



21st Century ESP Instruction: Promoting Algerian Students' Academic Writing Proficiency Through the Jigsaw Technique

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Abstract ;

Writing, as a language skill, is often regarded as a complex task. In this time of rapid changes in the professional landscape, business owners are aspiring to have highly competent and collaborative labor. The fact that language use has shifted greatly towards effective communication, be it spoken or written, introduced the urge for ESP learners to have their attention put on how to function properly and efficiently within the already working systems. In the modern workplace, there is a growing emphasis on not just technical knowledge but also a wide range of soft skills, including meaningful collaboration. In this study, we sought to investigate the current ESP pedagogy vis-a-vie academic writing requirements of the 21st Century business environment as well as the possible effects of integrating the Jigsaw technique into ESP instruction for namely academic writing proficiency. For this purpose, a quasi-experimental research design was applied at Ziane Achour University's Department of English over the first trimester of 2023-2024 academic year. 52 participants took part in the investigation throughout 06 treatment sessions after having sat for a pre-test writing achievement. Followed by the two, they, then, underwent another similar post-test. The findings revealed that the Jigsaw technique had a statistically positive impact on the learners' academic writing proficiency.

Article info

Received

March 08 ;2024

Accepted

June 24 ;2024

Keyword:

- ✓ *Academic Writing*
- ✓ *ESP Instruction*
- ✓ *Target Situation Needs*

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Introduction

In the 21st century, English for Specific Purposes (ESP) training has advanced to meet the intricate requirements of academic writing proficiency. Modern ESP programs go beyond basic grammar and vocabulary instruction by incorporating soft skills to help learners effectively communicate their ideas. Educators strive to prepare students for success in academic writing environments by combining linguistic proficiency with critical thinking, teamwork, and cultural understanding. Integrating soft skills into English for Specific Purposes (ESP) training improves both language proficiency and overall development. Students enhance their skills in expressing intricate concepts, receiving valuable criticism, and adjusting their writing to suit various audiences through collaborative writing projects, peer evaluations, and cross-cultural communication exercises. Encouraging a growth attitude helps learners persist through hurdles, embrace innovation, and develop resilience in their writing pursuits. The inclusion of soft skills in ESP teaching signifies a change towards a more comprehensive language learning strategy. Educators empower students to become confident and effective communicators in academic writing situations by fostering linguistic competency, critical thinking, teamwork, and flexibility. This prepares students for the diverse challenges of the globalized 21st-century world.

Problematic

Teachers often find it challenging to conduct well-planned and productive

writing classes. This is owing to the difficulty of writing skills primarily, and also to the limited body of research on the multidisciplinary factors influencing students' written achievements. On collaborative learning, being one of them, only few works have been placed to assist the understanding of both theory and practice regarding such human production. Therefore, there is a need to tackle academic writing skills through the lenses of a more socioculturally-based approach as collaborative in group learning.

Research Questions

In an attempt to assist students in improving their writing skills through collaborative learning, this research poses the following two questions:

1. Does using the jigsaw technique impact students' academic writing proficiency?
2. In comparison to classical teaching, to what extent does the incorporation of the jigsaw technique affect students' academic writing accomplishment?

Research Hypotheses

To answer the research questions, this research is based on these two hypotheses:

1. The Jigsaw technique influences positively EFL students' academic writing proficiency
2. Incorporating the Jigsaw technique is of an observable and substantial impact on EFL students' academic writing proficiency

Research Significance

This present research can offer decent contributions to both theory and practice. It strengthens the human understanding of writing skills and, too, provides tools for the teachers to conduct yet more productive writing classes. It is, as well, of contribution to the students for it familiarizes them with collaborative learning which in ways resembles how the professional real-life situations are dealt with.

I. Literature Review

1. Academic Writing

Brown (2001) most simply stated that writing is “a simplistic view of writing would assume that written language is simply the graphic representation of spoken language”. Writing is regarded as the process through which individuals manifest their thoughts and feelings. In other words, as Rivers (1981) accounts, that writing is the action of authentically and consecutively expressing meaning with the use of a language.

In language learning, writing is put as a superior language skill to be learned since it not only is an academic feature but also the type of skill desired for workplace purposes, Huy (2015). Therefore, these skills are of paramount relevance to the sphere of foreign language instruction. This is the reason why a myriad of teaching methodologies have been addressing the named productive skill from various perspective and specificities. From those spelling attention on how feedback

moves can possibly bring about more efficiency to the ones like (Kheyardi, 2017; Mazhar, 2019) who sought to examine the impacts of gamified strategies as means to improving students’ writing performance.

In actuality, it is probably fair to assume that there has been no ground agreement on the nature of writing and the interdisciplinarity of its teaching pedagogies. For this matter, both teachers and students face difficulties while attempting to run a successful, also productive, writing class despite of it being a desired skill.

1. Target and Learning Needs

Within ESP instruction, Needs Analysis is at the heart of every operation related to what ought to take place inside the classroom or what is to be carried out to tackle future professional encounters. When designing an ESP course, the first step is rather students’ needs analysis (Martinez & Sanz, 2008). According to Hutchinson and Waters’ (1978) model, needs analysis is categorized into learning needs which cover concerns of who the learners are, course purpose, and resources opted for in this regard. Target needs, however, address content areas, language type along with appropriate context use.

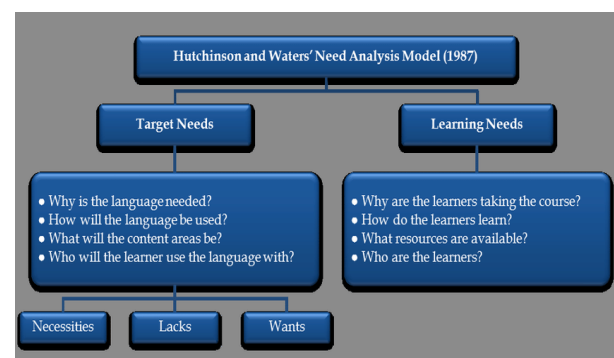


Fig 1. Hutchinson and Waters’ Needs Analysis Model (1978)

In order to have a clear view on students' work contexts and what they need to be equipped with from the linguistic aspect, needs analysis can assist educators with substantial information about the varying yet distinguished work situations for each case is unique and requires the mobilization of a varying language and communicational skills. Henceforth, Skills are delivered to learners for applications beyond the immediate learning context.

Based on Mumby's (1978) communicative needs processor, the target situation analysis tries to identify the English language skills students must acquire from the course. This is accomplished through activities that simulate those encountered in the target work environment. As a close result, Tomlinson (2005) asserts that comprehending the target context is crucial for designing syllabi and resources. In the same context, (Byram & Hu, 2013) state that collecting and analyzing data regarding how language learners will use the target language they have learned is a complimentary procedure to the present situation analysis, which aims to assess students' current competence.

3. 21st Century Soft Skills

In today's world, effective citizens need not just knowledge but both of the latter and abilities. Modern students need abilities in communication and teamwork to effectively apply their information and continue learning. Students prefer academic classes that are relevant to real-world issues since it enhances

their learning experience. Students must acquire 21st-century abilities to succeed in modern society. The Partnership for 21st Century Skills (P21), a U.S. organization focused on advancing 21st century preparedness for students, has developed a framework for 21st century learning. The framework categorizes skills into three broad groups, each containing special abilities (Munteanu, 2016).

Katz (1974) highlighted the importance of soft skills for successful management. Other researchers classified these skills as general and transferable to different fields and professional tasks. Soft skills have been defined in various ways, showing a semantic evolution that has resulted in multiple interpretations.

Previous studies, like the one carried out in 2017 with Google Corporation's diverse employees, have emphasized the importance of soft skills. The results highlight the growing emphasis on practical skills rather than theoretical knowledge. The Future of Jobs report (2020) emphasized 10 essential skills for success, especially in the field of human resources and recruitment services.

Eventually, the integration of soft skills into the changing world of work is greatly improved by possessing a combination of both soft and hard skills.

3.1 Collaboration

Significant focus is placed on the importance of interaction and peer collaboration in second language development, acknowledging learning as a

socially situated activity. Vygotsky (1978) states that advanced cognitive abilities first develop in social interactions before moving to individual mental processes. In this scenario, learners typically build knowledge together with more skilled peers, taking advantage of a variety of strengths and weaknesses. Various studies, including the research by Watanabe and Swain (2007), have emphasized collaborative writing tasks. These tasks require pairs to collaborate throughout the entire writing process, encouraging reflection on language usage and collective problem-solving in language-related difficulties.

3.2 Jigsaw as a Collaborative Learning Technique

Modern pedagogy emphasizes rather a learner-centered approach for it is crucial in improving students' communication skills and their rational thinking abilities. This is especially important in the contemporary world where cooperation and work delegation are highly valued since they, as proved in previous studies, maximize possibilities for individuals to succeed in the face of the challenges of the real world.

An example of implementing this student-focused method is the Jigsaw Technique, which is a collaborative learning tool. This method involves students of different abilities gathering in a home group, where each participant is given certain topics to study. They then transition to a specialized expert group focusing on the same subject, fostering

a dynamic and collaborative learning atmosphere.

The results of these learning experiences go beyond academic accomplishments. Efficient learning management leads to increased motivation, enhanced learning attitudes, and the development of crucial social skills. These abilities are essential for students as they face the challenges of life outside the classroom.

Although the advantages of the Jigsaw Technique are clear, there is a lack of extensive worldwide research on its effectiveness, as emphasized by Gul and Shehzad (2015). Additional research and investigation of this collaborative learning strategy can offer useful insights into its wider applicability and possible influence on student growth.

II. Research Methodology

1. Methods and Instruments

This research follows a quantitative approach to examine the variables of the topic and the experimental feature has received full attention due to its perceived importance to students' development. This study methodology involves using random sampling to select an experimental and control group to analyze the differences between the two samples at the beginning and end of the treatment. It assesses the degree of improvement in learners' performance throughout the duration of the training. Therefore, it was carried out utilizing a quasi-experimental design targeted to the students to

provide accurate and trustworthy data on the topic addressed.

2. Participants and Procedures

52 male and female 3rd-year students from the Department of English Language at Ziane Achour, University of Djelfa, considered to be homogenous, participated in this training. They study ESP as a module in which aspects related to academic writing are addressed. The students were split into an experimental and a control group. Each group consisted of 26 participants. Their ages varied from 20 to 25 years old, and they have been taking ESP for the last two academic trimesters.

In this quasi-experimental study, the Jigsaw Technique was used to assess any improvement regarding the students' academic writing skills in English for Specific Purposes. The treatment was of a total of 06 sessions and took place during the first semester of the 2023/2024 academic year. The process entailed segregating them into 04 small and heterogeneous groups of 05 and one group of 06 members. Within each group, every member was allocated a distinct element of the academic writing process. That is, distributing phases of thinking and making organizational choices, brainstorming, outlining, drafting, editing and proofreading among the group members equally. Afterwards, students in these groups, specialized in their chosen phase, paired with the other members of other groups who were allocated to differing duties. Within these new groups, students shared their specialized knowledge seeking to promote

peer learning and the transfer of information. Students utilized their new knowledge by working together on writing assignments that incorporated several elements of academic writing. Ultimately, once the students shared specific expertise, they returned back to their original groups so as to work now all as experts. One observed remark from the part of the researcher was that the students seemed, for the two first encounters, to be reluctant to collaborate with their class peers. However, they eventually ended up more open and comfortable with this learning experience.

3. Ethical Considerations

The study involved 52 students who were ensured confidentiality and agreement. All actions in this research were conducted with their consent. Additionally, they were familiarized with the importance of each step and the specific tasks they were expected to fulfil. Participants were assured the option to withdraw from the research at any point.

III. Data Analysis

1. Control Group Table.1:Pre-Test Scores

Mark	Frequency	Percentage	Accumulative Percentage
08	05	19.23	19.23
09	03	11.53	30.76
10	05	19.23	49.99
11	06	23.07	73.06
11.5	02	7.69	80.75
12	02	7.69	88.44
13	01	3.84	92.28
14	01	3.84	96.12
16	01	3.84	100
Total: 26	26	100	100

Table. 2: Pre-Test Statistics

Mean	10.500
Standard Deviation	1.891

Table one for pre-test results indicates a mean of 10.5, which stands for average scores in general. 06 cases had 11 as the most frequent score with a percentage of 23.07%, 05 ones scored 08, which was the lowest score in the representation of 19.23%, while only one had 16, the highest score in this range.

Table.3: Post-Test Scores

Mark	Frequency	Percentage	Accumulative Percentage
08	03	11.53	11.53
09	03	11.53	23.06
10	05	19.23	42.29
11	07	26.92	69.21
12	04	15.38	84.59
13	01	3.84	88.43
14.5	01	3.84	92.27
15	01	3.84	96.11
16	01	3.84	100
Total : 26	26	100	100

Table.4: Post-Test Statistics

Mean	10.942
Standard Deviation	1.656

Results from the post-test exhibit relatively similar scores to those of the pre-test. The mean score was 10.942, which signals a slight improvement. Positively speaking, only 03 students scored; again, 08 and 01 student had 16 as the highest of the range recorded. The most frequent score obtained was 11, with one more frequency than that of the pre-test data, representing 26.92 %.

2. Experimental Group

Table.5: Pre-Test Scores

Mark	Frequency	Percentage	Accumulative Percentage
08	06	23.07	23.07
09	05	19.23	42.30
10	07	26.92	69.22
11	03	11.53	80.75
12.5	01	3.84	84.59

13	01	3.84	88.43
14	01	3.84	92.27
15	01	3.84	96.11
16	01	3.84	100
Total : 26	26	100	100

Table. 6: Pre-Test Statistics

Mean	10.634
Standard Deviation	2.098

Commenting on the pre-test's finding, the data collected show that the mean score was at 10.634. 06 students achieved rather low marks of 08, and 05 others still performed low yet relatively better, with 09 as their score. One mere student had the highest mark of 16. Noteworthy to mention, the score of the highest frequency rate was 10 with 07 cases equal to 26.92 %.

Table.7: Post-Test Scores

Mark	Frequency	Percentage	Accumulative Percentage
10	02	7.69	7.69
11	02	7.69	15.38
11.5	09	34.56	49.94
12	08	30.72	80.66
13	01	3.84	84.50
14	01	3.84	88.34
15	01	3.84	92.18
16	01	3.84	96.02
17	01	3.84	100
Total : 26	26	100	100

Table. 8: Post-Test

Statistics

Mean	12.173
Standard Deviation	1.584

Table 07 post-test data indicate a statistically relevant improvement in students' academic writing performance. The mean was recorded at 12.17. 02 students scored the lowest mark of this range, which was 10, only 07.69%, and the most frequent achievement was of 09 frequency rates, meaning 34.56 %.

at 11.50, while only one student had the highest range mark, 17 this time.

Table. 9: General Statistics Between Pre-Test and Post-Test

	Parameters	Pre-test	Post-test	Difference
Control Group	Mean	10.500	10.942	0.442
	Standard Deviation	1.891	1.656	0.235
Experimental Group	Mean	10.634	12.173	1.539
	Standard Deviation	2.098	1.584	0.514

Commenting globally, this table statistically shows how data from the pre-test moved on to the post-test. Through the differences, we can observe the effects of the intervening variable, the experimental training, on students' overall academic writing competency. In terms of numbers, the control group had a mean score of 10.500 and a standard deviation of 1.891 for the pre-test, which did not deviate much from the post-test's mean and standard deviation, which were 10.942 and 1.656 in accordance. Nevertheless, for the experimental group, the pre-test had 10.634 and 2.098 as mean and standard deviation, respectively, while the post-test introduced higher rates of 12.173 as mean and 1.584 as standard deviation.

IV. Discussion and Interpretation

Throughout this present experimental research, 3rd year students from the Department of English, University of Djelfa, manifested substantial benefits to using the Jigsaw collaborative technique to promote their academic writing proficiency.

To begin with, Analysis of the pre-test scores indicated rather about average achievements. The control group exhibited a minor improvement in the mean score from pre-test to post-test. This goes to suggest that the classical training participants of that group received did not address their difficulties as properly as it should have done. Consequently, keeping the overall achievement somewhat slightly below average. Noteworthy to be mentioned was that the overall performance direction seemed to be individually-based. Here, we mean that each student relied on their own set of skills to approach the requirements of the test given.

Furthermore, to discuss the findings obtained from the post-test scores, we can fairly observe a considerable change in students' achievements after having been subject to the treatment. The experimental group at first had a slightly lower pre-test mean compared to that of the control group, yet it manifested a significant increase in the post-test mean. Also, its standard deviation decreased from pre-test to post-test, proving that more consistent scores were obtained from the treatment. In all, the experimental group outperformed the control group in the post-test.

To conclude with, the findings indicate a potential and promising positive impact of the Jigsaw strategy on ESP students' academic writing competency notably for those who usually achieve below average and seem to struggle with this language skill.

Limitations and Recommendations

In natural settings, research attempts are subject to limitations due to the complexity of the topic investigated or the given research conditions. In like manner, this research was challenged essentially by two limitations, first being the psychological barrier of students as they were asked to engage into one assignment which in turn could not be a success without their forced collaboration. Indeed, some of the high scoring students did not at first appreciate themselves unable to proceed unless the other low scoring members do their shares. The second limitation this research encountered was concerned with time management. This genre of investigation usually takes longer than expected.

For recommendations, it is advised for other researchers to apply varying systematic research instruments focusing on the other part of the learning experience, the teachers, who surely have views and attitudes to deliver. This can provide more understanding on the appropriate practice in educational settings. Also, we recommend research to take longer time spans for more validity and reliability.

Conclusion

The present study aimed to investigate the efficacy of the Jigsaw collaborative technique in improving students' academic writing abilities. It adopted an experimental design with experimental and control groups. While the experimental group received a treatment, the control group did not undergo any manipulation and the data collected mostly consisted on firstly, recording pre and post test

scores and secondly comparing them via the mean and standard deviation calculations. After only six treatment sessions, the examination of learning accomplishment tests showed a statistically significant effect of using the Jigsaw technique. These findings are in favor of cooperative active learning inclusion as an effective strategy for improving academic skills.

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