners who were pushed into an unfamiliar learning environment of AI education (Chat-GPT). This study tried to examine if these participants demonstrated evidence of transformative learning through their own reflective accounts of each of Mezirow's ten phases. On the other hand, the aim was to see if the participants could identify any form of transformative learning through their own reflective accounts of each of Mezirow's ten phases. The main research question relies on to the extent the participants can experience transformative learning while using Chat-GPT. The next question is the, participants' perception, opinion, attitude, and assumption are challenged and modified.

Methods

Participants

The participants of this study will consist of 100 undergraduates, graduate EFL learners (46 female and 54 male students) (60 undergraduates, 40 graduates) who were enrolled in English teaching Education Programs, aged between 20 to 48 years old. The participants in this study are Iranian EFL learners. They have been selected from various locations in Qom/Tehran province, Iran. Their native language is Persian (Farsi) and they are studying English as a foreign language. The study will include both male and female participants to ensure gender diversity.

Material and Instruments

This study tried to set the scene for the opportunity to record and analyze Iranian EFL learners' experience of using AI technology. The first instrument was using Chat-GPT as an AI- based technology. the second one, a semi-in structured interview was applied to investigate the participants' background education, job, status, etc. (see Appendix 1)

Design

Exploratory research design helped investigate a subject that is vague, new, or poorly understood. Often referred to as grounded theory research, the insights help strategies the foundation of future research. It might make sense to use this design and investigate research questions that have not previously been

studied in depth. There is no one truth in terms of the experience of transformative learning, rather participants can only report their experiences of what they believe constitutes transformative learning for them; lived experience is the beginning point and end point of any research... [it] is the breathing of meaning.

Procedure

To conduct the current research, the following steps were taken. The participants were asked to complete a reflective account of their learning experience. Informed consent was sought, and participants were assured that their responses would be anonymous. There was no incentive offered to encourage the participation. Similar to a diary entry or personal log, the reflective accounts required the participants to reflect on events of which they have lived experienced and consider the impact these experiences may have had on their lives and their self-perceptions (Saunders et al., 2012). Having completed some short demographic questions, the participants were given a brief overview of each phase of the transformative learning process and asked to consider and describe their experience of each of the ten stages of Mezirow's transformative learning theory. This method fits well in the study of transformative learning, as the process of transformative learning itself requires reflective practice by the participants which requires the participant to make themselves "the object of self-inquiry" (Mortari, 2015, p. 1), a process through which they become the subject of their own experience.

Data Analysis Procedure

The method chosen for data analysis is thematic analysis proposed by Braun and Clarke (2006). By using this time-tested method, it was granted that our analysis captures the depth and complexity of the data in achieving an appropriate understanding of the related factors. Thematic analysis follows the following procedures:

Familiarization with the data > Coding > Generating themes > Reviewing themes > Defining and naming themes > Analyzing data using the created themes

Findings

Individual Incidents

In their reflective narratives, the participants recounted a range of personal situations that influenced their choice to pursue higher education as mature learners. The way individuals perceived their own circumstances was a significant factor in the theories proposed by Rorty (2009). Also, they contemplated on the influence their families had on their educational pursuits, with experiences varying from positive to negative. One individual expressed feelings of inadequacy in comparison to their siblings who were able to use AI-powered tools such as Chat-GPT significantly. Some of the older participants who had parenting experience stated that they opted for returning to education after raising their children, stating, "life got in the way, but now my kids are in college, so I'm able to attend," or

noting that after reaching a significant milestone in their family life, such as when their young children began school, they decided to enroll in college. Additionally, a desire to serve as role models was expressed within their families. One single mother remarked, "I know that if I wanted to support my family through using AI-powered educational tools, I needed to return to my studies", while another participant stated, "I felt compelled to pursue my education so that I could tell my children I attended college, ensuring they could not claim I had not." Lastly, the researcher found how their family circumstances had restricted their ability to pursue education, citing issues such as insufficient financial support or lack of encouragement, while one individual admitted to having withdrawn from a previous course as an act of defiance against their parents.

Job

Participants' jobs were a significant focus when contemplating the stages of transformative learning. Throughout the data collection across various contexts, references to careers, employment, employability, and advancement opportunities were prevalent. This trend is also evident in the literature concerning job advancement in relation to transformative learning (Fleming, 2018). In the initial phase of disorienting dilemma, the theme of job emerged as the most prominent response. They noted that their decision to pursue education was prompted by changes in their employment situation, such as being "out of work due to being unfamiliar with technology, so I wanted to do something valuable with my time," or by dissatisfaction with their current jobs, as expressed by one respondent: "I grew tired of working dead-end jobs for bad pay and decided that I wanted a career". Education was recognized as a pathway to identify career opportunities, with statements like, "my return to college is a way of securing a good job", and as a means to shift career trajectories, as illustrated by, "I wanted to change my career path", ultimately aiming to enhance their working conditions and overall quality of life through education and more stable employment.

Respondents exhibited a notably optimistic tone when reflecting on their future job prospects; feeling more prepared to pursue fulfilling employment. One participant remarked, "I have a challenging and fascinating career ahead of me". They not only perceived an increase in job opportunities due to their educational experiences but also recognized their ability to invest in these prospects, stating, "I am optimistic about future job opportunities and confident in myself so that I can achieve what I want if I put my mind to it". This newfound self-belief was clearly articulated by the participants, with comments such as, "I feel more independent, abler, and more confident to take my place in the professional workplace", and "I am much more likely to take on leadership roles". Furthermore, many respondents noted the acquisition of various skills and a shift in attitudes, including enhanced time management, technical abilities, writing proficiency, verbal and written communication skills, increased patience, improved focus, better critical thinking, and reduced judgment of others, all of which are likely to be beneficial in their future work environments.

As previously mentioned, improvements in career prospects, experiences of redundancy, or periods of unemployment were commonly cited by the participants as motivations for returning to education. It is encouraging to observe that many participants were confident that these goals would be achieved, with some expressing a desire to “work in an area that I’m interested in rather than working just to pay the bills”, while others aspire to “implement change in the world for the better”.

Conditions

This section examines the significant influence that the absence of formal academic qualifications can exert on EFL participants' motivation to pursue full-time education. Several notable quotes from the survey underscore the value that the participants placed on obtaining a recognized third-level academic qualification. One participant exemplified the level of commitment to learning by expressing a desire to use Chat-GPT while managing personal responsibilities. Additionally, the recognition of "not being able to secure personal information" emphasized the respondent's strong motivation to attain a higher qualification.

Individual Growth

Individual growth is a transformative journey that encompasses enhancements in various aspects of an individual's life, including physical, emotional, intellectual, spiritual, social, and financial dimensions. Regarding the concept of EFL context and the significance of acknowledging the value of reflection, one participant remarked, “I thought studying from home and online would be simpler, but I found it quite challenging to engage with technology at such an intensive level”. Another participant expressed, “I believed that entering higher education without any formal qualifications would be a significant challenge, yet I underestimated the volume of reading required and the substantial effort needed to keep pace with the coursework”.. In a similar context, another research participant noted, “I did not anticipate that my free time would be so consumed after lecture hours or that I would face difficulties in balancing study commitments with home life responsibilities”. This reflection underscored the degree of engagement and the acknowledgment of the proactive role that the participants play in their own AI educational journey

The heightened sense of individual growth emerged as a prominent theme in this section. Illustrative examples include statements such as, “I am accomplishing something for myself, which enhances my sense of self-worth”, and “I believe my self-confidence has increased. I feel more capable of relying on my own judgments, and I am currently engaged in a field that interests me rather than merely working to cover expenses”. This sense of self-worth is inherently connected to the notion of self-belief, as reflected in the respondents’ remarks, such as one individual expressing, “I am believing more in myself”.

Self-assurance

The study also indicated that the participants' Chat-GPT educational experiences had led to heightened levels of self-assurance, particularly when reflecting on the concluding phases of transformative learning theory; as one participant expressed, "I am finding little nuggets of gold... 'self-assurance'".

Many respondents noted an overall increase in self-confidence, stating, "It has boosted my self-belief and my confidence in myself", as well as enhanced confidence in specific competencies, such as, "I am much more confident in my ability to write creatively". Additionally, they reported feeling more assured in their educational journey, saying, "I am more confident to answer questions, even if the answer is wrong, because it still teaches me and others". The participants also conveyed a greater sense of confidence in their interactions with Chat-GPT and felt more empowered to advocate for their beliefs, with one stating, "I now have the confidence to challenge situations I see as oppressive towards other groups and am more likely to speak up".

For certain participants, the growth of their self-assurance led to a newfound belief in their potential to accomplish more than they previously deemed achievable. One participant expressed, "My aspiration is to become a network engineer. I always perceived it as an unattainable goal, doubting my intelligence to reach it. However, my college experience is significantly boosting my confidence and encouraging me to consider, 'Why not me?' with each week that passes". This empowerment is enabling participants to take the initiative in transforming their lives through their enhanced self-assurance.

Discussions

In the course of this study, 46 EFL learners participated in order to provide a deep perception of their transformative learning incidents. The theoretical framework for such evolution is articulated in the research conducted by Greene (2007). Additionally, Cranton (2021) investigated the potential for transformative learning through individual growth within an online educational setting. In her exploration of this subject, she revealed a multifaceted opportunity to foster connections among individuals and to cultivate a sense of community through collaborative efforts. This investigation led to the identification of several interrelated concepts, such as maturity, shared experiences, and the formulation of actionable strategies for progress.

A prominent theme that emerged from the data was the concept of self-assurance. In line with the findings of the current study, Pomeroy et al. (2021) investigated the significance of self-assurance as a marker of transformative change. The other support comes from Bacow et al. (2012) who focused on monitoring the evolving self-assurance levels among participants, while Bolliger and Wasilik (2009) and Wingo et al. (2017), along with Wang (2014), analyzed the notion of self-assurance within the framework of learning technology utilization. All of these studies attested to the significance of self-assurance in pursuing one's attempt, a point that was noted by some of the participants in the current study too.

Other experts found the same results; as Greenman and Dieckmann (2004) investigated the influence of the context in which EFL participants engage in a course on the extent of transformative learning achieved. In addition to the factors investigated in the current study, other relevant key factors identified include health, family, and relationships. Furthermore, participants indicated that the timing was optimal for their return to education, often due to changes in their employment status or shifts in family dynamics, such as divorce or children reaching adulthood points which were raised by the participants in this study too

Pertinant to the findings of this study, the research conducted by Tsimane and Downing (2020) highlights physical and mental health as significant themes that emerged from the data. Participants` health challenges were associated with their previous occupations, with one individual expressing, “I no longer want to work in a job that breaks my body”. Others cited external circumstances that adversely affected their health, such as a car accident that rendered them unable to work, prompting their decision to pursue further education as transformative experience. Additionally, participants reported experiences of depression, while some acknowledged other forms of mental illness and issues related to substance misuse.

Furthermore, the respondents indicated an expectation of being treated differently in the workplace due to their completion of formal full-time education. The collected data was analyzed and categorized into five primary themes based on the commonalities observed in the respondents' viewpoints: individual incidents, job, conditions, individual growth, and self-assurance. These themes were prevalent in both the broader literature on transformative learning and the specific studies addressing transformative learning opportunities in online settings. Instead of detailing the findings from each phase individually, the researcher opted for concentrating on the overarching themes that emerged from the data across all responses. These themes highlight the issues that were most significant to the participants, thereby reflecting their lived experiences, which is a fundamental aspect of phenomenology. The subsequent sections will offer an in-depth discussion of the findings derived from the qualitative data analysis. A thorough examination of the data would require conducting in-depth interviews with the respondents, which falls outside the scope of this research. Nevertheless, there is substantial evidence supporting all 10 phases of transformative learning as outlined by Mezirow.

Conclusion

Transformative learning provides adult learners with the chance to develop new frameworks of understanding and to reassess their pre-existing beliefs about themselves and their surroundings, which are often shaped by common expectations. This process enables learners to critically evaluate their

perceptions of "how things ought to be, facilitating a shift in their self-expectations influenced by past experiences. Mezirow and Taylor (2012) posited that the learning experiences within the classroom are equally significant as the academic content and credentials available to participants. In light of the use of Chat-GPT on educational settings, the current study sought to explore whether transformative learning could still take place for adult learners who transitioned to an AI learning format, despite their initial enrollment in general classrooms. Encouragingly, the result demonstrated that adult learners did indeed undergo transformative learning within this AI (Chat-GPT) educational context.

Utilizing reflective accounts indicated insights into how adult learners engaged with the ten phases of transformative learning. Although the researcher initially had reservations about securing participation from the mature participants for this study, she was pleasantly surprised by the number of individuals who opted for sharing their experiences, indicating a strong willingness among adult learners to reevaluate their established beliefs and partake in transformative learning. This process of critical reflection, which Mezirow deemed essential, empowered participants to challenge their viewpoints and assumptions, thereby enhancing their ability to transform and develop new frameworks of understanding (Brookfield, 2000).

In this study, it was observed that certain learners did not previously have the chance to pursue higher education, leading some to express feelings of guilt and shame regarding this missed opportunity, although not all participants shared these sentiments. For others, the timing simply aligned favorably, allowing them to engage in studies due to changes in their employment, health, relationships, or family circumstances. Considerable number of respondents articulated their belief that AI-powered tools and online education would serve as a pathway to remote learning and avoiding low-paying jobs, unfulfilling jobs and to embark on more gratifying careers that would ensure financial security for themselves and their families.

As discussed in the literature review, the process of transformative learning plays a crucial role in fostering participatory democracy. It equips learners to manage uncertainty and enhances their capacity for deliberative decision-making while using Chat-GPT. The participants in this study reported an increase in self-confidence and a greater belief in their abilities. Many cultivated self-assurance and dispelled the doubts they previously held about themselves or those imposed by society due to their lack of formal education. Our findings affirm that transformative learning has continued to take place for this group of EFL learners within an AI powered learning environment.

References

- Ahn, C. (2023). *Exploring ChatGPT for information of cardiopulmonary resuscitation*. Resuscitation.
- AL-Qadri, A. H., & Ahmed, S. A. (2023). Assessing the ChatGPT accuracy through principles of statistics exam: A performance and implications. Retrieved from <https://www.researchsquare.com>.

- Brookfield, S.D. (2000). Transformative learning as ideology critique. In J. Mezirow & Associates (Eds.), *Learning as transformation* (2nd ed.; pp. 125–150). San Francisco, CA: Jossey-Bass.
- Brauna, V. & Clark, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. Retrieved from: https://www.researchgate.net/publication/235356393_Using_thematic_analysis_in_psychology.
- Branshaw, D. (2009). The power of ‘e’: extending the ‘E’ in ACE. *Australian Journal of Adult Learning*, 49(2), 365–381.
- Buchan, J. F. (2011). The chicken or the egg? Investigating the transformational impact of learning technology. *Research in Learning Technology*, 19(2). <https://doi.org/10.3402/rlt.v19i2.10355>.
- Bacow, L. S., Bowen, W. G., Guthrie, K. M., Lack, K. A. & Long, M. P. (2012). *Barriers to adoption of online learning systems in U.S. higher education*. <https://doi.org/10.18665/sr.22432>
- Cranton, P. (2011). A transformative perspective on the scholarship of teaching and learning. *Higher Education Research & Development*, 30(1), pp. 75-86.
- Chen, W., & Wei, H. (2021). Effect of an AI-Powered Writing Assistant on Writing Quality and Idea Generation. *Journal of Educational Technology & Society*, 24(3), 84–97.
- Cranton, P. & Torrisi-Steele, G. (2021). Transformative learning in an online environment. *International Journal of Adult Education and Technology (IJAET)*, 12(4).
- Estes, C. A. (2004). Promoting student-centered learning in experiential education. *Journal of Experiential Education*, 27(2), 141–160.
- Fanning, R. M., & Gaba, D. M. (2007). The role of debriefing in simulation-based learning . *Simulation in Healthcare*, 2, 115–125. <https://doi.org/10.1097/SIH.0b013e3180315539>.
- Fleming, T. (2018). *Learning careers and transformative learning*. In *Continuity and Discontinuity in Learning Careers*. Sense.
- Greenman, N.P., Dieckmann, J.A. (2004). Considering criticality and culture as pivotal in transformative teacher education. *Journal of Teacher Education*, 55(3), 240–255.
- Greene, J. C. (2007). *Mixed methods in social enquiry*, San Francisco: Jossey-Bass.
- Holt, C. S. (2010). “Mezirow’s Theory of Transformational Learning.” <https://www.slideshare.net/tsholt/mezirows-theory>.
- Huang, R.T., Deggs, D.M., Jabor, M.K. & Machtmes, K. (2011). Faculty online technology adoption: The role of management support and organizational climate. *Online Journal of Distance Learning Administration*, 14(2).
- Hoskins, B. (2013). “Is Distance Learning Transformational?” *The Journal of Continuing Higher Education*, 61(1), pp. 62-63.
- Hoggan, Chad. D. (2015). “Transformative Theory as A Metatheory: Definition, Criteria and Typology.” *Adult Education Quarterly* 66, 1, 55-75. <https://doi.org/10.1177/0741713615611216>.
- Hinton, G. (2018). Deep learning—A technology with the potential to transform health care . *JAMA*, 320(11), 1101-1102.

- Kegan, R. (2000). What “form” transforms? A constructive-developmental perspective on transformational learning. In J. Mezirow (Ed.), *Learning as transformation: Critical perspectives of a theory-in-progress* (pp. 35–69). San Francisco, CA: Jossey-Bass.
- Kreber, C. (2012). Critical reflection and transformative learning. In E. W. Taylor, P. Granton) & Associates. *The Handbook of transformative Learning: Theory, Research, Practice* (pp. 323-341). San Francisco CA: Jossey-Bass.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.
- Maguire, L. (2009). The faculty perspective regarding their role in distance education policy making. *Online Journal of Distance Learning Administration*, 12(1).
- Mezirow, J., Taylor, E. W. (2012). *Transformative learning in practice. Insights from community, workplace and higher education*. San Francisco: Jossey-Bass.
- Meyer, K. (2013). An analysis of the research on faculty development for online teaching and identification of new directions. *Online Learning Journal*, 17(4).
- Merriam, S. B., & Bierema, L. L. (2014). *Adult learning: Bridging theory and practice*. San Francisco: Jossey-Bass.
- Mortari, L. (2015). *Reflectivity in research practice: An overview of different perspectives*, <https://doi.org/10.1177/1609406915618045>.
- Mälkki, K. (2019). Coming to grips with edge-emotions: The gateway to critical reflection and transformative learning. In T. Fleming, A., Kokkos, & F. Finnegan (Eds), *European perspectives on transformation theory* (pp. 59–73). Cham: Palgrave Macmillan. http://doi.org/443.webvpn.fjmu.edu.cn/10.1007/978-3-030-19159-7_5.
- Moran, C., & Moloney, A. (2022). Transformative Learning in a Transformed Learning Environment. *Journal of Transformative Learning*.
- Nichols, M., Choudhary, N., & Standing, D. (2020). Exploring transformative learning in vocational online and distance education. *Journal of Open, Flexible and Distance Learning*, 24(2), 43–55. <https://search.informit.org/doi/10.3316/informit.630111207665001>.
- Orr, R., Williams, M.R., & Pennington, K. (2009). Institutional efforts to support faculty in online teaching. *Innovative Higher Education*, 34, 257–268.
- Pomeroy E. and Oliver, K (2021). Action confidence as an indicator of transformative change. *Journal of Transformative Education*, 19(1), 68–86. doi:10.1177/1541344620940815.
- Qadir, J. (2022). *Engineering education in the era of ChatGPT: Promise and pitfalls of generative AI for education*.
- Rosebrough, T. R., & Leverett, R. G. (2011). *Transformational teaching in the information age: Making why and how we teach relevant to students*. Alexandria, VA: ASCD.
- Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research methods for business students*. Essex : Pearson Education Limited.
- Tsimane, T.A. and Downing, C. (2020). Transformative learning in nursing education: A concept analysis. *International Journal of Nursing Sciences*, 7(1), 91–98.

- Wang, Z. (2014). On-line time pressure manipulations: L2 speaking performance under five types of planning and repetition conditions. In P. Skehan (Ed.), *Processing perspectives on task performance* (pp. 27–62). Amsterdam, Netherlands: John Benjamins.
- Wingo, N. P., Ivankova, N. V., & Moss, J. A. (2017) Faculty perceptions about teaching online : exploring the literature using the technology acceptance model as an organizing framework, *Online Learning*, 21(1), 15–35. doi: 10.10.24059/olj.v21i1.761.

Biodata