==========
Language in India www.languageinindia.com **ISSN 1930-2940 Vol. 21:8 August 2021**
==========

Afghan EFL Students' Perceptions of Critical Thinking and Problem-Solving Skills

Aminuddin Hashemi
English Department, School of Language and Literature
Takhar University, Taloqan, Takhar, Afghanistan
a.hashemi@tu.edu.af
ORCID: https://orcid.org/0000-0002-6052-1516

Sayeed Asif Akramy
English Department, Takhar University, Afghanistan
sayeedasif.akramy@tu.edu.af
ORCID: 0000-0002-7770-4474

Sayeed Naqibullah Orfan
English Department, Takhar University, Afghanistan
sayeed.naqibullah@fulbrightmail.org
ORCID: 0000-0003-4584-1965

Abdul Qawi Noori
English Department, Takhar University, Afghanistan
abdulqawi.noory@gmail.com
ORCID: https://orcid.org/0000-0003-2531-5626

==========

Abstract

The present study aimed to investigate the perceptions of Afghan EFL students towards critical thinking (CT) and problem-solving (PS) skills. The study investigated whether there was any significant difference in the participants' response across gender and their class level. The researchers used SPSS version 26.0 to analyze the data. The study employed descriptive and inferential statistics mainly (frequency, percentage, independent sample t-test, ANOVA, and a correlation test). The findings revealed that Afghan EFL learners were highly equipped with CT and PS skills, and they held positive perceptions regarding these two competencies of the 21st-century skills. In addition, no significant differences were found in the perceptions of the student towards the use of CT and PS skills by gender. Moreover, the participants' classes had a significant impact on their responses. A significant relationship between CT and PS skills was found.

Keywords: Afghan EF Students, Critical Thinking, Problem Solving, 21st-Century Skills, Generic Skills

==========

Introduction

Critical thinking (CT) is the ability to analyze and recognize relevant information and then interpret it to solve a problem (Özyurt, 2015). It necessitates higher order thinking and entails the steps of analysis, assessment, rationality, and reflection. As future human capital, university students must develop CT and PS skills, as this is what businesses and markets look for when hiring new employees (Thompson, et al., 2003). Students with critical thinking abilities are more productive, prepared, and employable in the workplace. According to Choi, et al., (2014) students who possess these abilities will be more successful in their chosen careers and their personal lives. Students in traditional classrooms frequently learn content but rarely have the opportunity to apply it until they enter the workforce (Hashemi and Kew, 2020). In order to think critically, one must be able to examine various points of view before making a decision (Hashemi, 2021b). The Problem Based Learning (PBL) technique has been claimed to be as an effective teaching strategies for the learning of CT and PS abilities (Beser and Aygul, 2020).

Critical thinking and problem solving are two of the most important skills to possess in today's environment. One of the aims of contemporary education in this sense is to develop individuals who understand what they learn and why they learn rather than being told directly and constructing their knowledge (Orfan, et al., 2021). One of the aims is to cultivate individuals who can solve issues, gain new information by applying what they've learned, know and practice different forms of thinking, such as critical thinking, creative thinking, and so on. One of the furthermost significant functions of today's educational system, is to offer individuals with CT and PS skills. In addition to that, Problem-solving is the key skill in terms of teaching and learning at the higher education level for instructional materials (Rahim, et al., 2021). Problem-solving is described as formulating a new response to come up with a solution, in which each step is the forerunner of the next step and the outcome of the previous step (Irwanto, et al., 2018).

Students are exposed to a wide number of difficulties at work and must choose the best course of action to address them. In the face of multiple inputs, they make judgments and put them into action. As a result, critical thinking is necessary for students to solve both basic and difficult problems. Hence, the present study aimed to investigate the perceptions of Afghan EFL students towards the use of CT and PS skills. Therefore, the following research questions were formulated to assess the objectives of the study.

Research Questions

1. What are the perceptions of Afghan EFL students towards the use of critical thinking and problem-solving skills?
2. Is there statistically significant difference in the perceptions of Afghan EFL students towards the use of critical thinking and problem-solving skills across gender and class?
3. Is there any relationship between critical thinking and problem-solving skills of students?

Literature Review

In the educational context, there have been numerous studies on critical thinking and problem-solving skills (Beser and Aygul, 2020; Choi et al., 2014; Demiral, 2019; Ebiendele Ebosele Peter, 2012; Garcia, Buddy, and Hooper, 2011; Huang, 2018; Irwanto et al., 2018; Kivunja, 2015; Matthee and Turpin, 2019; McCormick, et al., 2015; Özyurt, 2015; Rodzalan and Saat, 2015; Saavedra and Saavedra, 2011; Thompson et al., 2003; Tümkaya, et al., 2009; Voogt, et al., 2010; Yenice, 2011). Students exposed to a curriculum that included courses to improve critical thinking abilities and had higher critical thinking scores than those who were not exposed to such courses, according to Beckie, et al., (2001). Although McGrath (2003) observed that critical thinking scores increased gradually in the first, second, and fourth years, the difference between the years was negligible. On the other hand, (Irwanto et al., 2018), studied the critical thinking and problem solving skills. Their findings revealed that there was a substantial difference in critical thinking skills and problem-solving skills between experimental and control groups which were considered to be in favor of experimental group students.

Moreover, Shidiq and Yamtinah, (2019) studied teachers' attitudes towards the use of 21st-century skills. Their findings indicated that while pre-service Chemistry teachers had a moderately positive attitude toward 21st-century skills, they lacked communication and collaboration skills in their working methods. Each attitude and the characteristic indication were explored. To obtain more competent education, it is proposed that future studies promote 21st-century abilities to pre-service Chemistry instructors utilizing appropriate methodologies and approaches. Garcia, et al., (2011) carried out a study on factors of a web-based that influence teachers' CT and PS skills. The usage of a discussion board and a reading method were shown to be important in the progress of CT and PS abilities respectively. Demiral, (2019) indicated that there were no statistically significant differences in overall problem solving across age groups.

Similarly, Tümkaya, et al., (2009) studied university students' CT and PS skills. The findings of their study showed a positive attitude toward CT is related to better PS abilities. Gender was not found to be a significant factor in their perceptions of using CT and PS skills. Social science students had greater levels of these factors than science students. Both problems solving and critical thinking dispositions were shown to be substantially associated with grade level. Their findings suggested that college courses must include instructional activities that encourage CT and PS skills while also addressing the emotional aspect of these topics.

Additionally, a study conducted by Rodzalan and Saat, (2015) on the perceptions of undergraduate students' CT and PS skills. The findings of their study indicated that students believed they had strong CT and PS abilities. Male students were also thought to have superior CT and PS abilities. In comparison to scientific and engineering students, social science students tend to do better in this competence. According to another study conducted by Choi et al., (2014) on

the effects of problem-based learning (PBL) on students' CT and PS skills. Their findings indicated that learning outcomes were substantially linked, although there were no statistically significant differences between groups. In problem-solving and self-directed learning, students in the PBL group improved across the board, but students in the conventional lecture group dropped. Problem-solving and self-directed learning were both linked to critical thinking, while problem-solving was linked to self-directed learning.

Methods

Participants

The present study employed a quantitative design where a questionnaire was adapted from the study of Rodzalan and Saat, (2015) investigating the perceptions of students on the use of CT and PS skills. The researchers targeted a sample size of 127 students from the English department of Takhar University, which is located in the northeastern part of Afghanistan. The participants were selected randomly, and their ages were ranged between 18- 30 years old. A technique of random sampling was use to give a chance to every students to take part in the study equally (Hashemi, 2021a).

Data Collection Instruments

The data collection instruments were based on an online questionnaire, constructed through Google forms. The designed questionnaire consisted of two parts which was based on five points Likert scale ranging from 1 strongly disagree to 5 strongly agree. The first part of the survey was aimed to elicit the demographic profile of the participants containing three items mainly on gender, age, and class. While the second part of the questionnaire containing 11 items explored the perceptions of Afghan EFL students towards the use of CT and PSs.

Data Collection Procedure and Analysis

The researcher administered the survey through Google forms and shared the link to the social media messengers (Facebook, WhatsApp, and Telegram). The respondents were given 10 days to participate and submit it back. The privacy and confidentiality issues were mentioned in the consent form attached to the questionnaire. The analysis of the data was accomplished through SPSS software 26. A descriptive and inferential statistical analysis was used to analyze the data. Mean, standard deviation, and frequency were computed through the descriptive statistics while an independent sample t-test along with an ANOVA test was employed in the inferential statistics to analyze the differences in the perceptions of students across gender and class. Furthermore, a correlation test was also used to figure out whether there is a relationship between CT and PS skills.

Findings

Table 1. Demographic Profile of the Respondents

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	105	82.7	82.7	82.7
	Female	22	17.3	17.3	100
	Total	127	100	100	
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	74	58.3	58.3	58.3
	25-30	33	26	26	84.3
	above 30	20	15.7	15.7	100
	Total	127	100	100	
Class					
Classes		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Freshmen	29	22.8	22.8	22.8
	Sophomore	49	38.6	38.6	61.4
	Junior	38	29.9	29.9	91.3
	Senior	11	8.7	8.7	100
	Total	127	100	100	

According to Table 1, there were 105 male respondents which are 82.7% and 22 female respondents with a percentage of 17.3% participated in the study. There were 84 respondents aged 18-25, 33 respondents aged 25-30, and 20 respondents were aged above 30. Concerning their classes, 29 respondents participated from the freshmen class, 49 respondents from the sophomore class, 38 respondents from the junior class, and 11 respondents participated from the senior class.

Table 2. Illustrates the Computed Percentage of CT and PS Skills

No	Items	SD	D	N	A	SA	%
1	In seeking satisfaction through my work, I tend to have a creative approach to solve problems solving.	11.8%	4.7%	17.3%	35.4%	30.7%	66.1%
2	In carrying out my day-to-day work, I tend to see a pattern in solving problems where others would see items as unconnected.	7.1%	3.1%	25.2%	29.1%	35.4%	64.6%

3	When suddenly asked to consider a new project, I can take an independent and innovative look at most situations.	7.9%	0.8%	26.8%	34.6%	29.9%	64.6%
4	I can see how ideas and techniques can be used in perceiving new relationships.	8.7%	0.8%	26.8%	33.1%	30.7%	63.8%
5	I analyze other people's ideas objectively, by evaluating both advantages and disadvantages.	8.7%	0.8%	26.8%	34.6%	29.1%	63.8%
6	In seeking satisfaction through my work, I like to make critical discrimination between alternatives.	8.7%	5.5%	26.0%	30.7%	29.1%	59.8%
7	7 When trying to solve a complex problem, I like to weigh up and evaluate a range of suggestions thoroughly before choosing.	8.7%	7.1%	26.8%	29.1%	28.3%	57.5%
8	In carrying out my day-to-day work, I can usually find the argument to deny unsound propositions (ie. propositions that contain invalid facts).	8.7%	7.1%	26.8%	28.3%	29.1%	57.5%
9	If I am suddenly given a difficult task with limited time and unfamiliar people, my feelings seldom interfere with my judgment.	8.7%	7.1%	23.6%	31.5%	29.1%	60.6%
10	When suddenly asked to consider a new project, I approach the problem in a carefully analytical way.	8.7%	8.7%	26.8%	31.5%	24.4%	55.9%
11	I take a considerable amount of time to make a judgment but most often, the judgment made is accurate.	8.7%	11.0%	25.2%	26.0%	29.1%	55.1%

According to Table 2, most of the respondents agreed and strongly agreed on each item regarding CT and PS skills. To consider each item's percentage, almost all the item's percentages are higher than 55%. Based on the Table, the highest percentage 66.1% goes to the first item which is creating new approaches in seeking satisfaction will make to solve problems. While the lowest percentage 55.1% deals with the last item which is taking a considerable amount of time for making a judgment for problem-solving is beneficial. Consequently, if we consider the overall percentage, it can be found that all the respondents perceived positively in terms of using CT and PS skills.

Table 3. Independent Sample T-test According to Gender

	Gender	N	Mean	Std. Deviation	t-value	Sig.
CT&PS	Male	105	3.5429	1.06318	-1.762	0.371
	Female	22	4.0000	1.30018	-1.544	

Table 3 shows the perceptions of students in using CT and PS skills according to gender. As shown in Table 3, the P-value for the CT and PS skills is greater than the alpha value (P=0.371>0.05). Hence, there is no difference in the perceptions of CT and PS skills by gender.

Table 4. ANOVA test for the Differences According to their Class

ANOVA					
CT&PS					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.308	3	.769	.612	.03
Within Groups	154.551	123	1.257		
Total	156.858	126			

Table 4 shows the significant difference in the perceptions of the students in CT and PS skills according to their class. As it is shown in Table 4, the p-value for the CT and PS skills among the classes are statistically significant (0.03<0.05). Therefore, it can be concluded that there is a statistically significant difference in the perceptions of the students according to their class.

Table 5. Correlation Test between CT and PS Skills

Correlations			
		Critical Thinking Skills	Problem Solving Skills
Critical Thinking Skills	Spearmen Correlation	1	.696**

	Sig. (2-tailed)		.000
	N	127	127
Problem Solving Skills	Spearmen Correlation	.696**	1
	Sig. (2-tailed)	.000	
	N	127	127
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 5 shows the correlation between CT and PS skills among university students. As can be seen, there is a significant positive correlation between CT and PS skills.

Discussion and Conclusion

The present study aimed to explore the perceptions of Afghan EFL students towards the use of CT and PS skills. The study also sought to investigate whether there was a statistically significant difference in the CT and PS skills across gender and class. In addition, the study explored the relationship between CT and PS skills. The findings of the study concerning the first research question showed that students agreed with the statement of considering both advantages and drawbacks while analyzing other people's views, implying that they have strong CT and PS skills. Most likely, one has been taught to weigh the benefits and drawbacks before deciding on how to solve an issue. They also take a creative and inventive approach to problem-solving. Furthermore, they believed that given enough time to reflect, individuals are capable of forming accurate judgments by identifying significant distinctions between alternatives. It demonstrates that students comprehend and reflect on what they have learned in class since these processes lead to higher-order thinking in issue solving. In other words, when people are uncomfortable talking to strangers and are under time constraints, their ability to make correct judgments may suffer, leading to job stress. These findings are in line with the findings of a study conducted by (Rodzalan and Saat, 2015).

As for the second research question, the findings showed that there was no statistically significant difference in the perceptions of the student's CT and PS skills between male and female. In other words, no differences were detected between males and females in terms of their perceptions towards the use of CT and PS skills. The findings in this respect support the findings of studies conducted by (Özyurt, 2015; Tican and Deniz, 2019; Tümkaya et al., 2009; Yenice, 2011) where they found no significant difference in the CT and PS skills of students across gender. To consider the 3rd research question on the difference in the perceptions of Afghan students' CT and PS skills according to their classes. The finding in this respect showed that there was a statistically significant difference in the perception of Afghan students' CT and PS skills according to their classes. The junior and senior students were reported to be more critical thinkers and problem solvers than the freshmen and sophomore classes. For instance, the students who have

more knowledge and experiences were found more critical thinkers and problem solvers. In other words, those who have a higher level of knowledge tend to have more skills in CT and PS skills. The finding in this regard is consistent with the findings of the study carried out by (Fitarahmawati and Suhartini, 2021). Finally, concerning the 4th research question on the relationship between CT and PS skills. The finding of the study showed a strong positive correlation between CT and PS skills. These findings are similar to the findings of a study carried out by (Rodzalan and Saat, 2015; Thompson et al., 2003; Tümkaya et al., 2009) whose findings showed a relationship between these two variables.

In conclusion, university students in higher education institutions of Afghanistan, would benefit from the findings of this study. Firstly, the results of this survey show how students felt about CT and PS skills that might be used in the classroom. Second, higher education professionals might enhance methods for encouraging the development of these skills, such as holding brainstorming sessions. At the same time, higher education institutions can determine if there are any gaps in the integration of these skills into the undergraduate curriculum. Finally, the findings also contribute significantly to the growing body of the literature in the Afghan context on CT and PS skills.

==========

References

Beser, A., & Aygul, K. (2020). Critical Thinking Dispositions and Problem Solving Abilities among Nursing Students. *Egyptian Journal of Health Care*, *11*(1), 161–175. https://doi.org/10.21608/ejhc.2020.74775

Choi, E., Lindquist, R., & Song, Y. (2014). Effects of problem-based learning vs. traditional lecture on Korean nursing students' critical thinking, problem-solving, and self-directed learning. *Nurse Education Today*, *34*(1), 52–56. https://doi.org/10.1016/j.nedt.2013.02.012

Demiral, S. (2019). Critical Thinking and Problem-Solving Skills of Visually Impaired Female National Judo Team Athletes. *Journal of Education and Training Studies*, *7*(3S), 8. https://doi.org/10.11114/jets.v7i3s.4004

Ebiendele Ebosele Peter. (2012). Critical thinking: Essence for teaching mathematics and mathematics problem solving skills. *African Journal of Mathematics and Computer Science Research*, *5*(3), 39–43. https://doi.org/10.5897/ajmcsr11.161

Fitarahmawati, & Suhartini. (2021). Empowering Critical Thinking and Problem-Solving Skills During Pandemic Through Contextual Distance-Learning in Biology. *Advances in Social Science, Education and Humanities Research*, *541*(Isse 2020), 39–47.

Garcia, C. G., Buddy, H. H., & Hooper, J. (2011). Exploring factors of a web-based seminar that influence hispanic preservice teachers' critical thinking and problem-solving skills. *Journal of Hispanic Higher Education*, *10*(3), 200–211. https://doi.org/10.1177/1538192711402690

Hashemi, A. (2021a). Cogent Arts & Humanities Effects of COVID-19 on the academic

performance of Afghan students ' and their level of satisfaction with online teaching Effects of COVID-19 on the academic performance of Afghan students ' and their level of satisfaction with on. *Cogent Arts & Humanities*, *8*(01), 1–23. https://doi.org/10.1080/23311983.2021.1933684

Hashemi, A. (2021b). The effects of using games on teaching vocabulary in reading comprehension : a case of gifted students. *Journal for the Education of Gifted Young Scientists*, *9*(2), 151–160. https://doi.org/http://dx.doi.org/10.17478/jegys.846480

Hashemi, A., & Si Na, K. (2020). The Effects of Using Blended Learning in Teaching and Learning English : A Review of Literature. *The Eurasia Proceedings of Educational & Social Sciences (EPESS)*, *18*(4), 173–179.

Huang, H. (2018). Measuring Critical Thinking Skills in WCPSS: An Update with 2017-18 Data. *Wake County Public School System*, (September).

Irwanto, Saputro, A. D., Rohaeti, E., & Prodjosantoso, A. K. (2018). Promoting critical thinking and Problem Solving Skills of Preservice Elementary Teachers through Process-Oriented Guided-Inquiry Learning (POGIL). *International Journal of Instruction*, *11*(4), 777–794. https://doi.org/10.12973/iji.2018.11449a

Kivunja, C. (2015). Using De Bono's Six Thinking Hats Model to Teach Critical Thinking and Problem Solving Skills Essential for Success in the 21st Century Economy. *Creative Education*, *06*(03), 380–391. https://doi.org/10.4236/ce.2015.63037

Matthee, M., & Turpin, M. (2019). Teaching critical thinking, problem solving, and design thinking: Preparing IS students for the future. *Journal of Information Systems Education*, *30*(4), 242–252.

McCormick, N. J., Clark, L. M., & Raines, J. M. (2015). Engaging Students in Critical Thinking and Problem Solving: A Brief Review of the Literature. *Journal of Studies in Education*, *5*(4), 100. https://doi.org/10.5296/jse.v5i4.8249

Orfan, S. N., Noori, A. Q., Hashemi, A., & Akramy, S. A. (2021). Afghan EFL Instructors ' Use of Teaching Methods. *International Journal of English Language Studies (IJELS)*, *3*(5), 31–38. https://doi.org/10.32996/ijels

Özyurt, Ö. (2015). Examining the critical thinking dispositions and the problem solving skills of computer engineering students. *Eurasia Journal of Mathematics, Science and Technology Education*, *11*(2), 353–361. https://doi.org/10.12973/eurasia.2015.1342a

Rahim, M. N., Mohammadi, T., & Hashemi, A. (2021). A Critical Evaluation of the Twelfth Grade English Language Textbook for Afghanistan High Schools. *Journal of English Language Studies*, *3*(2), 67–77. https://doi.org/https://doi.org/10.31849/elsya.v3i2.6295

Rodzalan, S. A., & Saat, M. M. (2015). The Perception of Critical Thinking and Problem Solving Skill among Malaysian Undergraduate Students. *Procedia - Social and Behavioral Sciences*, *172*(2012), 725–732. https://doi.org/10.1016/j.sbspro.2015.01.425

Saavedra, A. R., & Saavedra, J. E. (2011). Do colleges cultivate critical thinking, problem solving, writing and interpersonal skills? *Economics of Education Review*, *30*(6), 1516–1526.

https://doi.org/10.1016/j.econedurev.2011.08.006
Shidiq, A. S., & Yamtinah, S. (2019). Pre-service chemistry teachers' attitudes and attributes toward the twenty-first century skills. *Journal of Physics: Conference Series*, *1157*(4), 6–13. https://doi.org/10.1088/1742-6596/1157/4/042014
Thompson, S. D., Martin, L., Richards, L., & Branson, D. (2003). Assessing critical thinking and problem solving using a Web-based curriculum for students. *Internet and Higher Education*, *6*(2), 185–191. https://doi.org/10.1016/S1096-7516(03)00024-1
Tican, C., & Deniz, S. (2019). Pre-service teachers' opinions about the use of 21st century learner and 21st century teacher skills. *European Journal of Educational Research*, *8*(1), 181–197. https://doi.org/10.12973/eu-jer.8.1.181
Tümkaya, S., Aybek, B., & Aldağ, H. (2009). An investigation of university students' critical thinking disposition and perceived problem solving skills. *Egitim Arastirmalari - Eurasian Journal of Educational Research*, (36), 57–58.
Voogt, J., Roblin, N. P., Voogt, J., & Roblin, N. P. (2010). *White-Paper-21st-CS-Reading-week-2 (1)*.
Yenice, N. (2011). Investigating pre-service science teachers' critical thinking dispositions and problem solving skills in terms of different variables. *Educational Research and Reviews*, *6*(6), 497–508.
==========