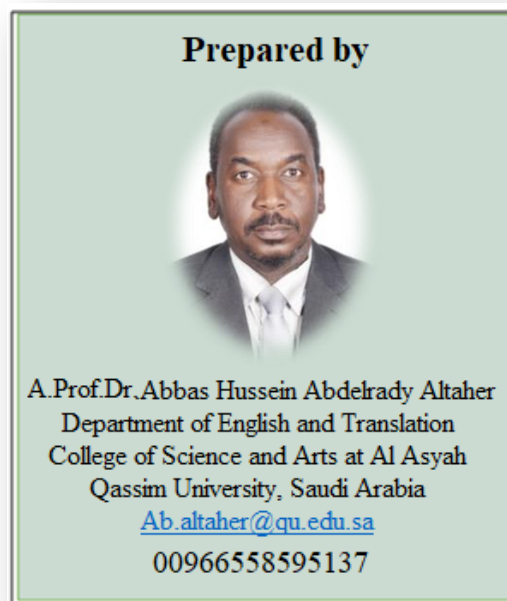


How learning attitudes influence students' academic motivation in ICT-integrated EFL learning practices



Abstract

Motivation is one of the main factors that affect EFL learners' success and performance in the language learning environment. Following the global trend, the use of ICT in teaching-learning practices has become a popular way of English language learning due to the evolution of technology, which has increased interest in the subject of academic motivation. At the same time, students' learning attitudes in an EFL learning environment play a key role in enhancing their motivation to learn English. Thereby, the current study was conducted to explore the role of students' attitudes in promoting their academic motivation to learn in ICT-integrated EFL learning environments. To collect the data, questionnaires were used to guide the study. The collected data was then analyzed using various statistical tests. The results indicated that all the identified components of students learning attitudes, i.e., cognitive, behavioral, and emotional aspects contribute significantly to strengthening their academic motivation in ICT-integrated EFL learning environments. The implications of this study suggest that all aspects of the students learning attitudes should be taken into consideration while designing activities, curriculum, and policies for ICT-integrated EFL instructional practices to enhance their academic motivation to learn English.

Keywords: EFL learners; ICT-integrated learning; academic motivation; learning attitudes; self-determination theory; English learning

Introduction

Students' academic motivation is widely acknowledged as a crucial factor in their learning effectiveness. Accordingly, a considerable proportion of educators believe that children with higher academic motivation are more likely to succeed in school (Wu, 2019). In any educational setting, teachers strive to increase students' academic satisfaction and motivation (Abdelrady & Akram, 2022).

Students' academic motivation has remained a mystery to many teachers, especially those who teach English as a foreign language (EFL) (Wang, 2022). According to Dornyei and Ushioda (2013), academic motivation refers to the students' beliefs, aspirations, and values that determine which academic or school-related activities they will pursue and remain engaged in.

It's the educators' job to foster academic motivation in preteens and adolescents and make sure educational institutions can meet their students' needs through the methods they use in the classroom (Ryan & Deci, 2020). It has been observed that students who devote more time and energy to their learning responsibilities tend to outpace their peers who do not devote enough time to their educational responsibilities in an English as a foreign language (EFL) learning environment, (Yu et al., 2019). According to Daggol (2020), it has been shown that students who actively participate in class activities and tasks are more likely to succeed in their classes.

In addition, many students look for different ways to learn English. Among these ways, following the global trend, the use of ICT in teaching-learning practices has become a popular way of English language learning due to the evolution of technology. Moreover, as a result of the technological advancements of the past few decades, ICT is becoming a crucial part of teaching and learning practices, which are becoming an essential part of our educational system. (Akram et al., 2021). Technology-based instructional methods not only contribute to innovation in pedagogical approaches (Al-Adwan et al., 2022), but also help improve students' academic satisfaction (Abdelrady & Akram, 2022) and enhance students' cognitive abilities (Akram et al., 2022), and improve academic performance (Cofini et al., 2022). Similarly, the Saudi Arabian Ministry of Education recommends that educational institutions maximize ICT use in order to meet international requirements (Saudi Arabia Ministry of Education, 2021). Al-Asmari & Khan (2014) assert that learning technologies have enabled all Saudi Arabian educational institutions to successfully integrate ICT in education. For increasing student engagement and learning outcomes at different educational levels, WhatsApp (Ali & Bin-Hady, 2019), Socrative (Alharbi & Meccawy, 2020), Gallery Run (Abdulaal, 2021), and Kahoot (Zhang & Yu, 2021) have emerged as effective applications.

In spite of this, it remains a challenge for EFL teachers to select, adapt and integrate technology into their teaching practices in a way that energizes students both in the short term and throughout their studies (Nugroho et al., 2021). In relation to barriers, low academic interest has emerged as one of the key issues with ICT-integrated teaching and learning practices (Atmojo & Nugroho, 2020). It has been shown that students are dissatisfied with their e-learning experience due to a number of academic (Akram & Yang, 2021), technological, and communication challenges, which make them unable to remain motivated in an EFL learning environment (Sepulveda-Escobar & Morrison, 2020). Clearly, academic motivation is an

important factor in determining the effectiveness of educational programs, allowing students to succeed in their studies (Ryan & Deci, 2020). Furthermore, it's a popular way to measure the effectiveness of computer-based learning (Gustiani, 2020). As a consequence, it is considered essential to identify the academic motivation of students to engage with their learning experiences in this context.

Students' academic motivation in computer-based learning practices has been shown to be influenced by a variety of factors, including teacher-related factors (Dwijuliani et al., 2021), contextual factors (Nguyen et al., 2022) , as well as individual student factors that influence motivation to study (Pawlak et al., 2021). Less research has been conducted on the influence of students' learning attitudes on their academic motivation in ICT-embedded EFL contexts.

At the same time, students' learning attitudes in an EFL classroom plays a key role in enhancing their motivation to learn English as a foreign language (Orfan, 2020) and have also been seen as a key factor that influences language learning outcomes (Visser, 2010).

Thereby, learning attitudes and academic motivation are seen as extremely significant and important determinants in language learning environments, and several studies on these emotional aspects and their influence on learning have been conducted. However, it has been difficult to determine how students' learning attitudes affect their academic motivation in ICT-integrated EFL learning contexts. This study attempted to fill these gaps by examining the following objectives.

- Examine students' academic motivation in ICT-integrated EFL classrooms.
- Explore the relationship between student attitudes and academic motivation to learn English in ICT-integrated EFL learning environments.

Theoretical Framework

Following theories serve as the theoretical foundation to examine students' attitudes and academic motivation to learn English in ICT-integrated EFL learning environments.

Academic Motivation

Fostering students' intrinsic motivation to learn is one of the most crucial foundations of effective teaching (Harandi, 2015). Learners who are driven to participate in and profit from their

educational experiences because of their own personal interests are deemed to have high levels of motivation (Rahm et al., 2021). According to the self-determination theory, students' levels of intrinsic motivation increase when their demands for competence, autonomy, and relatedness are met within a given learning activity or setting (Deci & Ryan, 1985), which was developed in the context of the self-determination theory. Being competent in one's activities and social relationships is what competence entails (Deci & Ryan, 2000), and students satisfy their competence need when they learn how to achieve goals (for example, through rules or feedback) (Baard et al., 2004). For instance, when students complete a task and receive favorable feedback on their performance, they satisfy their demand for competence while also increasing their intrinsic motivation. The term "autonomy" refers to the idea that one is the causative agent of one's own life, and students satisfy their need for autonomy need when they obtain more control over external academic circumstances. For instance, when students find themselves unable to deal with exam deadlines, it decreases their motivation upon unfulfilling the need of autonomy.

Lastly, the term "relatedness" refers to the emotional connections and group activities, and students satisfy their need for relatedness when they work together with their teachers and peers in a collaborative learning environment. For instance, when students get engaged with their teachers and peers in collaborative learning activities in the EFL classroom, it satisfies their demand for relatedness while also increasing their intrinsic motivation.

Attitudes

Attitudes, according to Banaji and Heiphetz (2010), are the beliefs concerning the results or attributes of carrying out the conduct (behavioral beliefs), weighted by judgments of those outcomes or features, and shape the individual's attitude toward the behavior. Therefore, a positive attitude toward the activity can be expected from a person who strongly believes that the behavior will lead to the desired outcomes. On the other hand, a negative attitude will be held by a person who is firmly convinced that unfavorable, personally-valued consequences will follow from engaging in the conduct in question (Briñol & Petty, 2012). Language acquisition is a complex process that involves not only the intellectual but also the psychological and social perspectives, and it is mostly determined by the motivation and attitude of the learners toward the target language learning process (Padwick, 2010). It has been argued by Gardner and Lambert (1972) that your students' ability to master a second language is not just a function of

their innate intelligence or linguistic aptitude, but also of their perceptions and attitudes towards the language that they are trying to master. Furthermore, they suggested that the concept of attitude may contribute to the improvement of the language acquisition process by affecting the nature of students' behaviors and beliefs regarding the other language, as well as the culture and community of the other country. This will determine the students' propensity to learn that language. Additionally, the learning process not only entails cognitive aspects, but also social and psychological aspects as well. Thereby, the concept of attitude can be viewed from these three dimensions, i.e., behavioral, emotional, and cognitive aspects of attitude.

Cognitive Component

The cognitive aspect of attitude deals with the learners' expectations of their own knowledge and comprehension during the language acquisition process. The cognitive mindset can be broken down into four stages: integrating the new information with one's existing body of knowledge; developing and testing this information; and finally, using it in a variety of contexts (Wenden, 1991).

Behavioral Component

A person's behavior and reactions in specific situations constitute the behavioral aspect of attitude. It is important to note that successful language acquisition involves learners identifying with native speakers of the target language and acquiring or adopting specific behavior characteristics that set them apart from other members of the target language group (Wenden, 1991).

Emotional Component

This component of attitude is concerned with the emotional factors that influence an individual's cognitive development. Attitude may assist students in conveying how they feel about certain objects or situations around them. It is well acknowledged that EFL learners' inner sentiments and emotions influence their perceptions and emotions about the target language (Choy & Troudi, 2006).

Using these three components to understand the students' learning attitudes in ICT-integrated EFL learning environment, the study measured their academic motivation with the help of these posited hypotheses:

- Cognitive component of attitude positively affects students' academic motivation to learn in an ICT-integrated EFL learning environment.
- Behavioral component of attitude positively affects students' academic motivation to learn in an ICT-integrated EFL learning environment.
- Emotional component of attitude positively affects students' academic motivation to learn in an ICT-integrated EFL learning environment.

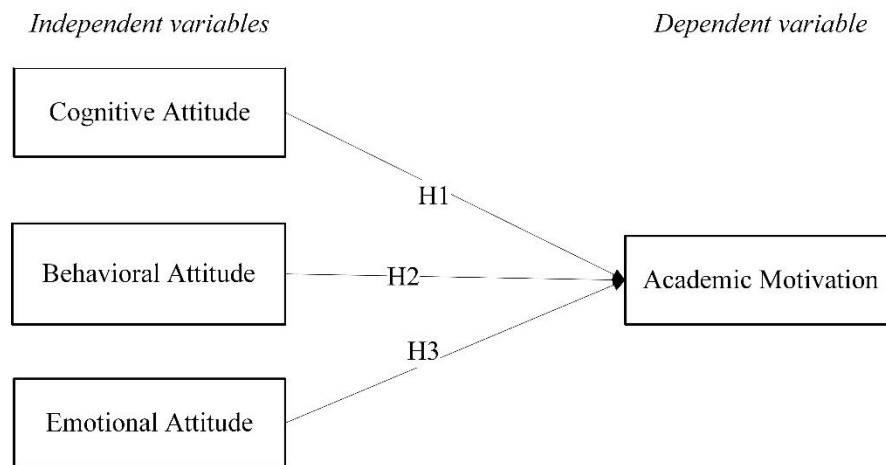


Figure 1. Research model

Methodology

Research design

This study used a quantitative design proceeded by surveys to investigate Saudi EFL students' attitudes and level of motivation toward English language learning in an ICT-integrated learning environment. Following the given resources and objectives of the study, a quantitative design was considered most appropriate because this approach allows a researcher to acquire accurate data by recruiting a wider group of participants in a short period, which also help in the generalization of results most advantageously (Gorman & Johnson, 2013).

Participants

For the purpose of generalizing the results of this study, all secondary school students enrolled in different cities of Saudi Arabia were included in the study in order to increase the

generalizability of the findings. To collect data, the researcher distributed questionnaires to each school using targeted sampling and requested good cooperation from administrators. In order to collect data, 680 students were given questionnaires as part of the data collection process, but only 324 of them responded to the survey.

Instrumentation

The information was acquired from the students using a questionnaire that included two scales: English language learning attitude (ELLA) and the Intrinsic Motivation Inventory scale (IMI).

Students' English language learning attitudes were measured using a scale, namely English language learning attitude (ELLA), established by Abidin et al. (2012) based on the mandated indicators of the attitude. A total of forty-five items were included in the ELLA scale, and they were assessed on a Likert scale of five points, from 'Strongly disagree' to 'Strongly agree'. A questionnaire of 11 items was adapted from McAuley et al (1989)'s Intrinsic Motivation Inventory scale (IMI), which was developed to identify the academic motivation of students, and was then adapted from the Intrinsic Motivation Inventory scale. On the (IMI) scale, the first point represents "Strongly disagree" and the fifth point represents "Strongly agree.".

Pilot Study and Reliability of the Instrument

The face validity of the questionnaire was evaluated by a professor in the English department of the university; however, the professor's identity was concealed in order to protect their anonymity. After this, the pilot study was carried out with a total of fifty students, which opened the way for the dependability of the questionnaire. The reliability outcomes of the calculations of the pilot study with the help of the Cronbach Alpha Reliability Coefficient for each of the items are shown in table 1 below. Because all of the Cronbach Alpha coefficients (CAC) values for the items of the questionnaire were greater than 0.71, the results yielded significant results since all of the CAC values were greater than 0.71 on every item of the questionnaire., 2018).

Table 1. Questionnaire Reliability

Variables	No of Items	Standard alpha value	Current study alpha value
English language learning attitude scale	45	.80	.81
Academic Motivation Scale	11	.79	.80

Data analysis

In order to investigate the proposed research hypotheses of the study, an inferential and descriptive statistical approach was used by applying the structural equation modeling (SEM) technique via smart PIs software. One of the advantages that structural equation modeling (SEM) provides is the opportunity to investigate several models, each of which may have a unique combination of variables at each level (Mueller & Hancock, 2018).

Descriptive statistics and correlations

In order to examine the degree to which Saudi students remain motivated to learn in an ICT-integrated environment, we performed descriptive statistical tests, i.e., Mean and Standard deviation. The results showed a good prevalence, which indicates that EFL students had a moderate level of motivation to learn English, as the mean values were greater than 3, as shown in table 2 (George & Mallery, 2018). Regarding learning attitudes, all the domains of students' learning attitudes showed a positive attitude towards learning English in an ICT-integrated EFL environment, as the mean values of all the components of attitude were greater than 3. On comparison, the cognitive aspect of attitude showed the highest mean value, i.e. (M = 3.33), whereas the behavioral aspect of attitude yielded the least mean value, i.e. (M = 3.01).

Pearson's correlation analysis was used in order to determine the relationship between all variables. The results of the study revealed that student academic motivation was significantly correlated with all three domains of learning attitudes in ICT-integrated EFL environments (Conner & Johnson, 2017), where there was no evidence of multi-collinearity, as all correlation coefficient scores (r) were within the specified threshold value range (Cleophas & Zwinderman, 2018). The highest relationship between academic motivation was found with the cognitive aspect of attitude ($r = 0.62$, $p < 0.01$), while it showed a minor correlation with the emotional component of attitude ($r = 0.55$, $p < 0.01$).

Furthermore, a discriminant validity test was conducted to examine how the study's constructs differed from each other, explaining significant scores, as yielded values were higher than the recommended value, i.e., > 0.7 (see bold inclined values in table 2) (Hair et al., 2017)

Table 2. Descriptive and discriminant validity statistics

		Mean	SD	1	2	3	4	5	6
1	Gender	1.92	0.9	1					
2	Age	1.8	1.2	0.21	0.86				
3	Academic Motivation	3.21	1.31	0.14*	0.29*	0.84			
4	Cognitive attitude	3.33	1.02	0.07	0.10	0.62**	0.85		
5	Behavioral attitude	3.01	1.14	0.13	0.08	0.59*	0.44**	0.82	
6	Emotional attitude	3.12	0.91	0.21*	0.21*	0.55**	0.41**	0.36**	0.83

Significant at: * $p < 0.05$, ** $p < 0.01$.

Structural model assessment

A structural model approach was used to analyze the proposed research model. The results indicated that the degree to which EFL students remain motivated was significantly influenced by all of the three components of learning attitudes at the 0.05 level, with a significant variance, i.e. ($R^2 = 0.51$), as shown in figure 2. In this regard, the findings support all the proposed hypotheses of the research model. By comparing the three components of learning attitudes, students' academic motivation was found to be highly influenced by the cognitive aspect of attitude ($\beta = 0.46$, $p < 0.01$), while showed least influenced by the emotional component of attitude ($\beta = 0.21$, $p < 0.01$).

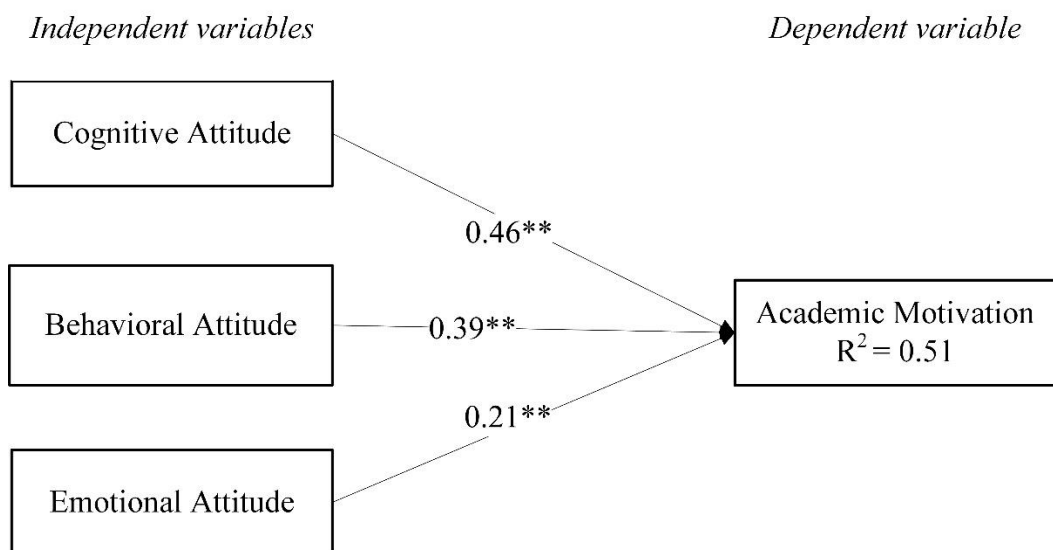


Figure 2. Structural model statistics

Discussion

In today's EFL learning classroom, educational success highly depends upon learners' active engagement. In this regard, students' academic motivation plays a leading role in enhancing their active engagement, which enables them to accomplish their learning outcomes efficiently. Keeping this in mind, the current study attempted to achieve two distinct objectives simultaneously. Beginning with an examination of the level of students' learning attitudes and academic motivation to learn the English language in EFL learning environments, the study investigated the level of students' learning attitudes and academic motivation. Secondly, a four-factor hypothesized model was evaluated to explain the relationship between students' learning attitudes and their academic motivation to learn the English language and determine the most crucial aspects of the process and the most effective approach. Based on the findings of this study, statistical evidence can be generated to support the conceptualization of Saudi EFL secondary students' academic motivation mechanisms. The findings revealed a satisfactory level of academic motivation among students, which shows consistency with the findings of Jiang et al. (2018), who highlighted the role of expectation, task value, and cost in enhancing students' academic motivation.

Regarding learning attitudes, all the domains of the learning attitudes of students showed a positive attitude towards learning English. This finding coincides with the finding of Orfan (2020), where respondents of the study showed a positive learning attitude in all the components, i.e., cognitive, affective, and behavioral aspects of attitude towards learning English in an EFL learning environment. By contrast, this finding contradicts the findings of Abidin et al. (2012), who revealed a negative attitude of the participants towards learning English in all three components of attitude. It was also speculated that some students' negative reactions to their English classes stemmed from their teachers' reliance on outdated methods of teaching the language. Thereby, EFL teachers are advised to foster a favorable environment in their classrooms in order to foster positive attitudes among their pupils regarding language learning. They should also encourage pupils to study English by emphasizing its significance. This can be accomplished by utilizing the latest and interactive approaches and activities for teaching English, such as integration of game-based interactive platforms, i.e., the ClassPoint tech tool (Abdelrady & Akram, 2022). On the one hand, it would aid in capturing students' attention, while on the other, it would create positive attitudes among students about language learning.

In terms of relationship, the results indicated a significant influence of all three components of learning attitudes on the academic motivation of students in an EFL learning environment. This result is also aligned with the study of Pourfeiz (2016), who signified a reciprocal relationship between learning attitudes and academic motivation to learn English in light of the self-determination theory of motivation.

The level of academic motivation of students with respect to their three types of learning attitudes also varied in the present study. Correspondingly, their academic motivation was found to be highly influenced by the cognitive aspect of attitude. This result matches results of Abidin et al. (2012), where a cognitive aspect of attitude yielded the highest mean score of attitudes toward learning English. In addition to the cognitive aspect of attitude, the data also revealed that majority of the students find learning English interesting. Such finding shows consistency with the findings of Zulfikar et al. (2019), where pupils regarded learning English as an enjoyable activity as a reason to learn.

In terms of the least influencing factor, the academic motivation of students was found least influenced by the emotional aspect of attitude. This finding coincides with the finding of Orfan (2020), where Afghan undergraduate students' attitude toward learning English was showed least influenced by the emotional component of attitude. In addition to the emotional aspect of attitude, the data also demonstrated that most of the students do not find learning English enjoyable, and they prefer studying in their mother tongue. This finding shows how important it is to encourage students to take part in collaborative conversations and activities that help them learn the language well. This can help EFL students track and evaluate their progress in learning English.

Conclusion

The learning attitude of students plays a leading role in strengthening their academic motivation to learn English efficiently. The sustainability in their learning attitudes is imperative to enable them to remain motivated to learn English in an EFL learning environment and acquire desired learning outcomes. Findings of the study also confirm that all the identified components of students learning attitudes, i.e., cognitive, behavioral, and emotional aspects contribute significantly to strengthening their academic motivation. It is, therefore, essential for concerned educational authorities to consider all aspects of the learning attitudes of students while

formulating an English curriculum and classroom activities in order to meet their needs and strengthen their academic motivation to learn English. Furthermore, EFL teachers' pedagogical competencies should be reinforced by taking into account all aspects of students' learning attitudes in order to increase their academic motivation to learn English.

References

1. Abdelrady, A. H., & Akram, H. (2022). **An empirical study of ClassPoint tool application in enhancing EFL students' online learning satisfaction.** *Systems, 10*(5), 154.
2. Abdulaal, M. A. A. D. (2021). **The Effectiveness of Gallery Run Technique on Saudi EFL Upper-Intermediate Students' Speaking Skill: Learners' Attitudes in Focus.**
3. Abidin, M. J. Z., Pour-Mohammadi, M., & Alzwari, H. (2012). **EFL students' attitudes towards learning English language: The case of Libyan secondary school students.** *Asian social science, 8*(2), 119.
4. Akram, H., & Yang, Y. (2021). **A critical analysis of the weak implementation causes on educational policies in Pakistan.** *International Journal of Humanities and Innovation (IJHI), 4*(1), 25-28.
5. Akram, H., Abdelrady, A. H., Al-Adwan, A. S., & Ramzan, M. (2022). **Teachers' perceptions of technology integration in teaching-learning practices: A systematic review.** *Frontiers in Psychology, 13*, 920317.
6. Akram, H., Yingxiu, Y., Al-Adwan, A.S., Alkhalifah, A. (2021). **Technology Integration in Higher Education During COVID-19: An Assessment of Online Teaching Competencies Through Technological Pedagogical Content Knowledge Model.** *Frontiers in Psychology, 12*, 736522.
7. Al-Adwan, A. S., Nofal, M., Akram, H., Albelbisi, N. A., & Al-Okaily, M. (2022). **Towards a Sustainable Adoption of E-Learning Systems: The Role of Self-Directed Learning.** *Journal of Information Technology Education: Research, 21*.
8. Al-Asmari, A. M., & Khan, M. S. R. (2014). **E-learning in Saudi Arabia: Past, present and future.** *Near and Middle Eastern Journal of Research in Education, 2014*(1), 2.

9. Alharbi, A. S., & Meccawy, Z. (2020). *Introducing Socratic as a tool for formative assessment in Saudi EFL classrooms*. Arab World English Journal, 11(3), 372-384.
10. Ali, J. K. M., & Bin-Hady, W. R. A. (2019). *A study of EFL students' attitudes, motivation and anxiety towards WhatsApp as a language learning tool*. Arab World English Journal (AWEJ) Special Issue on CALL, (5).
11. Atmojo, A. E. P., & Nugroho, A. (2020). *EFL classes must go online! Teaching activities and challenges during COVID-19 pandemic in Indonesia*. Register Journal, 13(1), 49-76.
12. Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). *Intrinsic need satisfaction: a motivational basis of performance and well-being in two work settings I*. Journal of applied social psychology, 34(10), 2045-2068.
13. Banaji, M. R., & Heiphetz, L. (2010). *Attitudes*.
14. Briñol, P., & Petty, R. E. (2012). *A history of attitudes and persuasion research*. In Handbook of the history of social psychology (pp. 283-320). Psychology Press.
15. Bujang, M. A., Omar, E. D., & Baharum, N. A. (2018). *A review on sample size determination for Cronbach's alpha test: a simple guide for researchers*. The Malaysian journal of medical sciences: MJMS, 25(6), 85.
16. Choy, S. C., & Troudi, S. (2006). *An Investigation into the Changes in Perceptions of and Attitudes Towards Learning English in a Malaysian College*. International Journal of Teaching and Learning in Higher Education, 18(2), 120-130.
17. Cleophas, T. J., & Zwinderman, A. H. (2018). *Bayesian Pearson correlation analysis*. In Modern Bayesian Statistics in Clinical Research (pp. 111-118). Springer, Cham.
18. Cofini, V., Perilli, E., Moretti, A., Bianchini, V., Perazzini, M., Muselli, M., ... & Necozone, S. (2022). *E-learning satisfaction, stress, quality of life, and coping: A cross-sectional study in Italian university students a year after the COVID-19 pandemic began*. International Journal of Environmental Research and Public Health, 19(13), 8214.
19. Conner, B., & Johnson, E. (2017). *Descriptive statistics*. American Nurse Today, 12(11), 52-55.

20. Daggöl, G. (2020). *Perceived Academic Motivation and Learner Empowerment Levels of EFL Students in Turkish Context*. *Participatory Educational Research*, 7(3), 21-37.
21. Deci, E. L., & Ryan, R. M. (1985). *The general causality orientations scale: Self-determination in personality*. *Journal of research in personality*, 19(2), 109-134.
22. Deci, E. L., & Ryan, R. M. (2000). *The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior*. *Psychological inquiry*, 11(4), 227-268.
23. Dörnyei, Z., & Ushioda, E. (2013). **Teaching and researching: Motivation**. Routledge.
24. Dwijuliani, R., Rijanto, T., Nurlaela, L., & Basuki, I. (2021, March). *Increasing student achievement motivation during online learning activities*. In *Journal of Physics: Conference Series* (Vol. 1810, No. 1, p. 012072). IOP Publishing.
25. Gardner, R. C., & Lambert, W. E. (1972). **Attitudes and motivation in second-language learning**.
26. George, D., & Mallery, P. (2018). *Descriptive statistics*. In *IBM SPSS Statistics 25 Step by Step* (pp. 126-134). Routledge.
27. Gorman, K., & Johnson, D. E. (2013). **Quantitative analysis**.
28. Gustiani, S. (2020). *Students' motivation in online learning during COVID-19 pandemic era: a case study*. *Holistics*, 12(2).
29. Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). *An updated and expanded assessment of PLS-SEM in information systems research*. *Industrial management & data systems*.
30. Harandi, S. R. (2015). *Effects of e-learning on Students' Motivation*. *Procedia-Social and Behavioral Sciences*, 181, 423-430.
31. Jiang, Y., Rosenzweig, E. Q., & Gaspard, H. (2018). **An expectancy-value-cost approach in predicting adolescent students' academic motivation and achievement**. *Contemporary Educational Psychology*, 54, 139-152.
32. Mueller, R. O., & Hancock, G. R. (2018). **Structural equation modeling**. In *The reviewer's guide to quantitative methods in the social sciences* (pp. 445-456). Routledge.

33. Nguyen, N. H., Tran, T. L. N., Nguyen, L. T., Nguyen, T. A., & Nguyen, M. T. (2022). **The interaction patterns of pandemic-initiated online teaching**: How teachers adapted. *System*, 105, 102755.
34. Nugroho, A., Ilmiani, D., & Rekha, A. (2021). *EFL teachers' challenges and insights of online teaching amidst global pandemic*. *Metathesis: Journal of English Language, Literature, and Teaching*, 4(3), 277-291.
35. Orfan, S. N. (2020). **Afghan undergraduate students' attitudes towards learning English**. *Cogent Arts & Humanities*, 7(1), 1723831.
36. Padwick, A. (2010). **Attitudes towards English and varieties of English in globalizing India**. University of Groningen, Newcastle, England.
37. Pawlak, M., Derakhshan, A., Mehdizadeh, M., & Kruk, M. (2021). *Boredom in online English language classes: Mediating variables and coping strategies*. *Language Teaching Research*, 13621688211064944.
38. Pourfeiz, J. (2016). **A cross-sectional study of relationship between attitudes toward foreign language learning and academic motivation**. *Procedia-Social and Behavioral Sciences*, 232, 668-676.
39. Rahm, A. K., Töllner, M., Hubert, M. O., Klein, K., Wehling, C., Sauer, T., ... & Schultz, J. H. (2021). **Effects of realistic e-learning cases on students' learning motivation during COVID-19**. *PLoS one*, 16(4), e0249425.
40. Ryan, R. M., & Deci, E. L. (2020). **Intrinsic and extrinsic motivation from a self-determination theory perspective**: Definitions, theory, practices, and future directions. *Contemporary educational psychology*, 61, 101860.
41. Saudi Arabia Ministry of Education (MOE). (2021). **Ministry of Education. Available online**: www.moe.gov.sa (accessed on 22 Nov 2022).
42. Sepulveda-Escobar, P., & Morrison, A. (2020). *Online teaching placement during the COVID-19 pandemic in Chile: challenges and opportunities*. *European Journal of Teacher Education*, 43(4), 587-607.
43. Visser, P. S. (2010). **Attitudes**. *The Corsini Encyclopedia of Psychology*, 1-2.

44. Wang, X. (2022). **Enhancing Chinese EFL students' academic engagement**: The impact of L2 enjoyment and academic motivation. *Frontiers in Psychology*, 13.
45. Wenden, A. (1991). **Learner strategies for learner autonomy**.
46. Wu, Z. (2019). *Academic motivation, engagement, and achievement among college students*. *College Student Journal*, 53(1), 99-112.
47. Yu, S., Zhou, N., Zheng, Y., Zhang, L., Cao, H., & Li, X. (2019). **Evaluating student motivation and engagement in the Chinese EFL** writing context. *Studies in Educational Evaluation*, 62, 129-141.
48. Zhang, Q., & Yu, Z. (2021). A literature review on the influence of Kahoot! On learning outcomes, interaction, and collaboration. *Education and Information Technologies*, 26(4), 4507-4535.
49. Zulfikar, T., Dahliana, S., & Sari, R. A. (2019). An Exploration of English Students' Attitude towards English Learning. *English Language Teaching Educational Journal*, 2(1), 1-12.