Exploring Jigsaw Writing for Journal Writing (JWJA)

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Abstract
The scholarship of teaching and learning (SoTL) is obtained through the lecturers' effort to engage in teaching and research. SoTL puts teaching and research as belonging to a symbiotic relationship. To improve teaching, there should be research. The end product of a research is publication in journals. So, why aren't lecturers writing in journals? Lack of time to write and lack of knowledge of the writing process are two main reasons why lecturers in higher institutions are not actively writing for journals. Writing for a journal article is no doubt an academic writing and many lecturers have gone through postgraduate studies where they have submitted thesis in the form of academic writing. Some even teach academic writing to students. So, why is it still difficult for lecturers to write academic articles for journals? This study is done to introduce an interesting way of teaching lecturers to write journal articles for publication in journals. This quantitative study explores the concept of jigsaw writing for lecturers. This approach explores team writing using colours as scaffolds. 139 participants participated in this one cycle of jigsaw writing for journal writing project. At the end of the cycle, the participants responded to a survey that contains items on the writing process and team work. Findings revealed that the JWJA approach gave writers a springboard to writing through the planning, and team-work; as well as, the use of coloured scaffolds. The findings bear interesting implications towards team-writing among academicians. Future research could look into how to motivate academicians to writer academic papers.
Keywwords: Team-Writing, Journals, Planning, Scaffolds, Jigsaw-Writing

Introduction
Background of Study
The job scope of lecturers is not only teaching. Lecturers have to make time for innovations, research and most importantly, for publication. According to Rahmat (2021), teaching and research are two inter-related academic practices that teachers of higher institutions should participate in. By achieving these two practices, teachers can be deemed as having scholarship. According to Fanghanel et.al (2016), the educator or teacher needs to perform four separate and overlapping functions to achieve scholarship. The functions are; scholarship of (a) discovery, (b) integration, (c) engagement and (d) teaching. Scholarship of discovery is done through reflective teaching on the part of the teacher and constantly thinking of the best to make learning effective. Next, in order to gain scholarship of integration, the teacher

needs to merge the lessons taught to real-life applications for the students. Scholarship of engagement is done through interaction of the institutions with the industry and community. This is to ensure what is learnt by the students is useful to the larger community around them way after they have graduated. Finally, the scholarship of teaching is obtained through the teachers' effort to engage in teaching and research.

For academicians, the ending of a research marks the reporting of the findings via publication, especially that of journal article. Writing for a journal article is no doubt an academic writing and many lecturers have gone through postgraduate studies where they have submitted thesis in the form of academic writing. Some even teach academic writing to students but find writing for academic journals a chore. So, why is it still difficult for lecturers to write academic articles for journals? Some lecturers claim they have writers' block when it comes to writing. Writers' bock is a condition usually associated with writing where the writer is unable to produce new work or experience slowdown. According to Rahmat (2020), the initial stages of writer's block is when the writer avoids writing or maybe even ignore writing-related activities. Some may have begun the writing process and ended up avoiding, while some totally avoid any writing- they never began!

There are many reasons why even those who taught academic writing to students, find writing for journals difficult. According to Budjalemba & Listyani (2020), some writers face internal factors such as motivation, self-confidence. They were made to believe they did not write well and they believed the perception. Next, Bulqiyah et al (2021) report that another major problem in academic writing is the writing process. The study by Bayat (2014) suggested that future researchers look into the use of new ways of teaching the process of writing.

Objective of the Study

This study is done to introduce an interesting way of teaching lecturers write journal articles for publication in journals. This study explores the concept of jigsaw writing for lecturers. This approach explores team writing using colours as scaffolds. Specifically, this study is done to answer the following research questions;

- How does the team writing influence the writing process?
- How does interpersonal relationships influence the team writing?
- How does process influence the team writing?
- How do roles influence the team writing?
- How does the goal influence the team writing?
- What is the relationship between writing process and team writing?

Literature Review
Scaffolding in Learning

Scaffolding is an effective way for instructors to guide learners to learn something new. The original definition of scaffolding is by Bruner (1966) who states that scaffolding involves structured communication between the instructor and the learners. This interaction is aimed to help the learners achieve a specific learning goal. In addition to that, Wood, Bruner & Ross (1976) adds that scaffolding consists of the activities provided by the instructor to support the learner as he or she is led to more learning from the peers as well. Scaffolding involves the setting up of a temporary support and the instruction for Scaffolding needs to focus on the use of metacognition-thinking about what to plan (Huang, 2017). The support is withdrawn when the instructor feels that the learner can progress on his/her own. Scaffolding is

therefore defined as a process "that enables a learner to solve a task or achieve a goal that would be beyond his/her unassisted efforts".

There are several types of scaffolding used in teaching. The first type is instructional scaffolding and this is a process where the instructor adds supports for the learners. This is done to enhance learning and helps the learners "take baby steps" to learn something they are not familiar with. Hogan & Pressley (1997) states that instructional scaffolding is a process through which an instructor adds support for the learners to facilitate learning. The next type of scaffolding is conceptual scaffolding and this refers to the learning activities that are designed to help learners integrate their understanding of the particular topic or concept until they area able to demonstrate their own understanding.

Team Work
"Alone we can do little; together we can do so much" is a popular quote to show the strength of team work. It is amazing how much can be achieved when a team works together to join jigsaw parts completed by individual team members. According to Rahmat (2022), interaction during group work facilitates more than just the sharing of knowledge. Team work interaction provides motivation to team members to persevere and complete the assigned task. Beckhard (1972) introduced the GRPI model on team work. The initials GRPI means goal, roles, processes, and interpersonal relationships respectively.
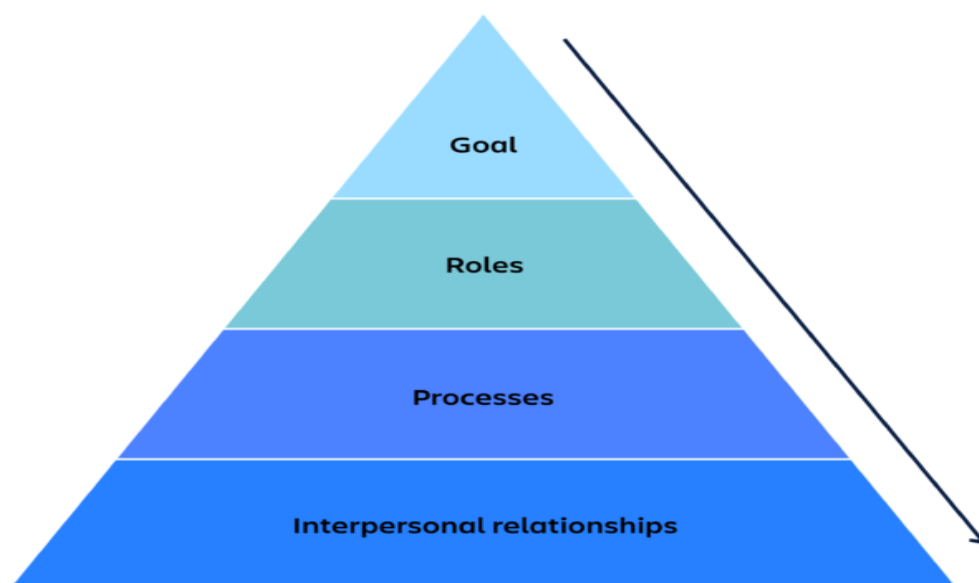

Figure 1- Team Work (source -Beckhard, 1972)

With reference to figure 1, (a) goals refer to the teams' initial need to complete a task as a team. Next, each team members needs to play their (b) roles effectively to make the project a success. In order to work towards the time frame, the team needs to adhere to the (c) process and understand how decisions are made and how work gets accomplished. Finally, the team need to have good rapport because positive (d) interpersonal relationships mean the team members respect one another and are tolerant to individual communication styles and work approaches and still be able to adhere to deadline set.

Jigsaw Writing

The concept of jigsaw learning is not a new approach and it refers to cooperative learning strategy of a group of learners working together to complete a task. The concept of jigsaw writing (figure 2) by Rahmat (2015) combines the concept of scaffolding and team writing. This technique is a method of organizing writing activities that make all writers depend on one another to complete a piece of writing. The idea of jigsaw writing is not a competition among writers, its symbiotic concept of depending on one another to complete an otherwise difficult and long writing process.

In the original jigsaw writing by Rahmat (2015) was a team writing activity done by learners learning academic essay. It is a form of collaborative writing. For a 5-paragraph academic essay, the teacher first assigns a group to have 3-4 writers. Each writer writes a developmental paragraph. The group then completes the introduction and conclusion together and submits a 5- 6 paragraph essay at the end of the activity. This is actually team writing and can be used at the beginning where the teacher needs to introduce the main concept of academic writing. It saves time as students are not required to write the whole essay on their own. They are responsible for their own developmental paragraphs.
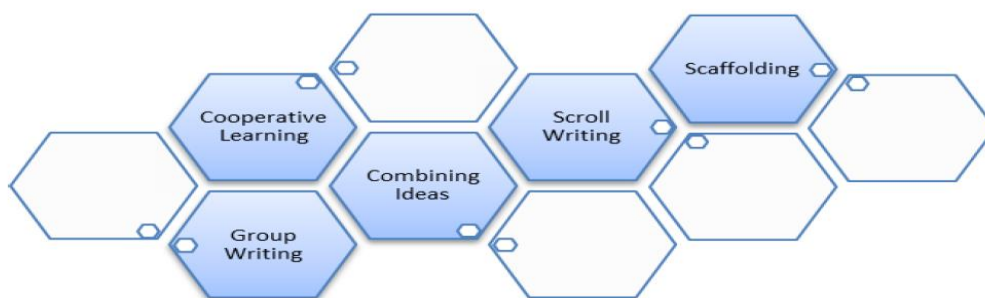

Figure 2- Jigsaw Writing (source: Rahmat, 2015)

Past Studies

Bayat (2014) carried out research to investigate the effect of using process approach on writing success and writing anxiety among first-year preschool teaching students. This is quasi-experimental research and a pre-test and post -test control group was done. The experimental lasted for 10 weeks. Data was gathered at the beginning and end of the experiment. Data was analysed to reveal that the process writing approach had a significant effect on writing success and anxiety

Another study was done by Bulqiyah et al (2021) to investigate tertiary students' perspectives on writing difficulties. This explanatory research used quantitative (collected from web-based questionnaire) and qualitative data (obtained from a structured interview. Out of 21 respondents, 6 were interviewed. Findings showed that the problems faced can be categorised into several types. Firstly, affective problems that was caused form students' and lecturers' attitude. Next, cognitive problems are caused from difficulties in the areas of writer's viewpoint, transferring language, and also the process of writing. Finally, linguistic problems are caused from the area of lexico-grammar, vocabulary, and the structure of the essay.

Next, a qualitative study was done by Budjalemba & Listyani,(2020). The instruments used were open-ended questionnaires and also an interview protocol. 22 students who attended a course on academic writing in a university in Central java, Indonesia. Findings

showed that there were two factors that caused students' difficulties in writing academically. The two factors were internal and external. Internal factors were self-motivation, self-confidence, lack of knowledge and feeling of under pressure. External factors consisted of the teacher's teaching style, classroom atmosphere, materials, and writing aspects.

Finally, Kaur & Singh (2016) conducted a qualitative study to find out the difficulties in writing among non-native learners. Data is collected in a focus group interview comprising on 70 international graduate students. Findings reveal graduate students faced difficulties coping with academic writing in English.

Conceptual Framework

Figure 3 below shows the conceptual framework of the study. This study is rooted from theories of scaffolding by Bruner (1966), Wood, Bruner & Ross (1976). The scaffolding is given in the form of "coloured scaffolds" to act as graphic organisers and also to provide symbolic modelling from the instructor (Rahmat, 2018). Next, the GPRI model of team work by Beckhard (1972) was used to explain the team writing. The writing process follows the process by Flower and Hayes (1981) and they area planning, translating and reviewing. Finally, the concept of jigsaw writing by Rahmat(2015) was used to explain the symbolic of team work and writing by parts by the writers.

The instructor begins with INSTRUCTIONAL SCAFFOLDING. This is done when the instructor adds supports for the learners. In the context of this study, the support is in the form of colour-coded templates for the writers to write their parts in the journal article. Each writer is given a colour in the journal article template. The sections that show the colour of the writer is then written by the writer. The section is also accompanied with short notes on how they should write the particular assigned coloured parts. This is done to enhance learning and helps the learners "take baby steps" to learn something they are not familiar with.

The stage in this study is CONCEPTUAL SCAFFOLDING and this refers to the learning activities that are designed to help writers integrate their understanding of the particular topic or concept until they are able to demonstrate their own understanding. Once the first draft is completed in the form of colours, the writers can see the whole journal article in many colours.

The colours symbolize the TEAM WORK that was involved in completing one draft for a journal article. The end product symbolizes a team effort and the very nature of it being combined parts from different writers to complete one journal article makes it a symbolic completed JIGSAW WRITING.
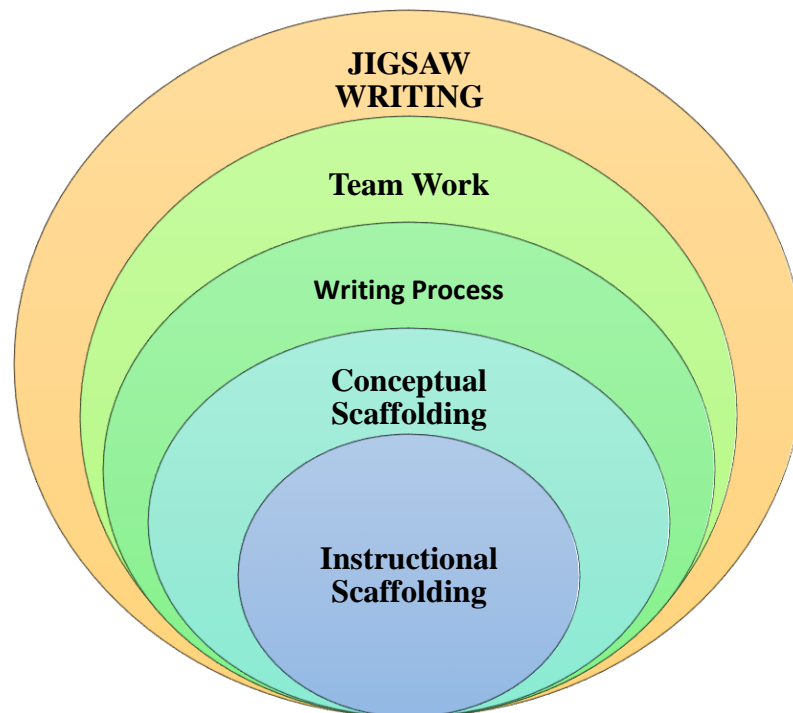
Figure 3- Conceptual Framework of the Study Jigsaw Writing for Journal Writing (JWJW)

Methodology

This study explores yet another way to do team writing among lecturers to complete a journal article. Figure 4 shows the cycle for jigsaw writing for journal writing (JWJW). At stage one, the participants are given a list of ready-made surveys to choose from. The survey comes with a matching google form to facilitate data collection. On a set date, the instructor closes the form and helps to analyse the data. Stage 4 is when the instructor prepares the colour coded scaffolds of journal article to be given to each team. At stage 5, team members are asked to proof-read their work and the instructor converts all the drafts into black (a normal journal article.) Stage 6 is when the team sends the article to the publisher and awaits response for the reviewers. The cycle ends or it can resume with the same data for a second and subsequent journal article. This cycle can take between 2-4 months depending on how fast the team can complete the draft and send to publishers.
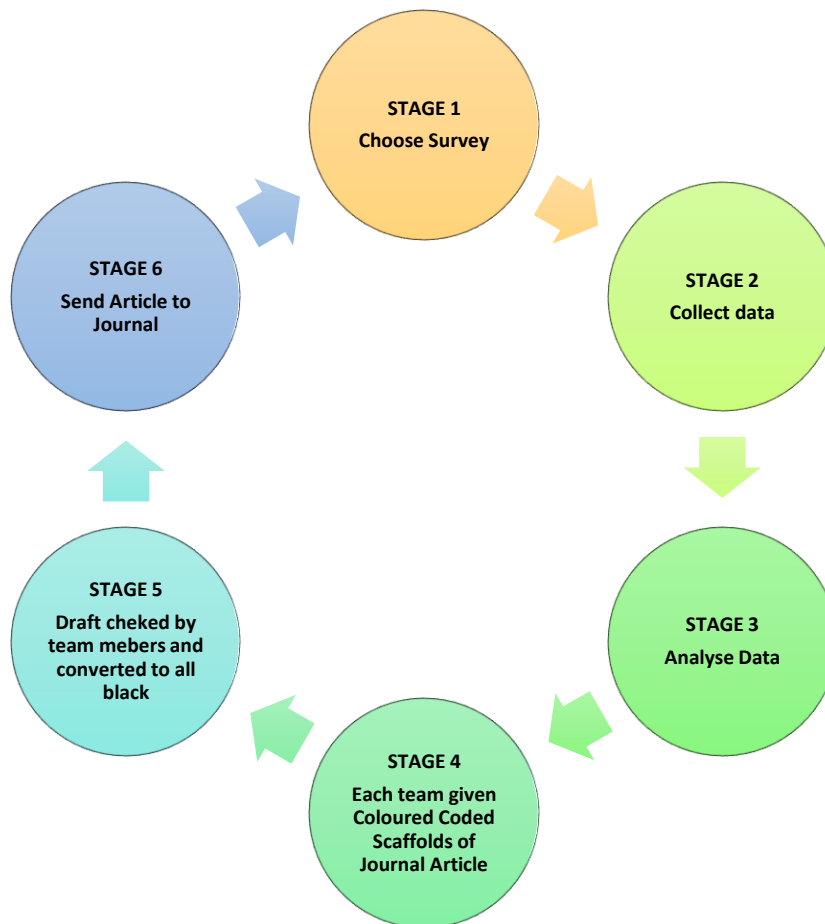
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Figure 4- The JWJW Cycle

Upon completion of one cycle, the lecturers respond to a survey. The 5 Likert-scale survey has 6 sections. 139 participants responded to the survey. Table 1 shows the distribution of items in the instrument (survey). Section A has several items on demographic profile. Section B has 7 items on the writing process by (Flower and Hayes, 1981). The process is divided into planning, translating and reviewing. Section C, D, E & F are items on team work based on GPRI model by (Beckhard, 1972).

Table 1
Distribution of Items in Survey

SECTION	VARIABLE	NO OF ITEM
B	WRITING PROCESS	7
C	TEAM-WORK-INTERRPERSONAL RELATIONSHIPS	7
D	TEAM WORK- PROCESS	7
E	TEAM WORK-ROLES	7
F	TEAM WORK-GOAL	7
TOTAL NO. OF ITEMS		35

Table 2
Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.921	35

Table 2 shows the reliability statistics of the instruments. SPSS analysis revealed a Cronbach alpha of .921; thus, showing a high reliability for the instrument. Further SPSS analysis was done to answer the research questions. Descriptive analysis was used to answer research questions 1-5 and correlation analysis was used to answer research question 6. Findings are presented in the form of pie charts, bar charts and also tables.

Findings
Findings for Demographic Profile
Q1 Gender
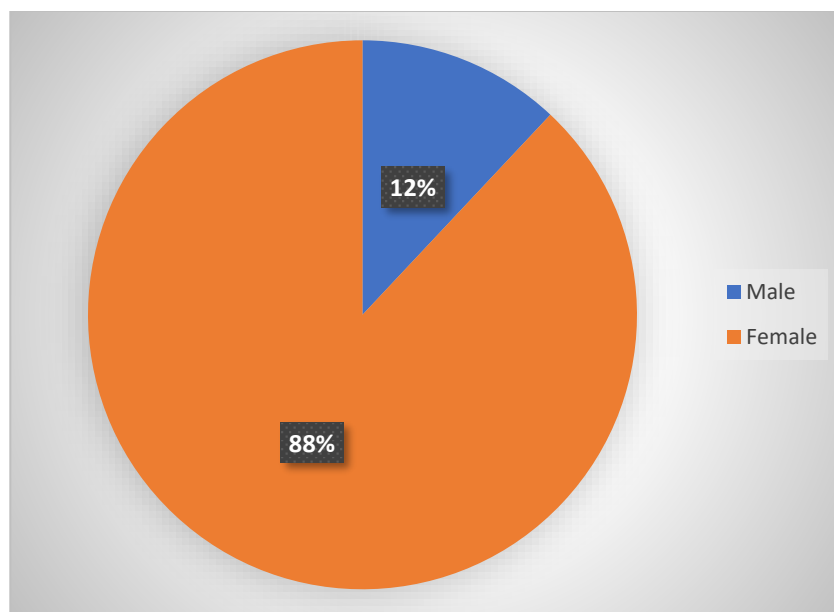
Figure 3- Percentage for Gender
Figure 3 shows the percentage for gender. 12 % are male participants and 88% are female participants.
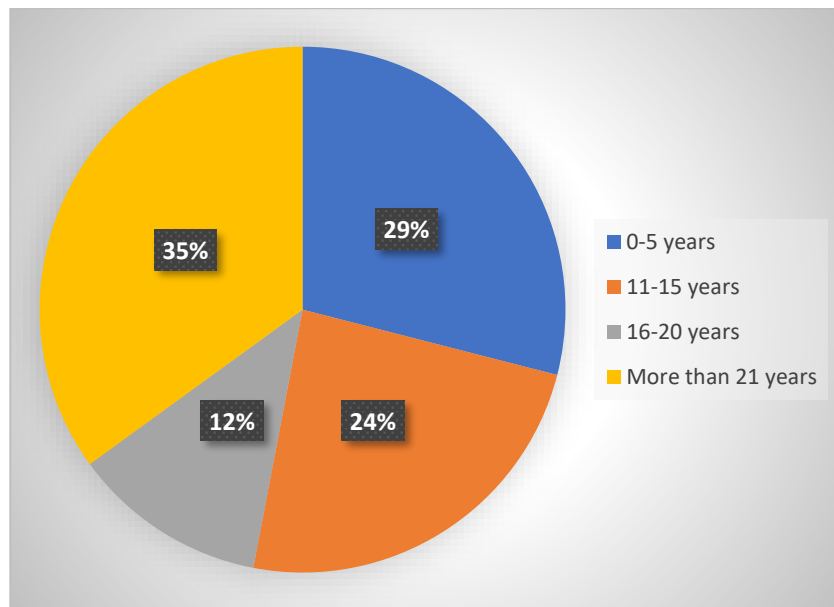
Q2 Years of Teaching Experience

Figure 4- Percentage for Teaching Experience

Figure 4 shows the percentage for teaching experience. 29% had between 0-5 years of teaching experience. 24% had between 11-15 years of experience. 12% had 16-20 years of experience while 35% had more than 2 1years of teaching experience.

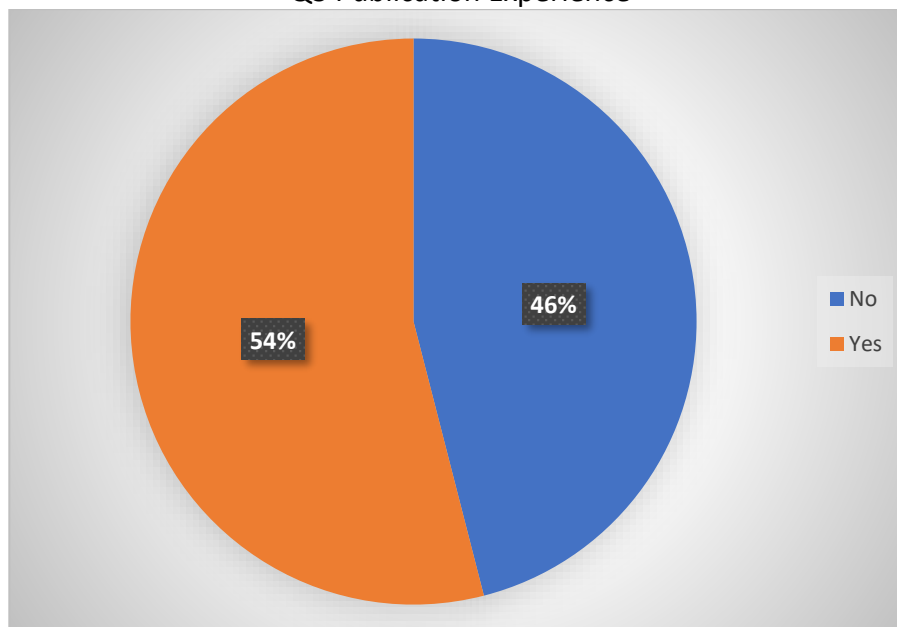Q3 Publication Experience

Figure 5- Percentage for Publication Experience

Figure 5 shows the percentage for publication experience. 46% said "yes" while 54% said "no".
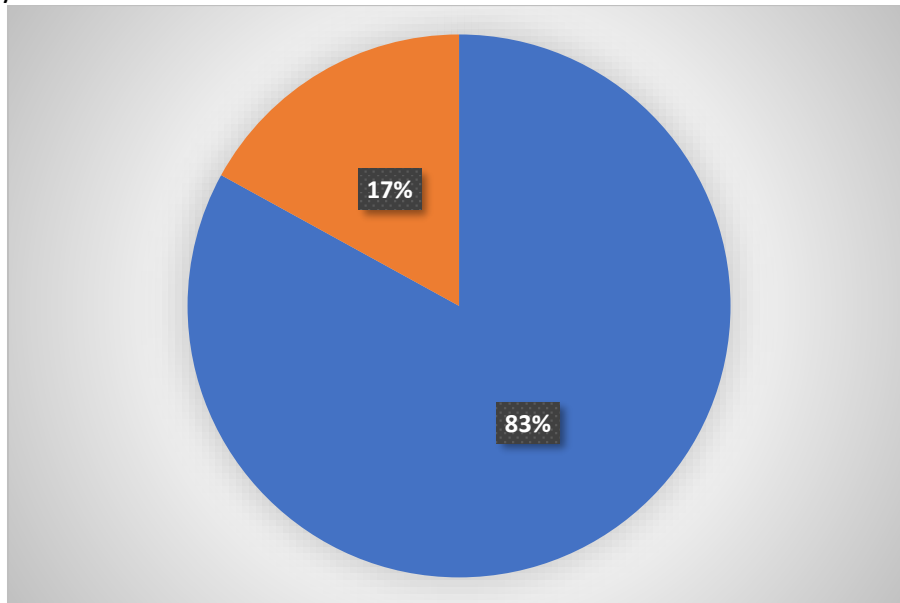
Q4 Quantity Publication

Figure 6- Percentage for Quantity of Publication

Figure 6 shows the percentage for quantity of publication. 83% had 1-5 publications previously while 17% had between 6-10 publications previously.

Findings for Writing Prcoess

This section presents data to answer research question 1- How does the team writing influence the writing process?
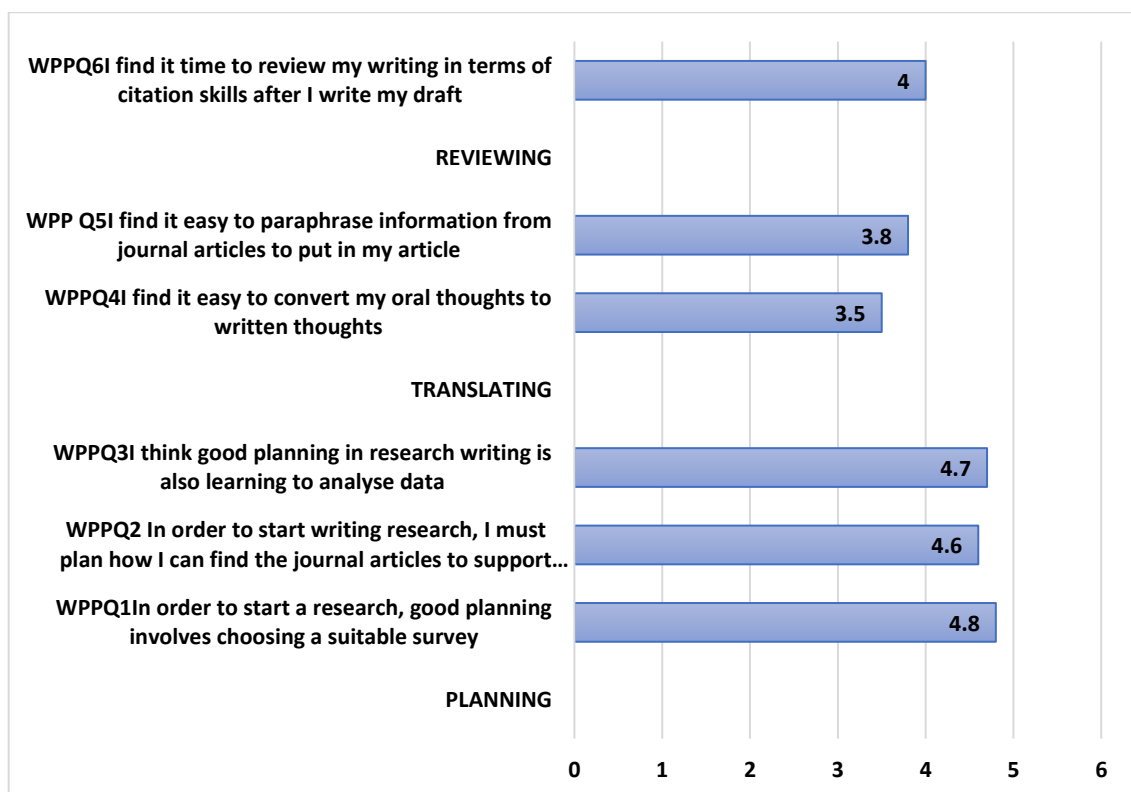

Figure 7- Mean for Writing Process

Figure 7 shows the mean for writing process. The highest mean of 4.8 is for "good planning involves choosing a suitable survey". Next is the mean of 4.7 is for "good planning in research is also learning to analyse data". This is followed by a mean of 4.6 for "order to start writing research, I must plan how I can find the journal articles to support my write-up". The lowest mean is "find it easy to convert my oral thoughts to written thoughts".

Findings for Interpersonal relationships
This section presents data to answer research question 2- How does interpersonal relationships influence the team writing?
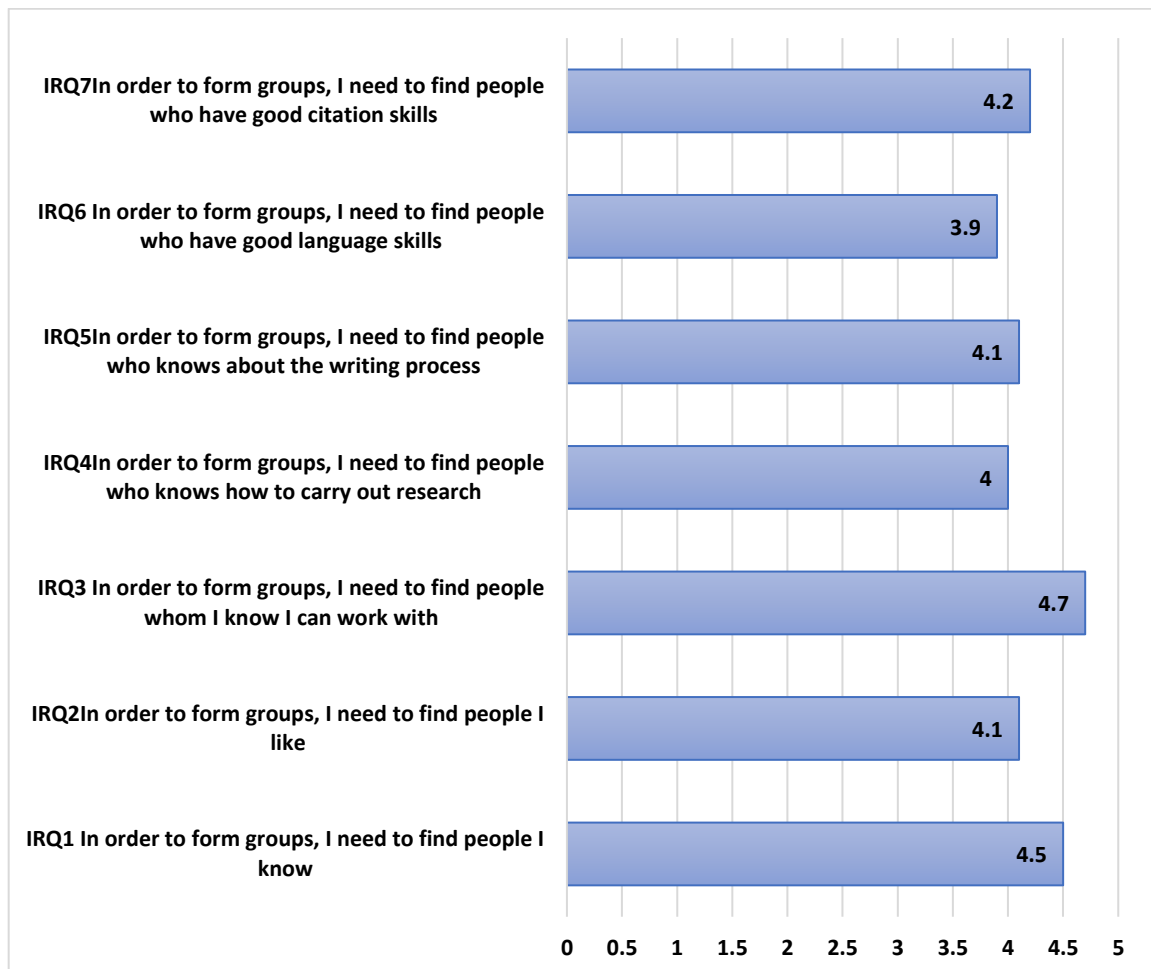

Figure 8- Mean for Team Work-Interpersonal Relationships

Figure 8 shows the mean for team work-interpersonal relationship. The highest mean of 4.7 is for "In order to form groups, I need to find people whom I know I can work with". This is followed by a mean of 4.5 for "In order to form groups, I need to find people I know". The lowest mean of 3.9 is for "In order to form groups, I need to find people who have good language skills".

Findings for Team-work-Process

This section presents data to answer research question 3- How does team-work-process influence the team writing?
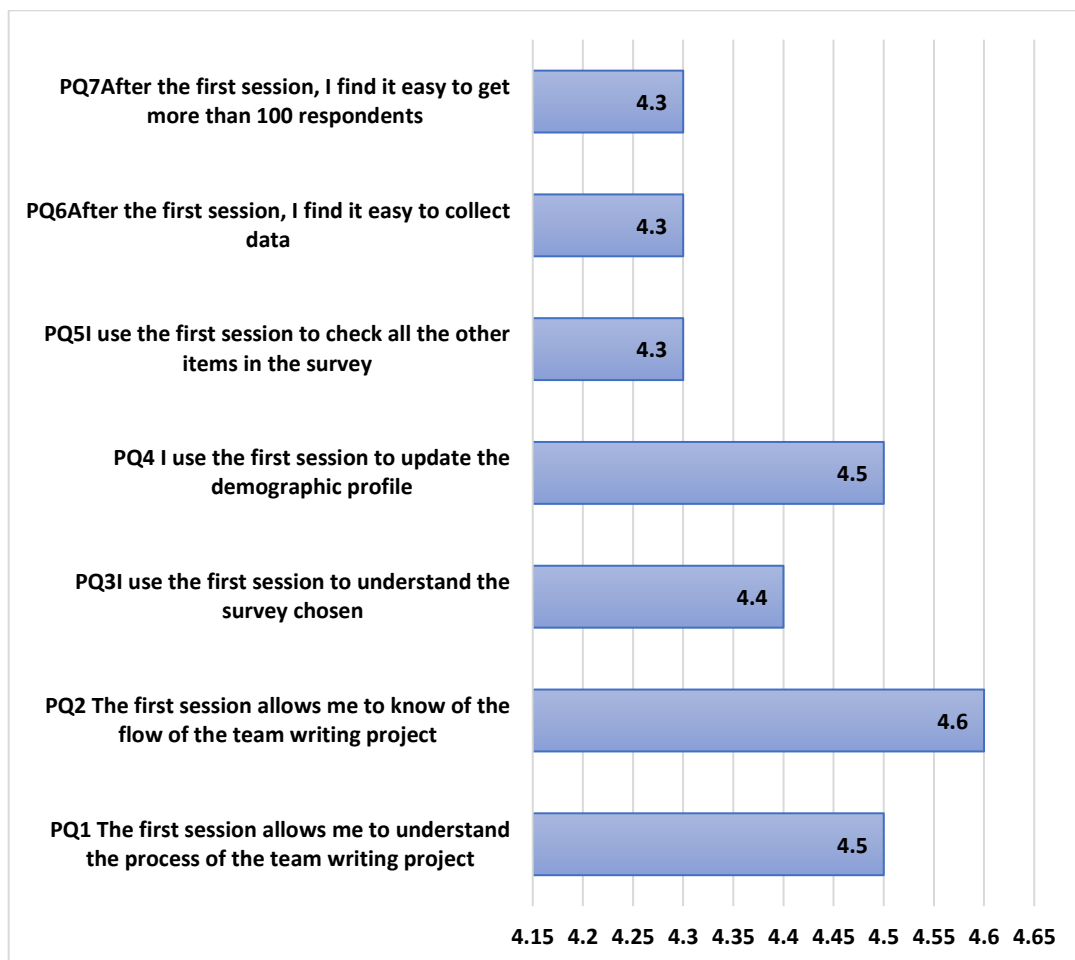

Figure 9- Mean for Team Work-Processes

Figure 9 shows the mean for team work-processes. The highest mean is 4.6 for "The first session allows me to know of the flow of the team writing project". Two items share the same mean of 4.5 and they are "The first session allows me to understand the process of the team writing project" and "I use the first session to update the demographic profile".

Findings for Roles

This section presents data to answer research question 4- How do roles influence the team writing?
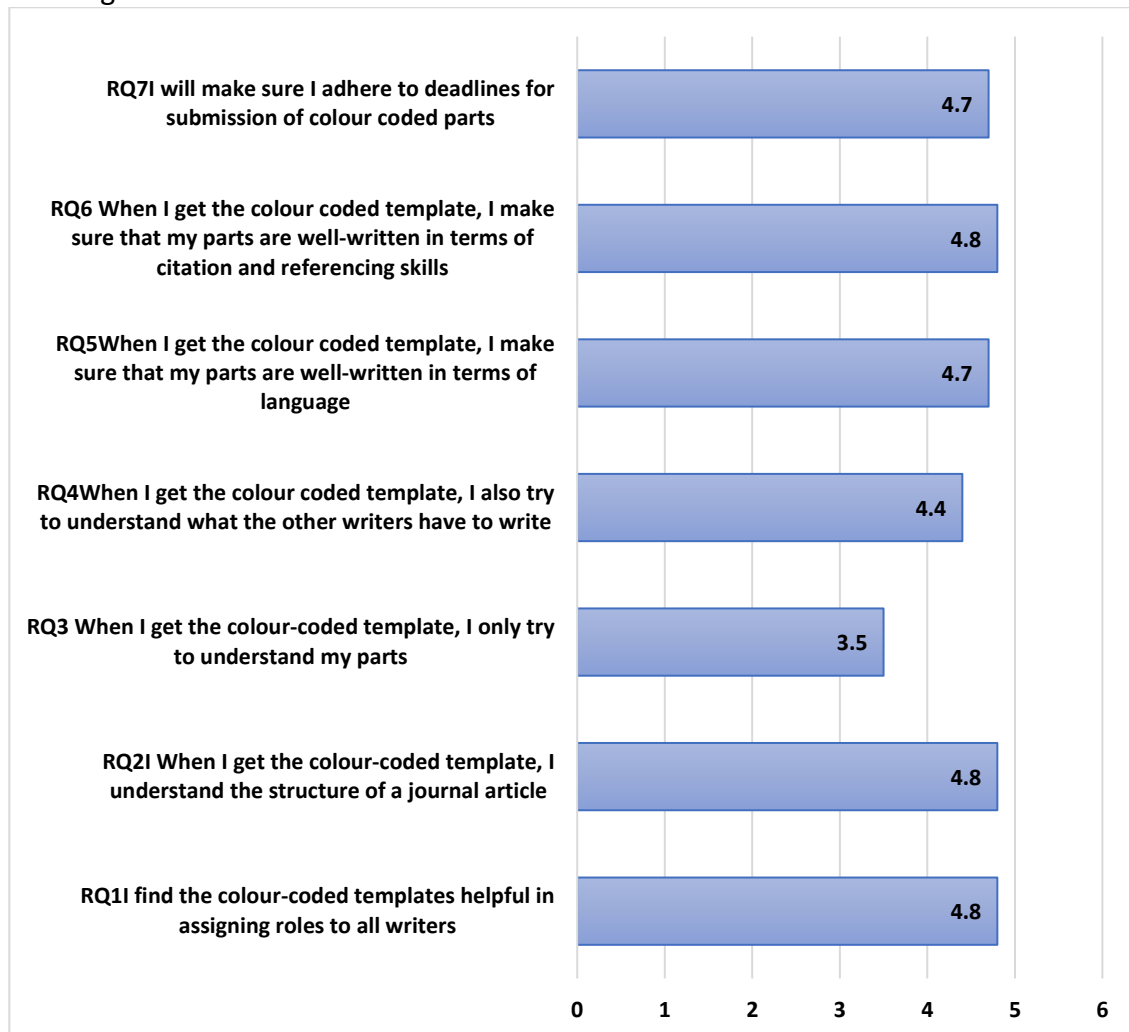

Figure 10- Mean for Team Work-Roles

Figure 10 shows the mean for team work-roles. Three items share the same highest mean of 4.8 and they are "colour-coded templates helpful in assigning roles to all writers", "When I get the colour-coded template, I understand the structure of a journal article", and "When I get the colour coded template, I make sure that my parts are well-written in terms of citation and referencing skills". The lowest mean of 3.5 is for item "When I get the colour-coded template, I only try to understand my parts".

Findings for Goal

This section presents data to answer research question 5- How does the goal influence the team writing?
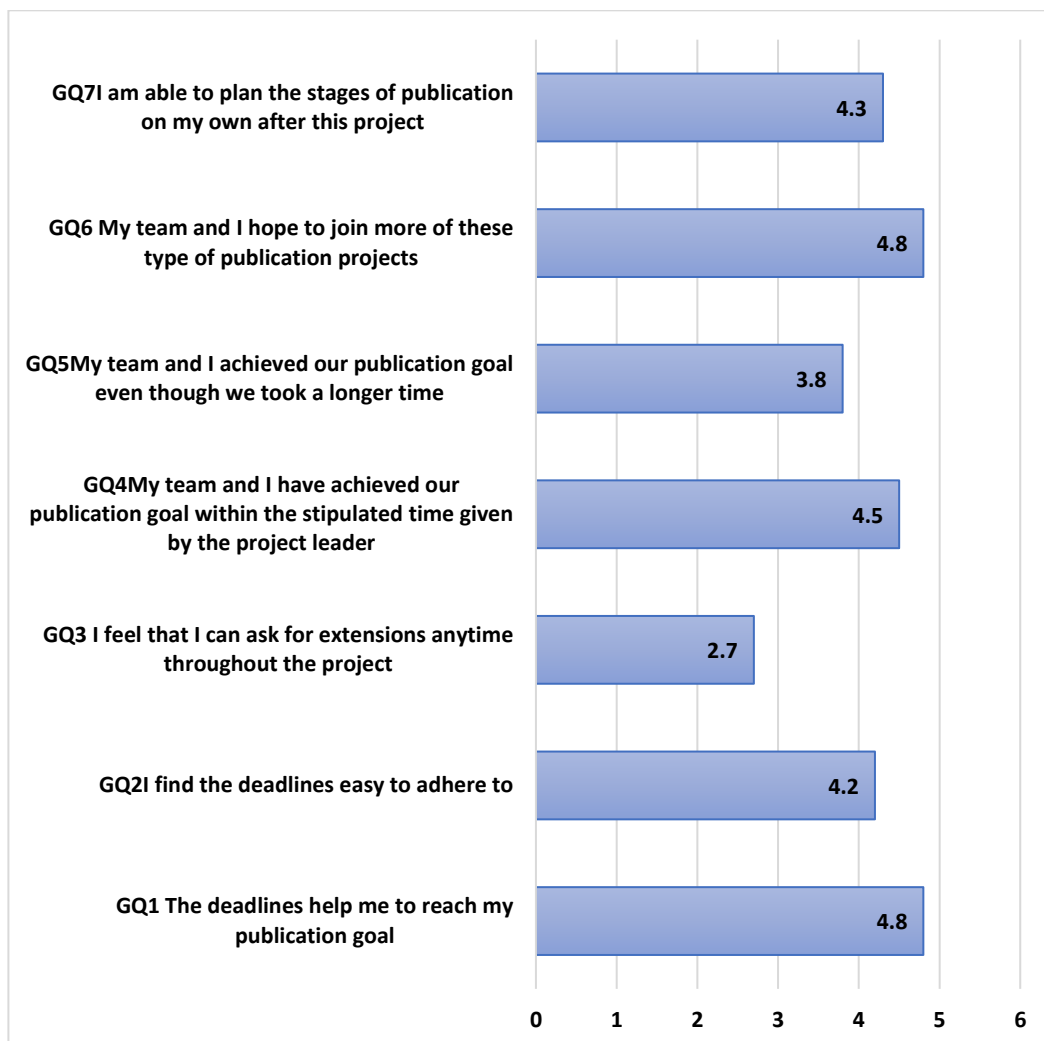

Figure 11- Mean for Team Work-Goal

Figure 11 shows the mean for team work-goals. Two items share the same highest mean of 4.8 and they are "The deadlines help me to reach my publication goal", and "My team and I hope to join more of these type of publication projects". The lowest mean of 2.7 is for "I feel that I can ask for extensions anytime throughout the project"

Findings for Relationship between Writing process and Team Writing

This section presents data to answer research question 6- What is the relationship between writing process and team writing? To determine if there is a significant association in the mean scores between writing process and team work, data is anlaysed using SPSS for correlations. Results are presented separately in table 3.

Table 3
Correlations for Writing Process vs Group Work

		TOTALMEAN WRITINGPRO CESS	TOTALMEAN allgroupwork
TOTALMEANWRITINGPR OCESS	Pearson Correlation	1	.708[**]
	Sig. (2-tailed)		.000
	N	139	139
TOTALMEANallgroupwor k	Pearson Correlation	.708[**]	1
	Sig. (2-tailed)	.000	
	N	139	139

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows there is an association between writing process and team work. Correlation analysis shows that there is a high significant association between writing process and team work (r=.708**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between writing process and team work.

Conclusion
Summary of Findings and Discussion
Figure 7 shows the mean for writing process. The highest mean of 4.8 is for "good planning involves choosing a suitable survey". Next is the mean of 4.7 is for "good planning in research is also learning to analyse data". This is followed by a mean of 4.6 for "order to start writing research, I must plan how I can find the journal articles to support my write-up". The lowest mean is "find it easy to convert my oral thoughts to written thoughts".

A summary of findings for writing process reveals that writers were more concerned with the planning of the writing process than with the write-up. Indeed planning makes up the major part of any successful work The study by Bayat (2014) also revealed that the main problem in academic writing is going through the process on their own.

As far as team work is concerned, the summary of findings showed that for a team writing to be successful, the top priority is not really working with people who know about the writing, but more for people whom they can work with. This is important to make sure that they can agree on working through the learning process. This makes up the internal factors in team work. Next, the summary also showed that team members need to know and understand the process from the start of the team writing project. Knowing what is ahead provides motivation for the learners. Motivation make sup the external factors needed to work as a team. This is also agreed by Bulqiyah et al (2021) who found that both internal and external factors are needed to ensure the success of the team effort.

Next, participants of this study also felt that the use of the colour-codes scaffolds helped to reduce the tension of "serious" academic writing. The templates provides guidance and made them that academic writing is manageable. The study by Kaur & Singh (2016), writers need their own coping mechanism to let them feel that academic writing is not as stressful as they had expected. Statistically, the study revealed a strong positive relationship between writing process and team work. This means team work has indeed helped writers feel positive

about academic writing. The groups' effort helped writers feel less burdened by the demands of academic writing conventions required for journal article writing.

Pedagogical Implications and Suggestion for Future Research
Academic writing is not an easy task, even teachers need ways to cope with the demands of writing for journal articles. Team writing helps reduce the burden to having to write a full journal article alone.

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