

ORIGINAL ARTICLE

A comparative study of solitary and teacher-led pre-task planning effect on EFL university learners' writing performance: A case of an online platform amidst COVID-19

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Abstract: Many educational institutions turned to the employment of online platforms during the Corona crisis. However, there were concerns for the students' solitary plans of learning as in many parts of the world students did not have the experience of such online courses. This study compared the effect of a solitary pre-task intervention with a teacher-led pre-task planning on the Iranian EFL learners' writing performance during COVID-19. Besides, it investigated the patterns of improvement in writing through an 8-session treatment conducted through Skype. Having employed a quasi-experimental design through repeated measures, the researcher sought voluntary participation of 40 Iranian EFL university students who were randomly assigned to the control and experimental groups. The intervention included the instruction of seven types of paragraphs, which led to a written task as their writing performance. The repeated measures ANOVA and t-test results confirmed that both teacher-led pre-task planning and solitary pre-task planning elicited a statistically significant improvement within groups in students' writing scores from the first session to the last session with an exception of the very last session for the solitary group which could be due to lack of internal motivation. There was no significant difference between the two groups in their writing performance leading to the conclusion that solitary pre-task planning has been as effective as teacher-led. Thus, both types of pre-task planning can be operative in enhancing learners' writing performance in a virtual environment.

Keywords: COVID-19; online language teaching; pre-task planning; solitary; teacher-led

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Received: March 8, 2023; Accepted: June 1, 2023; Available online: July 7, 2023

Citation: Zohoorian Z (2023) A comparative study of solitary and teacher-led pre-task planning effect on EFL university learners' writing performance: A case of an online platform amidst COVID-19. *Forum for Linguistic Studies* 5(1): 173–196. DOI: 10.18063/fls.v5i1.1568

1. Introduction

The global lockdown during the Corona pandemic had severe consequences regarding education. Many of the on-campus activities were either postponed or canceled. Many of the universities tailored their policies toward online teaching rather than face-to-face (Sahu, 2020) which made educational organizations, universities, and institutions make an effort "to grow and opt for platforms with technologies" (Jena, 2020). This "unprecedented push" (Teräs et al., 2020) made teachers and

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students to experience the uncertain environment of the online courses which in turn affected their performance, plans, and participation (Aucejo et al., 2020). Several applications or online platforms were introduced by the educational organizations to contribute to the students' learning from home (Ilmi et al., 2020).

The new situation brought concerns for teachers regarding the maintenance of their communication with their students and the efficiency of their teaching while leaving the learning to the students (König et al., 2020). On the other hand, students also were required to be more independent through such online learning (Theffidy, 2020) as E-learning was introduced as a form of solitary and individual learning that required the students' autonomy to a large extent (El Mhouti et al., 2017).

According to Mirshekaran et al. (2018), many of the Iranian EFL teachers had implemented traditional writing instructions and teacher-led plans. Thus, students were rarely taught how to plan for writing and their critical and creative ideas were usually disregarded (Mirshekaran et al., 2018). This sort of teacher-led planning thus disregarded the students' preparation and individual planning. In the same vein, Zohrabi et al. (2012) maintained that in the Iranian context there has been the predominance of the traditional teacher-led approach. In this traditional context, teachers provide the students with prepared writing templates and phrases or grammatical structures (Mirshekaran et al., 2018).

On the contrary, solitary planning as a general term has been advocated as it leads to a more active engagement of the students and improvement in independent learning (Ke and Carr-Chellman, 2006). Accordingly, Mahmoudi (2017) stresses that Iranian students should first prepare themselves to face their problems in writing tasks and their performance in writing can improve through thinking, planning, and revising. Thus, it can be proposed that solitary pre-task planning can help the students with the preparation for writing production while refraining from memorizing fixed templates provided by the teacher. Especially during the pandemic, this need was felt to make students more independent to plan for their learning.

Concerning writing skill and planning for it, many researchers have conducted studies. For example, Mochizuki and Ortega (2008) investigated the effects teacher guided and unguided planning on 56 Japanese high school students. The kind of task included oral story-retelling. The findings suggested no significant differences in terms of fluency and complexity; however, teacher-led sort of planning improved their writing accuracy.

In another study in 2013, Ghavamnia et al. (2013) compared the effects of pre-Task and online planning on fluency, accuracy as well as complexity of students' writing. The sample included 40 intermediate EFL learners in Iran. Having assigned them randomly assigned to either of the conditions, they were required to complete a narrative based on some pictures. The statistical analysis of the independent samples t-tests showed that the pre-task planning group was more productive in terms of complexity and fluency of the writing tasks. Also, the online planning group outperformed the other group in terms of error free clauses showing a higher accuracy.

Mohammadzadeh et al. (2013) investigated the effects of concurrent use of pre-planning in all stages of writing on fluency, complexity, as well accuracy of EFL learners' writing. Study participants included 30 male and female students at lower-intermediate level in Iran aged between 18 and 26. Four experimental conditions were constructed. Participants had to write a narrative according

to some wordless picture stories. Having run one-way ANOVAs, the researchers concluded that concerning accuracy, planning in both of the factors was more improved than unplanned other two conditions.

Another study in the Iranian context was done by Baaijen et al. (2014) who analyzed the effects of writing beliefs and planning on the students' writing performance. The researchers assessed the relationship between writing beliefs, diverse forms of pre-planning as well as different aspects of writing performance. The results revealed that transactional beliefs are about the preference for a top-down strategy or a bottom-up strategy, while transmission beliefs deal with the content for which writing has happened. Such beliefs interrelate with text quality, as well as the amount and sort of revision done. It also had an effect on the extent of understanding. The beliefs also moderated the outlining strategy efficiency.

To find the improvement of the high-level writing developments related to planning and revising, to predict the quality of writing, Limpo, Alves, and Fidalgo (2014) conducted a study on 381 students with an age range of 9 to 15. The participants had to plan and write a story as well as revise one more story by identifying and modifying mechanical as well as substantive errors. An upward trend was found in students' ability of planning and revising according to their grades. Thus, writing quality was dependent on the use of planning and revising skills for the higher grades; whereas, for the lower group the contrary was true.

In a recent study, Limpo and Alves (2018) explored the effects of strategies in planning on writing dynamics as well as final texts. The participants included 63 undergraduates. They went through three different interventions of structure-based planning condition, list-based planning condition, and no planning condition. It was confirmed that planning was not effective for the pre-writing length as well as cognitive trial. However, it had an effect on the occurrence of the writing processes. The students in the structure-based condition also used translation initially and through the writing activity. The other group of students however focused their attention. Pre-planning also led to a higher number of words and lengthier sentences.

While pre-task planning may have a contributing effect on the students' performance in writing based on literature, its solitary form seems to be more encouraging for establishing more independence and success in a situation like the pandemic when the teachers' control is less and more independence is required of the students. Thus, as there is dearth of research finding differences between the effectiveness of the two approaches, the present study proposed the implementation of solitary pre-task planning for the writing task to investigate its effect on the students' writing performance as far as cohesion and coherence were concerned in comparison with a teacher-led situation.

2. Theoretical framework of the study

The theory that supports the conduct of the present study is self-directed learning theory. Aljafari (2019) defines self-directed learning as the mental processes which are purposefully employed by the individual together with some behavioral activities through which one can identify and search for the required information. The theory closely relates to independent learning, self-initiated learning, or even self-motivated learning (Brookfield, 2009). It is used in adult education in order to focus on individual autonomy and control over learning.

Giuseffi (2019) highlights that in such a model of training the "richness and efficacy of learning" are the focus as this model prepares learners for personal enrichment in the environment. Thus, the delivery of the information is not done from the teacher's side (Jayaranjani, 2017). This theory is known as one of the most productive grounds as far as adult education is concerned as it focuses on both cognitive and behavioral aspects of adult learning (Owen, 2002). In such a view a learner takes responsibility and is willing to make personal decisions for her/his learning as "the teaching-learning process is set up in a way that encourages learners to take control of their own learning, and the sociopolitical context and the learning environment support the climate for self-directed learning" (Hiemstra and Brockett, 2012).

The concern in the current study was to find out if solitary pre-task planning can be as effective as compared to teacher-led pre-task planning. Thus, relying on the self-directed learning theory which counts heavily on the individualistic and self-determined and directed learning, the present study proposed the inclusion of a solitary pre-task planning. This approach is unlike the teacher-led pre-task planning in which the teacher is available to establish the way to gain all needed components and invites learners to prepare a list of questions or provides them with the hidden ideas to produce their writing pieces (Chalmers and Fuller, 2012). Thus, it can be concluded that through relying on a self-directed learning theory, learners can be encouraged to do solitary sort of pre-task planning for the writing task they wish to implement. This study aimed at making an attempt to incorporate learners' choices to adapt the existing and available materials and components around the task environment and use their individual resources for learning. Thus, the present study sought to indicate if learners' solitary pre-task planning could be as influential as teacher-led pre-task planning.

3. Pre-task planning in second language writing

Planning in writing is viewed as a "preparatory reflection" which can be either on means or goals. It is also related to both text and process planning (Hays and Nash, 2013). In the present study, planning is done on the means as well as for the process of writing. Writing planning involves the suggestions on how to complete the task through involving mental construction and in some conditions, planning is completed before the action. The planner must re-formulate information during action which can also relate to the planning stage to facilitate later stages of writing process. For more action planning, the learners as writers need to remind themselves of what has been already written and to assure that they are covering the unanswered questions which leads them to modify the accessible sources to write and finalize their piece of writing (Zemach and Rumisek, 2016). Considering planning in writing will lead to the development of thinking and assists the students to do a task within its specified time.

Pre-task planning is a kind of strategic planning in which the learner is oriented to planning activities. The positive effects of pre-task planning have been confirmed in studies that report a greater lexical complexity for producing narratives as well as a higher accuracy in production (Ortega, 2005). Pre-task planning involves the writers' strategies and learning foundational skills such as brainstorming, listing, and clustering the ideas into a logical way to support the introduction, body and conclusion parts of a paragraph (Bailey, 2017). Guará-Tavares (2016) believes that during pre-task planning, learners can activate information and retrieve it from long-term memory.

Several researchers have conducted empirical studies and have concluded that the use of pre-task

planning can significantly affect and improve the complexity of the written tasks (Ellis et al., 2019; Ellis, 2022; Rahimpour and Safarie, 2011). Similarly, Sangarun (2001) notes that pre-task planning owns the potential of promoting language development as the students can use a wider range of languages. Moreover, Ahangari and Abdi (2011) state that pre-task planning is a sort of metacognitive strategy and will enhance performance in oral form of the language. While Geng and Ferguson (2013) believe in the benefits of pre-task planning, they also emphasize that it must be tailored toward individual planning and the value of such an approach must not be underestimated or neglected. Based on the literature including the theoretical underpinnings as well as empirical findings, it can be argued that pre-task planning can be an influential stage in improving the students' writing performance and it can enhance their writing accuracy and production. Pre-task planning can be implemented in several ways. For example, Ojima (2006) explored the effect of concept-mapping as a form of pre-task planning on the writing performance of Japanese ESL learners. It was concluded that pre-task planning had a positive relationship with the overall written production throughout inclass compositions. Pre-task planning can also be practiced through "idea generation, organization, and goal setting" in order to lower the demands on the working memory (Johnson et al., 2012). Bui (2014) highlights that pre-task planning will not only motivate the learners for the dynamic engagement in a task, but it also prepares them for achieving their goals. As far as the writing skill is concerned, the role of pre-task planning as an effective writing strategy is confirmed for a higher accuracy (Fei, 2015) which is also known as an important step to be taken for the writing tasks and for the process of writing (Alavi and Ashari, 2012).

4. Teacher-led pre-task planning

Teacher-led pre-task planning for a writing task refers to the teacher-student interaction for learning development which signifies the understanding of learners as writers and as a system to follow adaptive, generative and transformative learning stages (Kozlowski and Bell, 2003). Arrow and Cook (2008) considered teacher-led planning for student learning as a complex adaptive system, viewing learning as making changes in the lesson concept and structure as a process based on understanding learning needs and making adjustments while monitoring their progress. Individuals in teacher-led planning need to rely on teachers' guidance. Teachers help learners to make structures, conduct interaction processes and restructure the input to a new piece of output. The teacher informs the learners of how to use new options which can affect the learning process and accordingly the final outcome (Sessa and London, 2008). Teacher-led planning in task performance is believed to have a great influence on accuracy. This is due to the fact that teachers can effectively determine what the pedagogic goals are. They can accordingly make pedagogic decisions (Foster and Skehan, 1999).

In the same vein, Abrams and Byrd (2016) connect teacher-led pre-task planning to the production of more clear ideas. Believing that the presence of the teacher as an expert is fundamental, Hosseinpour and Koosha (2016) maintain that a teacher-led whole-class approach to pre-task planning can improve the learners' performance in terms of grammar, organization, vocabulary, as well as content. Teacher-led planning activities such as exploitation of documents as well as presentations will have an increasing effect on teaching efficiency as they provide "linguistic and strategic assistance to students" (Rolin-Ianziti, 2010). A teacher-led form of interaction according to Nunan (2006) "is full of display questions, includes feedback that is form-focused and contains a lot of echoing—

all processes associated with a traditional form-focused pedagogy".

In an experiment in the context of computer mediated writing comparing collaborative with individual prewriting conducted by Amiryousefi (2017) to use the different forms of pre-task planning through the teacher's guidance, he concludes that the monitoring of the teacher and directing students for their performance will guide them in specific channels including production which can in turn influence their second language writing quality. In another study conducted by Geng and Ferguson (2013) to compare teacher-led and individual pre-task planning, focusing on structure and task type, it was concluded that teacher-led context had some benefits for accuracy. Focusing on oral production, also Ogawa (2016) stresses that teacher-led pre-task planning was more effective as compared to a no planning condition. In this study, the teacher-led context was provided through the provision of models by the teacher and no other external resources including a dictionary could be used by the students.

Thus, in this approach, the learner relies on the teacher who ensures the comfort of inspiring the learner and the teacher supports every learner to have the opportunity to participate in doing a task related to the language skill (Saha and Dworkin, 2009). In teacher-led planning, the student has freedom to express his/her own idea to the teacher and the teacher helps the student to follow and enforces the learner's effective learning. In this sort of interaction, the teacher can define the students' background knowledge as well as wants and needs.

5. Solitary pre-task planning

In this study, solitary pre-task planning refers to a form of acquiring knowledge while learners are independently self-motivated and are self-planners. It involves personal, behavioral and contextual components and learners deal with such processes to set appropriate learning and achievement goals (Hall and Goetz, 2013).

Solitary task planners can be referred to as self-regulated planners. They seek to determine and control their affective and cognitive outcomes. This approach demands them to use individual resources, goals, and methods (Forgas et al., 2011). Nilson (2013) states that self-regulation enhances self-esteem but the learners may be misdirected by themselves in the beginning so teachers need to encourage learners to learn in one's relationship with oneself and one's ability in order to be independent and to achieve the best conceivable results. Teachers are aside in unguided solitary pre-task planning and the learners follow their own plans in complex ways because they need to plan based on their own knowledge. Solitary planners deal with self-knowledge and accessible components and create new preferences. Such planners are at the center of personal affront and in order to restructure they seek to learn individually (Weimer, 2002). Therefore, for the writing skill they deal with planning decisions, thinking about the writing components, and finding ways to produce a coherent unit (Deville, 2007). In a solitary approach, teachers promote learners' autonomy, which is representative of a learner-centered approach, as a liberal view that assumes individuals deal with their own personal language components capacity. Thus, students freely monitor their writing product with valid resources.

Accordingly, it is assumed that internal motivation is activated by themselves to present their writing abilities (Lamb and Reinders, 2008). Solitary pre-task planning has been confirmed to have

effects on complexity and fluency in the writing skill (Geng and Ferguson, 2013). It is confirmed to have as much efficiency as the teacher-led pre-task planning and even more than group-based pre-task planning (Cooley and Lewkowicz, 2003). In solitary planning, learners take the initiative in learning using their own strategies through an active participation (Baumeister, 2018). Solitary pre-task planners are inspired to act individually and the production is done without help (Ke and Carr-Chellman, 2006). Many of the studies focusing on teacher-led or solitary planning in writing skills have focused on accuracy in writing and cohesion and coherence as important aspects of writing have been less studied. As for the objectives of the present study in the solitary pre-task planning, the learners were required to individually collect appropriate writing materials to recreate their background knowledge of the paragraph type and other details. Also, they were permitted to use available materials including online sources, dictionaries, etc., in their own individual way.

6. Methodology

The current study research questions were as follows:

- To what extent does solitary pre-task planning have an effect on EFL Iranian university learners' writing performance?
- To what extent does teacher-led pre-task planning have an effect on EFL Iranian university learners' writing performance?
- To what extent are there significant differences between the two groups (solitary and teacher-led) in overall writing performance?

The present study employed a quasi-experiment repeated measures design. A quasi experiment is a kind of study in which the assignment of the participants to the experimental and control groups is not done randomly. These types of experiments are very common in social sciences when due to feasibility the researcher cannot do randomization procedure (Mitchell and Jolley, 2010). As for the repeated measure design used for the study, it needs to be explained that while the researcher did not focus only on one type of paragraph, she needed to assess students several times on different topics as they related to the paragraph type. A repeated measure design according to Cresswell (2012) includes multiple measurements of an experimental unit. It is also used to find the effects over time. Also, they are used for precision in the treatment effects measurement. Appendix A includes the presentation of materials, paragraph types, and task topics. The paragraph types and the hierarchy were chosen based on the national syllabus advised for the BA courses for English major students.

The sessions were held via Skype. The participants had to have their cameras on during the sessions and the researcher monitored their activities and on-task behavior.

The same instructional procedure was employed for both teacher-led and solitary groups at the presentation stage of teaching. The duration of each session was 70 min, 20 min for presentation by the teacher, 20 min for pre-task planning stage, and 30 min for production. Thus, the students had 30 min to write their paragraphs and submit them to the teacher. A paragraph of no less than 250 words had to be written based on the paragraph type instructed for each session. The instruction was mainly based on how different paragraph types can be formed and the different important elements that need to be considered in having a piece of writing which has cohesion and coherence. At the pre-

task planning stage, the solitary group had to access materials they needed to use through resources such as websites, searching on the net, bilingual dictionaries, handouts and notes individually. There was no interaction among the students and this had to be done individually. There were no teacher-student interactions while the students were completing their writing tasks. The pre-task planning stage of the teacher-led group did not involve student-student interaction and there was only student-teacher interaction. The students in both groups were not allowed to use any other sources while writing at the production stage and had to only rely on their acquired information and knowledge from the pre-task planning stage.

7. Participants and setting

The target population of this study included EFL university learners participating in virtual writing classrooms who enrolled upon receiving notices for the free online courses on paragraph writing. The sampling procedure for the present study included convenience sampling whereby the students participated voluntarily, the students were then randomly assigned to control and experimental groups. The sample included 40 EFL learners with an age range of 18 to 40 at the intermediate level. As for the sample size, it is maintained by Cohen et al. (2011) and Cresswell (2012) that a sample of no fewer than 15 is needed for experimental and quasi-experimental studies. As for the study setting, the online course was held through the Skype as the study was conducted during the pandemic of COVID-19. There were 12 males and 28 females. In the control group, there were 20 students including 5 males and 15 females. In the experimental group, there were 20 students including 7 males and 13 females. There were two criteria of selection for participation in this study. Firstly, the students had to be English language major students. Secondly, they had to have only passed the first writing course (basic writing which focuses mainly on grammar and accuracy) before paragraph wring according to the timetable of the university.

8. Instrumentation

To homogenize the groups and to assign the intermediate level students to the experimental and control groups, a standard test of English language proficiency (Oxford Placement Test) was employed and only the students at the intermediate level were selected. To assess the writing performances of the students, the paragraphs they wrote at the production stage of the session plans after each session of instruction were considered. For each one of the topics, the students had to write a paragraph of 250 words within 30 min. They then had to send their written assignments through the telegram application or emails. The scoring of the papers was based on assessing coherence and cohesion by A2 level writing task rubric which entails the assessment of cohesion and coherence adopted from Briesmaster and Etchegaray (2017) which is presented in Appendix B. Besides, inter-rater reliability was assured by asking another rater to score the papers for the writing performance.

9. Data analysis

To answer the research questions, first, the normality of data distribution was checked through the Shapiro-Wolf test. In order to assess the reliability of the writing test, inter-rater reliability was used for all eight writing tasks. Both descriptive and inferential statistics were used to answer the research questions of the study. Based on the study design, the repeated measures ANOVA with a Greenhouse-Geisser correction was employed. To find out the differences among means, the Bonferroni post hoc test was used (for research questions one and two, within groups). An independent-sample t-test was also performed to compare the two groups based on their writing performances (research question three, between groups).

10. Results

Based on the results (sig = 0.75 for the overall writing of solitary group and sig = 0.81 for the overall writing of solitary group), it was concluded that the data was normally distributed across overall writing scores. Also, there were acceptable indexes of reliability ranging from 0.79 to 0.91 for all paragraph types as presented in **Table 1**.

Table 2 displays the descriptive statistics of overall writing skill of teacher-led group including the number of participants, the mean, and the standard deviation in eight different conditions.

As **Table2** shows, the mean score of students in overall writing score increased after eight sessions. In the beginning, students had the lowest score (M = 11.55, SD = 2.42). However, after eight sessions, students' scores increased and they had the highest scores in session 7 (M = 15.00, SD = 1.91) and session 8 (M = 15.00, SD = 1.63). **Table 3** shows the tests of within-subjects effects for writing scores in the teacher-led group which indicates if there was an overall significant difference between the means at the different time points.

Table 1. Results of interrater reliability

Scale	Reliability
Writing type 1 (paragraph structure)	0.83
Writing type 2 (argumentative)	0.85
Writing type 3 (cause and effect)	0.89
Writing type 4 (classification)	0.91
Writing type 5 (compare and contrast)	0.82
Writing type 6 (definition)	0.80
Writing type 7 (description)	0.79
Writing type 8 (process)	0.90

Table 2. Descriptive statistics overall writing skill of teacher-led group

Conditions	N	Minimum	Maximum	Mean	SD
Writing type 1 (paragraph structure)	20	8.00	15.50	11.5500	2.42194
Writing type 2 (argumentative)	20	9.00	16.00	12.6500	1.67096
Writing type 3 (cause and effect)	20	9.00	14.50	12.7250	1.62606
Writing type 4 (classification)	20	10.50	16.00	13.0500	1.62950
Writing type 5 (compare and contrast)	20	10.50	15.50	13.2250	1.41863
Writing type 6 (definition)	20	10.00	16.00	13.2000	1.71219
Writing type 7 (description)	20	9.75	18.00	15.0000	1.91943
Writing type 8 (process)	20	10.50	17.00	15.0000	1.63836

Table 3. The tests of within-subjects effects for writing score in teacher-led group

		Type III sum of squares	df	Mean square	F	Sig.	Partial eta squared
Writing	Sphericity assumed	193.47	7	27.63	9.62	0.00	0.33
	Greenhouse-Geisser	193.47	4.54	42.53	9.62	0.00	0.33
	Huynh-Feldt	193.47	6.15	31.42	9.62	0.00	0.33
	Lower-bound	193.47	1.00	193.47	9.62	0.00	0.33
Error	Greenhouse-Geisser	381.80	86.43	4.41			

The F value for the "time" factor, its associated significance level and effect size (Partial eta squared) are presented. The repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean score of writing score differed significantly between eight time points. Thus, teacher-led significantly impacted the writing score (F (4.54, 86.43) = 9.62, p < 0.0005, η 2p = 0.33). It was also meaningful due to its large effect size (Cohen et al., 2011).

These results run counter to the null hypotheses posed in the current study. Since the differences were meaningful for all measures, a post hoc analysis was run to find where these differences lied. **Table 4** presents the results of the post hoc analysis related to the differences among eight different conditions (writing types). This table presents the results of the Bonferroni post hoc test that shows which specific means differed.

Table 4. Results of the post hoc analysis among eight different conditions (writing types) in teacher-led

(I) Factor 1	(J) Factor 1	Mean difference (I-J)	Std. error	Sig.b	95% confidence interval for differenceb		
					Lower bound	Upper bound	
1	2	-1.10	0.60	1.00	-3.29	1.09	
	3	-1.17	0.75	1.00	-3.88	1.53	
	4	-1.50	0.49	0.18	-3.29	0.29	
	5	-1.67	0.60	0.33	-3.86	0.51	
	6	-1.65	0.61	0.37	-3.85	0.55	
	7	-3.45*	0.68	0.00	-5.93	-0.97	
	8	-3.45*	0.62	0.00	-5.70	-1.21	
2	3	-0.07	0.51	1.00	-1.92	1.77	
	4	-0.40	0.59	1.00	-2.55	1.75	
	5	-0.57	0.54	1.00	-2.52	1.37	
	6	-0.55	0.68	1.00	-3.00	1.90	
	7	-2.35*	0.59	0.02	-4.48	-0.22	
	8	-2.35*	0.61	0.02	-4.55	-0.15	
3	4	-0.32	0.50	1.00	-2.16	1.51	
	5	-0.50	0.43	1.00	-2.05	1.05	
	6	-0.47	0.54	1.00	-2.42	1.47	
	7	-2.27*	0.46	0.00	-3.95	-0.61	
	8	-2.27*	0.51	0.00	-4.13	-0.42	
4	5	-0.17	0.41	1.00	-1.68	1.33	
	6	-0.15	0.37	1.00	-1.49	1.19	

Table 4. (Continued)

(I) Factor 1	(J) Factor 1	Mean difference (I–J)	Std. error	Sig.b	95% confidence interval for differenceb	
					Lower bound	Upper bound
	7	-1.95*	0.46	0.01	-3.63	-0.28
	8	-1.95*	0.52	0.03	-3.82	-0.08
5	6	0.02	0.39	1.00	-1.37	1.42
	7	-1.77*	0.36	0.00	-3.08	-0.47
	8	-1.77*	0.48	0.04	-3.52	-0.03
6	7	-1.80*	0.40	0.00	-3.26	-0.34
	8	-1.80	0.52	0.07	-3.68	0.08
7	8	0.00	0.56	1.00	-2.04	2.04

Based on estimated marginal means

Table 4 shows the significance level for differences between the eight sessions. From the "Mean difference (I–J)" column, it was found that the mean score of students' writing significantly increased from the first session to the last session. Therefore, it can be concluded that teacher-led style elicited a statistically significant improvement in students' writing scores. **Figure 1** shows the improvement of teacher-led group in writing scores. There has been an improvement in the writing scores of the students in the teacher-led group although the improvement has been steady from session 7 to session 8.

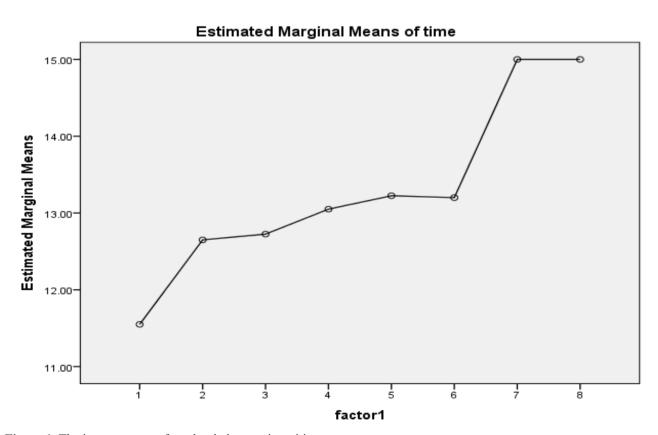


Figure 1. The improvement of teacher led group in writing scores.

^{*.} The mean difference is significant at the 0.05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Table 5. Descriptive statistics overall writing skill of solitary group

Conditions	N	Minimum	Maximum	Mean	SD
Writing type 1 (paragraph structure)	20	8	17	12.08	2.16
Writing type 2 (argumentative)	20	8	16	12.68	2.25
Writing type 3 (cause and effect)	20	10	17	12.88	1.66
Writing type 4 (classification)	20	10	18	13.30	2.12
Writing type 5 (compare and contrast)	20	11	17	13.78	1.45
Writing type 6 (definition)	20	9	16	13.03	1.88
Writing type 7 (description)	20	11	20	15.68	2.04
Writing type 8 (process)	20	8	16	13.33	2.33

Table 6. The tests of within-subjects effects for writing score in solitary group

		Type III sum of squares	df	Mean square	F	Sig.	Partial eta squared
Writing	Sphericity assumed	160.02	7	22.86	6.75	0.00	0.26
	Greenhouse-Geisser	160.02	5.57	28.68	6.75	0.00	0.26
	Huynh-Feldt	160.02	7.00	22.86	6.75	0.00	0.26
	Lower-bound	160.02	1.00	160.02	6.75	0.01	0.26
Error	Greenhouse-Geisser	450.38	105.98	4.24			

Table 5 displays descriptive statistics of overall writing skill of solitary group including the number of participants, the mean, and the standard deviation in eight different conditions.

The mean score of the students in overall writing score increased after eight sessions except for the last session. In the beginning, students had the lowest score (M = 12.08, SD = 2.16). However, after eight sessions, students' scores increased and they had the highest scores in session 7 (M = 15.68, SD = 12.04).

Table 6 shows the tests of within-subjects effects for writing scores in solitary groups which indicate if there was an overall significant difference between the means at the different time points.

The F value for the "time" factor, its associated significance level, and effect size (Partial eta squared) are presented. The repeated measures ANOVA with a Greenhouse-Geisser correction determined that the mean score of writing differed significantly between eight time points. The second question concerned the impact of Solitary style on the writing score across eight conditions. Solitary pre-task planning significantly impacted the writing score (F (5.57, 105.98) = 6.75, p < 0.0005, $\eta 2p = 0.26$). It was also meaningful due to the moderate effect size.

These results run counter to the null hypotheses posed in the current study. Since the differences were meaningful for all measures, a post hoc analysis was run to find where these differences lied. **Table 7** presents the results of the post hoc analysis related to the differences among eight different conditions (writing types). This table presents the results of the Bonferroni post hoc test that shows which specific means differed.

As the table shows, there were significant differences in writing scores between some of the conditions. From the "Mean difference (I–J)" column, it was found that the mean score of students' writing significantly increased from the first session to the last session. Therefore, it can be conclud-

Table 7. Results of the post hoc analysis among eight different conditions (writing types) in solitary

(I) Factor 1	(J) Factor 1	Mean difference (I–J)	Std. error	Sig.b	95% Confidence	interval for differenceb
					Lower bound	Upper bound
1	2	-0.60	0.65	1.00	-2.97	1.77
	3	-0.80	0.59	1.00	-2.95	1.35
	4	-1.25	0.49	0.63	-3.01	0.56
	5	-1.70	0.51	0.09	-3.55	0.15
	6	-0.95	0.52	1.00	-2.84	0.94
	7	-3.60*	0.62	0.00	-5.85	-1.34
	8	-1.25	0.54	0.92	-3.22	0.72
2	3	-0.20	0.62	1.00	-2.45	2.05
	4	-0.62	0.73	1.00	-3.27	2.02
	5	-1.10	0.65	1.00	-3.45	1.25
	6	-0.35	0.65	1.00	-2.70	2.00
	7	-3.00*	0.72	0.01	-5.62	-0.37
	8	-0.65	0.65	1.00	-3.01	1.71
3	4	-0.42	0.45	1.00	-2.07	1.22
	5	-0.90	0.53	1.00	-2.82	1.02
	6	-0.15	0.61	1.00	-2.34	2.04
	7	-2.80*	0.55	0.00	-4.78	-0.81
	8	-0.45	0.58	1.00	-2.56	1.66
4	5	-0.47	0.60	1.00	-2.66	1.71
	6	0.27	0.62	1.00	-1.97	2.52
	7	-2.37*	0.55	0.01	-4.36	-0.38
	8	-0.02	0.52	1.00	-1.91	1.86
5	6	0.75	0.44	1.00	-0.84	2.34
	7	-1.90	0.53	0.05	-3.81	0.01
	8	0.45	0.58	1.00	-1.66	2.56
6	7	-2.65*	0.59	0.00	-4.78	-0.51
	8	-0.30	0.49	1.00	-2.06	1.46
7	8	2.35*	0.58	0.01	0.26	4.44

Based on estimated marginal means

ed that solitary pre-task planning elicited a statistically significant improvement in students' writing scores. **Figure 2** shows the improvement of solitary group in writing scores. Overall, there has been an improvement in the writing scores of the students in the solitary group although some fluctuations are observed after session 5 up to session 8.

To answer the third research question, independent-sample t-test was run. **Table 8** shows the descriptive statistics of the two groups (solitary and teacher-led) in eight different writing types and overall writing score.

^{*.} The mean difference is significant at the 0.05 level.

b. Adjustment for multiple comparisons: Bonferroni.

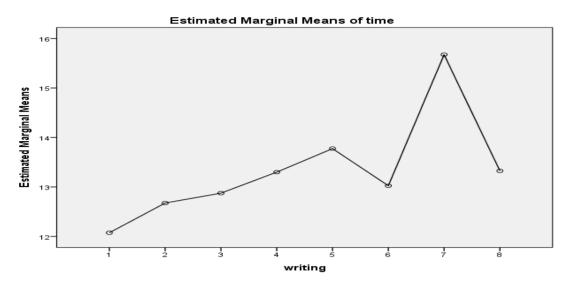


Figure 2. The improvement of solitary group in writing scores.

Table 8. Descriptive statistics of two groups (solitary and teacher-led) in eight different writing types and overall writing score

	Group	N	Mean	Std. deviation	Std. error mean
W1	Solitary	20	12.08	2.16	0.48
	Teacher	20	11.55	2.42	0.54
W2	Solitary	20	12.68	2.25	0.50
	Teacher	20	12.65	1.67	0.37
W3	Solitary	20	12.88	1.66	0.37
	Teacher	20	12.73	1.62	0.36
W4	Solitary	20	13.30	2.12	0.47
	Teacher	20	13.05	1.62	0.36
W5	Solitary	20	13.78	1.45	0.32
	Teacher	20	13.23	1.41	0.31
W6	Solitary	20	13.03	1.88	0.42
	Teacher	20	13.20	1.71	0.38
W7	Solitary	20	15.68	2.04	0.45
	Teacher	20	15.00	1.91	0.42
W8	Solitary	20	13.33	2.33	0.52
	Teacher	20	15.00	1.63	0.36
Total	Solitary	20	106.73	8.33	1.86
	Teacher	20	106.40	6.43	1.43

In overall writing score, solitary group had a higher score (106.73) than teacher-led group (106.40). To find if these differences were significant statistically, t-test was run (see **Table 9**).

It can be observed that there is no significant difference between two groups (solitary and teacher-led) in eight different writing types and also in the overall writing (T = 0.13, p = 0.89). It can be found that with a confidence interval of difference of 95%, there is no significant difference between the groups. **Figure 3** shows differences between two groups in eight different writing types. While

Table 9. Results of the independent sample t-test for eight different writing types and overall writing so	ore
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	T-test for equality of means						
	T	Df	Sig. (2-tailed)	Mean difference	Std. error difference		
W1	0.72	38	0.47	0.52	0.72		
W2	0.04	38	0.96	0.02	0.62		
W3	0.28	38	0.77	0.15	0.52		
W4	0.41	38	0.67	0.25	0.59		
W5	0.41	35.61	0.67	0.25	0.59		
W6	-0.30	38	0.76	-0.17	0.56		
W7	1.07	38	0.28	0.67	0.62		
W8	1.98	38	0.06	-1.67	0.63		
Overall	0.13	38	0.89	0.32	2.35		

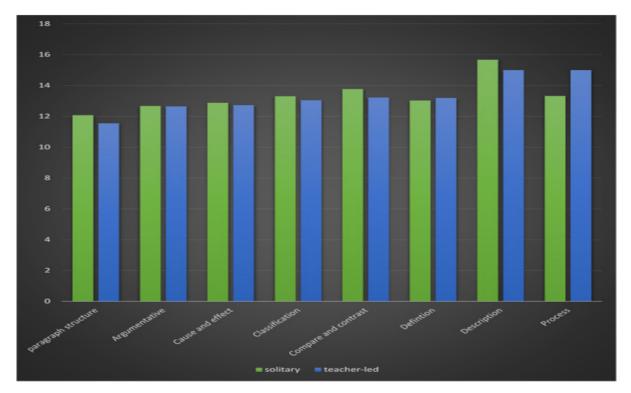


Figure 3. Differences between two groups in eight different writing types.

improvements in the writing task scores were confirmed through previous analysis and although the solitary-led group had higher scores, there was no significant difference between the two groups statistically. Accordingly, it can be concluded that solitary has been as effective as teacher-led.

10. Discussion

Based on the analysis of data for the effect of teacher-led pre-task planning, it was found that the students' mean scores increased after the eight sessions. In fact, their highest scores related to the seventh and eighth sessions. Also, it was found that there was a large effect size; thus, teacher-led pre-task planning significantly impacted the writing performance. Moreover, the mean scores sig-

nificantly improved from the first session to the last session. As was mentioned before, teacher-led pre-planning is a form of explicit teaching and can be considered more accurate (Hidi and Boscolo, 2006). Besides, in such style of pre-task planning the teachers' awareness of the gaps in students' knowledge can be helpful in compensating for the lack (Meganathan, 2008) while the teacher plays the role of a guide (Baldwin and John, 2012).

As the students' performance of writing in the present study for coherence and cohesion also dealt with their accuracy, the findings are in line with findings of Geng and Ferguson (2013) who pinpoint that teacher-led planning can be effective for the accuracy and complexity of the language production. One reason for the effectiveness is discussed by Ellis et al. (2019) who maintain that pre-task instruction as well as practice may lead the students to use the target structures or points more frequently. Moreover, as for the efficiency of teacher-led sort of pre-planning, other researchers also found instructive results. For example, Tabar and Alavi (2013) highlight that "teacher-led discussions aided students to conceptualize and organize their ideas more effectively". Similarly, in oral production, Ogawa (2016) concluded that teacher-led planning can have a positive effect. It can be argued that the teacher, through planning at the pre-task stage, can not only help the students to activate and extend their resources but will also refine their capacities (Samuda, 2001). In the same vein, this kind of interaction can be a fundamental factor in improving the task process (Pianta, 2016). Fundamentally, based on the analysis of the teacher's role, it is emphasized by Bula-Villalobos and Murillo-Miranda (2019) that teachers play a key role especially in the planning stage. Accordingly, it seems that the findings of the present study in terms of the effectiveness of teacher-led pre-task planning are in line with findings of other research works (Amiryousefi, 2017; Geng and Ferguson, 2013; Tabar and Alavi, 2013).

Based on the analysis of data for the effect of solitary pre-task planning, it was also found that the students' mean scores increased and they had the highest scores in session 7. It was also found that solitary pre-task planning impacted writing scores with a moderate effect size. It was similarly concluded that solitary pre-task planning elicited a statistically significant improvement in students' writing scores through the sessions as there was a significant difference in their scores comparing earlier sessions with later sessions. Solitary pre-task planning as a self-regulatory (Forgas et al., 2011) and individualistic sort of activity (Baumeister, 2018) can increase students' autonomy and internal motivational abilities (Lamb and Reinders, 2008) which in turn can enhance students' performance and achievement. It is believed that solitary planning can be the foci of planning and it relies on the orientation of both form and content (Khorami and Khorasani, 2017). In oral production in the same vein, it is believed that solitary planning leads to the development of cognitive abilities as well as fluency (Foster and Skehan, 1999). Similarly, Dembovskaya (2009) discusses that many studies confirm the effectiveness of solitary sort of planning.

However, despite this increase, it was observed that the writing performance score dropped considerably from session 7 to 8. As in solitary pre-task planning, the learners need to deal with contextual components and have to deal with the processes to determine appropriate learning and achievement goals (Hall and Goetz, 2013), it may be justified that the decrease could have been due to the fact that unlike the other paragraph writing tasks, writing a process analysis paragraph requires the learners to have specific knowledge of the vocabularies showing the process as well as the elements which show the chronological sequence. Thus, the decrease in their performance scores could be due to the task difficulty level.

Based on the analysis done for the last question concerning the difference in effectiveness of the two types of pre-tasks planning, it was found that in six writing types including paragraph outline, argumentation, cause and effect, classification, comparison and contrast, as well as description, the solitary pre-task group had the higher scores than the teacher-led group. Further, concerning the overall writing score, the solitary group outperformed the teacher-led group. However, based on statistical analysis, it was found that there was no statistically significant difference between two groups. It can thus be determined that solitary pre-task planning has been as effective as teacher-led pre-task planning. The findings of the study are also in line with the findings of Foster and Skehan (1999) who maintained that no significant difference was found between the different types of planning. By the same token, Cooley and Lewkowicz (2003) state that the solitary pre-task type of planning can have as much efficiency as teacher-led planning. While the study findings confirm the effectiveness of both types of pre-task planning, it may be justified through the fact that pre-task planning can help writers with the generation of ideas which can in turn improve the subsequent writing tasks (Abrams and Byrd, 2016). As for L2 writing, Rahimi (2016) emphasizes that pretask planning can be favorable for syntactic complexity as well as fluency. Similar findings on the constructive effects of pre-task planning have been presented by Biria and Karimi (2015) who state that a higher fluency has been concluded. Even in virtual environments, it is discussed that pre-task planning can enhance learners' oral production (Chen, 2020). Ong (2014) also attributes greater fluency and syntactical variety to the implementation of pre-task planning.

Similarly, Ellis (2005) highlights that pre-task planning as a problem-solving activity aids the students in overcoming the constraints of attentional resources leading to improvement in second language performance. While pre-task planning has been recommended as a useful strategy in language performance in writing (Khezrlou, 2020), Leandro and Weissheimer (2020) emphasize that pre-task planning, regardless of the form it takes, can be beneficial. Based on the analyses of the data, thus it is revealed that while pre-task planning in the form of teacher-led and solitary both had positive effects on increasing students' writing performance within groups, the comparison of the two groups revealed no significant differences. However, while other scholars also advocate pre-task planning, it is evident that pre-task planning in any form may be beneficial.

11. Conclusions

The present study aimed at investigating the effects of two types of pre-task planning on university EFL learners' writing performance concerning coherence and cohesion. A number of 40 participants participated in a quasi-experiment through a repeated measures design. ANOVA and t-test were employed to find differences between these two types of pre-task planning as well as within groups for the differences in performance based on sessions. The group was assigned into two equal number sets and was instructed on 8 types of writing, namely paragraph outline, argumentative, cause and effect, classification, comparison and contrast, description, definition and process through Skype. Three research questions concerning the significant difference in improvement through sessions and within groups as well as significant differences between the two groups were answered as follows:

The significance level for differences among the eight sessions was observed for the teacher-led pre-task planning intervention. Initial sessions were compared to the later sessions. For example, it

was found that there was a significant difference between the first writing task and the last writing task. However, this difference was not observed for the first and the second writing tasks. Also, it was found that the mean scores of students' writing significantly increased from the first session to the last session. Thus, teacher-led pre-task planning significantly impacted the writing scores with a large effect size.

The significance level for differences among the eight sessions was observed for the solitary pretask planning intervention as well. Initial sessions were compared to the later sessions. However, after eight sessions, students' scores increased. It was found that there was a significant difference between the first writing task and the last writing task of session 7. Also, it was found that the mean scores of students' writing significantly increased from the first session to session 7. Thus, solitary pre-task planning significantly impacted writing score with a moderate effect size. It can be concluded that solitary pre-task planning elicited a statistically significant improvement in students' writing scores although the last session scores were lower which can be due to losing internal motivation in such an approach. Comparing the two groups' performance, it was found that in six of the writing types solitary group had higher scores than teacher-led group. However, the differences were not statistically significant. Hence, it can be concluded that solitary has been as effective as teacher-led.

The findings of the present study, first and foremost, have pedagogical implications for the writing skill teachers. While teachers are advised to implement variety in their classes and as solitary pre-task planning can be as effective as the traditional teacher-led pre-task planning, they can rely on this approach to be used for their instructions without worrying about the students' achievement or performance. Although there was no statistical significance in comparing the effects of teacher-led and solitary pre-task planning, it was observed that the students' scores for the different tasks were higher in the solitary pre-task group in the online mode.

Besides teachers, materials developers can use the findings. Based on the findings, materials developers can use variety of books for writing tasks. It is suggested to provide students with hints to search for the required information or checklists based on which students can ensure an effective solitary pre-task searching and gathering of information to get prepared and plan for the main task. As for the type of writing task, it was found that in six writing types and sessions including paragraph outline, argumentation, cause and effect, classification, comparison and contrast, as well as description, the solitary group had higher scores than the teacher-led group. Thus, educators in writing can focus on solitary pre-task planning in these types of paragraphs rather than teacher-led pre-task planning.

Conflict of interest

There is no conflict of interest.

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Appendix A

Table A1. Materials, paragraph types, and task topics

Unit	Instruction	Details covered	Topic for task
1	Paragraph outline Cohesion and coherence	Basic forms of writing and paragraph types Introduction	Protection against COVID-19
2	Argumentation	Explaining ideas, clarifying, illustrating Presenting view points Convincing for validity Expressing transition words and linking phrases Developing ideas Expressing results and ideas Avoiding overgeneralization and unrelated ideas	Hard work and success
3	Cause and effect	Patterns Structural signals Chain reaction	Social media and family relationship
4	Classification	Dividing items in separate categories Classifying ideas	Personality types
5	Compression & contrast	Patterns Structures Methods of comparing and contrasting	Happiness vs. sadness
6	Definition	Kinds Structures Explaining the meaning of a term	Two close friends
7	Description	How to make our readers see, feel, and hear what we have seen, felt, and heard-use details and aspects Numerators	Ideal teacher
8	Process analysis	Step-by-step sequence to write how something is done or made Enumerators Indicators Time clues Verbs Phrases Repetition and pronoun references	Making pizza

Appendix B

Table B1. Details of the rubric adopted from Briesmaster and Etchegaray (2017)

		Poor (1 point)	Good (2 points)	Excellent (3 points)
Aim: Co- herence	Logical organization of ideas	The paragraph's ideas do not follow one another logically.	Only two ideas in the paragraph follow one another logically.	The paragraph includes three ideas. These follow one another logically.
Aim: Co- hesion	Linking devices	The paragraph does not include linking devices or all of them are used incorrectly.	The paragraph includes one or two linking devices, which are used to connect sentences. However, just half of them are used appropriately.	There are a variety of linking devices (more than three) used to connect the paragraph's sentences. All of them are used appropriately.
Aim: Co- hesion	Relationship between sen- tences and their parts	The sentences within the paragraph are not organized correctly.	Only half of the sentences in the paragraph are clearly/cor- rectly organized in terms of sentence components (subject + verb + complement).	All of the sentences in the paragraph are clearly/correctly organized in terms of sentence components (subject + verb + complement).
Aim: Co- hesion	Paragraph structure	The ideas are not organized into a paragraph.	The structure of the paragraph includes one topic sentence and only two supporting details.	The structure of the paragraph includes a topic sentence and three supporting details.
Aim: Coherence/ Cohesion	Punctuation marks	None of the simple sentences in the paragraph include punctuation marks correctly.	Most of the simple sentences in the paragraph include correctly used punctuation marks.	All the simple sentences in the paragraph include correctly used punctuation marks.