

The Impact of Planning Condition and Age on EFL Learners' Accuracy in Argumentative Writing

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Abstract – The purpose of this study was to find out whether planning conditions affect the accuracy of verb forms in EFL learners' argumentative writing. Ninety male and female Iranian EFL learners from pre-intermediate level of English proficiency took part in the study. They were divided into six homogeneous groups (three teenagers groups and three adults groups) based on their performance on an English language test through a matching procedure. Each teenager and adult group produced an argumentative writing in one of the three planning conditions (i.e., strategic planning, within-task planning and no planning conditions). The purpose was to find out under which of these conditions the participants performed better. The results showed that planning condition and age did not have a significant effect on the accuracy of verb forms in the participants' writing ($P=.05$). Moreover, there was no significant interaction between the effects of planning condition and age on accuracy ($p=.05$). However, there were slight differences between the teenagers' and adults' patterns of performance across the three planning conditions. In addition, seven participants were selected from the experimental groups (i.e., strategic planning and within-task planning groups), they were interviewed for a retrospective account of their planning process.

Keywords: age, teenagers, adults, planning, argumentative writing, accuracy

I. INTRODUCTION

There is a plethora of research delving into the field of second language writing. However, there are many unanswered questions. Among these questions, there is the issue of how planning can affect L2 writers' performance under the influence of various intervening variables including cognitive development.

Piaget elaborates on four stages of cognitive development. The sensorimotor stage is the first of the four stages in cognitive development which "extends from birth to the acquisition of language". Piaget's second stage, the pre-operational stage, starts when the child begins to learn to speak at age two and lasts up until the age of seven. The concrete operational stage is the third of four stages from Piaget's theory of cognitive development. This stage, which follows the preoperational stage, occurs between the ages of seven and 11 years. The final stage is known as the formal operational stage – adolescence and into adulthood, roughly ages 11 to approximately 15-20 (Woolfolk, Winne & Perry, 2003).

Piaget's theory does not go beyond the formal operational stage. However, other scholars have argued that adults' thinking is different from thinking at formal operational

stage. This stage has been called post-formal thought (Sinnott, 1998). According to this view, adults are believed to be cognitively different from adolescents. This difference in cognitive development, in general, may result in differential second language acquisition. More specifically, task planning, as a cognitive process, and its effect on L2 learners' task performance may be influenced by the learners' stage of cognitive development (i.e., their age). This provided the impetus for the present study.

A. Task Planning

The concept of planning has been elaborated on from various perspectives. Ellis (2005) refers to three kinds of planning. He basically distinguishes between pre-task planning (i.e. the planning that is done before learners perform a task) and within-task planning (i.e. the planning that occurs on-line while learners are performing a task). He further divides pre-task planning into rehearsal and strategic planning. He uses the term rehearsal to refer to performing the complete task once before performing it a second time. By strategic planning, he means planning what content to express and what language to use but without the opportunity to rehearse the complete task.

Another point of concern related to strategic planning is what Foster and Skehan (1999) call source of planning. They found that different sources of planning have an effect on the outcome of planning. The sources may include teacher-led, group-based, and solitary planning. Moreover, Ellis (2005) argues that within-task planning can also take two forms. It can be either pressured (i.e. learners are required to perform the task with a time limit) or unpressured (i.e. learners perform the task with no time limit).

Furthermore, Whalen and Menard (1995) refer to pragmatic planning, textual planning, and linguistic planning. They posit that pragmatic planning is concerned with the identification of audience and reason for writing, and developing a given topic. However, textual planning deals with achieving coherence between idea sequences. Finally, linguistic planning is concerned with the writer's solving of a linguistic problem in formulating an idea.

B. Task Planning and Oral Production

Several studies have investigated the impact of planning on L2 learners' oral performance (e.g., Ellis, 1987; Ortega, 1999; Yuan & Ellis, 2003). These studies produced mixed results regarding the effect of planning on accuracy. Ellis (1987) examined the accuracy of a group of L2 learners in the use of three English past-tense forms (regular, irregular, and copula). This study focused on written narratives that the learners completed without any time pressure (i.e., on-line planning). He found that overall accuracy levels were higher in on-line planning condition than in pre-task planning and no planning conditions. However, just the difference related to regular past tense was found to be statistically significant. However, Wendel (cited in Ellis and Yuan, 2004) found no effect on accuracy in Japanese learners' narrative productions.

Moreover, Ortega (1999) investigated whether planning opportunity increased "focus on form in the context of task-based, meaning-driven communication and whether this occurs at the level of strategic attention to form during planning time, as well as at the level of production outcomes during task performance" (p. 121). Ortega investigated planning by

means of a within-subject comparison. The independent variable was planning, which consisted of two levels (namely, with and without pre-task planning). Sixty four native speakers of American English learning Spanish as a second language constituted the participants of the study. Ortega found that pre-task planning led to greater accuracy in the use of noun modifiers in L2 Spanish but not in the use of articles.

Along the same line, Yuan and Ellis (2003) investigated the effects of pre-task and online planning on oral production of English L2 learners. They asked the participants to narrate a story orally. The story was based on a picture composition. The participants were 42 undergraduate English major students. In their study planning was operationalized at three levels: no-planning, pre-task planning and on-line planning. They found that, unlike pre-task planning, on-line planning resulted in greater accuracy in L2 learners' narrative production. Generally, these studies revealed that pre-task planning does not necessarily aid accuracy in L2 learners' oral narratives.

Philp, Oliver and Mackey, (2006) examined the relationship between pre-task planning and linguistic production in ESL setting. In this study, forty two child ESL learners constituted the participants. They investigated three different amounts of pre-task planning time; 0 minute, 2 minutes, and 5 minutes. In general, planning was found to have limited benefits when considering the use of corrective feedback and linguistic accuracy and fluency. Children produced fewer non-target like utterances when given two minutes of pre-task planning time than when they were given 5 minutes or no planning time at all. This difference was significant. Moreover, when given planning time (whether 2 minutes or 5 minutes), older learners produced significantly more non-target like turns than younger learners.

C. Task Planning and Written Production

A number of studies have investigated the impact of task planning on L2 learners' performance in writing. Ellis and Yuan (2004) investigated the impact of planning on EFL learners' written narratives. This study had a single-factor, between-participants design. The independent variable was the planning condition and consisted of three levels of no planning, pre-task planning, and on-line planning. In this study 42 EFL Chinese learners produced written narratives based on a picture composition. They found that the unpressured on-line planning, as opposed to pre-task planning and no planning, assisted accuracy. In this study accuracy was operationalized as producing error-free clauses.

Rahimpour and Nariman-Jahan (2011) studied the impact of planning and EFL proficiency on 172 EFL learners' written performance regarding concept load, fluency, complexity and accuracy. In their study, planning was operationalized at two levels: pre-task planning and on-line planning. The participants of this study were two groups, high and low proficiency learners. The results of their study revealed that low-proficiency learners benefited more from planning time with respect to concept load, fluency, and complexity. Whereas, high-proficiency learners were advantaged by planning time regarding concept load and accuracy.

Moreover, Haghverdi, Biria, & Khalaji, (2013) studied the impact of planning and gender on Iranian EFL learners' accuracy in the production of written narratives. The participants of this study consisted of 90 EFL Iranian students. In their study, planning was

operationalized at three levels: no planning, strategic planning and within-task planning. Their study revealed that the strategic planning group outperformed the within-task planning and no planning groups. However, concerning the role of gender, no significant difference was found between the performance of male and female learners in terms of the accuracy in their writing.

Along the same line, Haghverdi, Khalaji and Biria, (2013) investigated whether planning in writing tasks affected the fluency of the written narrations or not. Ninety EFL Iranian learners constituted the participants of their study. The authors measured fluency based on production rate and counting the number of dysfluencies. The results revealed that the strategic planning group outperformed the no-planning and the within-task planning groups.

In this study, we investigated the differential effects of the two types of planning (i.e., strategic individual planning and within-task planning) on the accuracy of L2 learners' production of written argumentative texts across two age groups (i.e., teenagers and adults). The study also drew on Kellogg's (cited in Ellis & Yuan, 2004) model of writing to explain the findings of the study.

D. Kellogg's Model of Writing

Kellogg's model (cited in Ellis & Yuan, 2004) consists of three basic systems that are involved in text production. Each system includes two principle components or processes. The first system is Formulation. This involves: 'planning' (in which goals are set, and ideas are generated and organized) and 'translating' (during which lexical units and syntactic frames are selected, and are phonologically and graphologically represented in readiness for execution). The second system is Execution. It involves the two processes of 'programming' (where the output from translation is converted into production schema for the appropriate motor system involved, e.g., handwriting or typing) and 'executing' (which refers to the actual production of sentences). The third system is Monitoring which consists of the processes of 'reading' (in which the writer reads his/her production) and 'editing' (in which the writer attends to either micro aspects of the text such as linguistic errors, macro aspects of the text such as paragraph and text organization, or both aspects). According to Ellis and Yuan (2004), although designed to account for L1 writing, Kellogg's model is also applicable to L2 learners.

E. Research Questions and Hypotheses

This study particularly aimed to investigate the impact of age (i.e., stage of cognitive development) and planning conditions on the EFL learners' use of accurate verb forms in the production of argumentative texts. Therefore, the following research questions were formulated:

RQ1. Is there a significant difference between the accuracy of teenage and adult EFL learners' writings?

RQ2. Is there a significant difference between the accuracy of EFL learners' writings under strategic planning, within-task planning, and no planning, conditions?

RQ3. Is there a significant difference between the accuracy of teenage and adult EFL learners' writings under strategic planning, within-task planning, and no planning, conditions?

Based on the above research questions, the following null hypotheses were formulated:

H01. There is no significant difference between the accuracy of teenage and adult EFL learners' writings.

H02. There is no significant difference between the accuracy of EFL learners' writings under strategic planning, within-task planning, and no planning, conditions.

H03. There is no significant difference between the accuracy of teenage and adult EFL learners' writings under strategic planning, within-task planning, and no planning, conditions.

II. METHODOLOGY

A. Participants

The study totally included 90 participants (45 teenagers and 45 adults). They were EFL learners learning English in three language institutes and two universities in the city of Malayer. They consisted of male and female learners. They constituted six homogeneous groups. The teenagers' age ranged from 13 to 18, and the adults' age ranged from 20 to 32. They did not have the opportunity for communicative use of English outside the classroom.

B. Instruments

To ensure the homogeneity of the groups of participants at the outset of the study, the researchers administered Test 150 B of the Nelson English Language Test (NELT), by Fowler and Coe (1976), to the participants. This test consists of 50 multiple choice items, which are carefully pretested (Fowler & Coe, 1976). The reliability of the test, which was calculated through KR-21 formula, was found to be 0.85.

For collecting the required written data for the study, the participants were asked to write an argumentative text on the following topic: "Saving money is painful and unnecessary". The topic was taken from the book "For and Against" by L.G. Alexander (1968). However, to ensure the participants' comprehension of the topic, the researchers changed the wording of the topic as follows: "Saving money is difficult and unnecessary. Do you agree or disagree?"

C. Data Collection Procedure

The participants were from three language institutes and two universities. They were divided into six homogeneous groups based on their NELT scores through a matching

procedure. The six groups consisted of three teenager groups and three adult groups. The NELT test was administered to the participants to ensure that the six groups had equivalent English language proficiency at the beginning of the study. Each teenager and adult group produced an argumentative written text under one of the three conditions (i.e., strategic planning, within-task planning and no planning).

A pilot study was carried out with a group of participants similar to the target group. The participants in the pilot study consisted of both teenagers and adults. The purpose of the pilot study was to determine the length of the paragraph the participants were expected to write and the amount of the time to be allowed to write the text. In the pilot study, no time limit was set, and the participants' different times were noted. The average length of the participants' writing was 92.33, and the fastest writer's speed of writing was 5.9 words per minute. Through dividing the average length of writing by 5.9, the time to be devoted to the participant in the no planning condition group and the participants in the strategic planning group to write the paragraph was calculated to be 15.65 minutes (i.e., the amount of time that the fastest writer in the pilot study was expected to take to write a text as long as 90 words.).

Based on the above calculations of text length and writing time, in no planning condition, the participants were given just 15 minutes time to write a text with a length of at least 90 words. They were given no time for planning. The participants in the strategic planning condition were asked to produce a written text of the same length within the same time limit as the participants in the no planning condition. However, they were given a ten-minute time for planning their ideas individually before starting to write. They wrote their plans on a separate paper sheet. The plan paper sheets were taken away from the participants before they started to write the paragraph. The participants in this group were not allowed to plan during the writing process. The choice of the ten minute planning time was based on Mehnert's (1998) study, which revealed that at least a 10-minute planning time was required for achieving improvement in fluency, accuracy, and complexity of the learners' oral production. In within-task planning condition, the participants were allowed to plan their ideas from the beginning to the end of the writing task. The participants in this group were asked to write at least 90 words, and to spend at least 25 minutes on writing the paragraph. They were told that they could have more time if they liked. They were also told to start writing immediately without planning first (see Appendix A for the writing instructions given to the participants in the three different planning conditions). Then, the participants' written output was analyzed in terms of accuracy.

In the procedure of scoring the writing papers, accuracy was considered as "producing correct verb forms" – i.e., the percentage of accurately used verbs in terms of tense, aspect, modality, voice, subject-verb agreement, part of speech and use of the right verb. Each writing paper was scored twice by one of the authors with an interval of three or four days. Therefore, two scores were assigned to each writing paper. The intra-rater reliability (Pearson correlation) was calculated for the two sets of scores, and it was found to be 0.98, which is a high positive correlation. In the statistical analysis of the data, the average of the two scores given to each paper was used.

In addition to the written tasks, seven participants were voluntarily chosen from the adult experimental groups (four participants from the adult strategic planning group, and three participants from the adult within-task planning group) for the purpose of interview. They were interviewed for a retrospective account of their planning process. The purpose of

this retrospective interview was to find out how the participants used their planning time, whether they made use of what they planned, and how their planning influenced their writing.

D. Data Analysis

Before elaborating on the data analysis procedures, we briefly present a description of the variables involved in the study. The dependent variable is the accuracy (accurately-used verbs) of the participants' written output. The study involves two independent variables. The first independent variable is task planning condition which involves three levels (i.e., strategic planning, within-task planning and no planning). The second independent variable is age which consists of two levels (i.e., teenage and adulthood).

The normal distribution of the six groups' NELT scores was tested by means of Kolmogorov-Smirnov statistic. To test the homogeneity of variances, the researchers applied Levene's test for homogeneity of variances. Since the assumption of homogeneity of variance was violated, robust tests of equality of means (i.e., Welch and Brown-Forsythe) were used. Then one-way ANOVA was run to see if the six groups were homogeneous in terms of NELT scores.

In order to explore the impact of age and planning conditions on the accuracy of verb forms in the participants' writing, the researchers employed a two-way between-groups analysis of variance. To ensure that ANOVA could be used safely, the researchers initially checked the Levene's test as the main assumption behind this test.

III. RESULTS & DISCUSSION

A. Homogeneity of Groups

To ensure the homogeneity of the groups of participants at the outset of the study, the researchers administered the NELT test to the participants in the study. Table one (see Appendix B: Table 1) presents the descriptive statistics related to the performance of the six groups of participants' in the NELT test.

One of the assumptions underlying the safe use of parametric tests, including ANOVA, is normality of distribution. In the test of normality, the Sig. value of Kolmogorov-Smirnov statistic was .147 (see Appendix B: Table 2). This suggests that the assumption of normality is not violated, and that one-way ANOVA can be used safely — as far as the assumption of normal distribution is concerned — to compare the scores of the six groups in the NELT test.

Therefore, one-way ANOVA was conducted, and the results revealed that there was no statistically significant difference at the $p < 0.05$ level in NELT scores for the six groups: $F(5, 84) = .35$, $p = .88$ (see Appendix B: Table 3). However, regarding the homogeneity of variance, in Levene's test for homogeneity of variances, the significance value (Sig.) was smaller than 0.05 (see Appendix B: Table 4). This indicates that the assumption of homogeneity of variance is violated. Therefore, as Pallant (2013) suggests, we needed to consult Robust Tests of Equality of Means (i.e., Welch and Brown-Forsythe). The results of Welch and Brown-Forsythe tests indicated that there was no significant difference among the

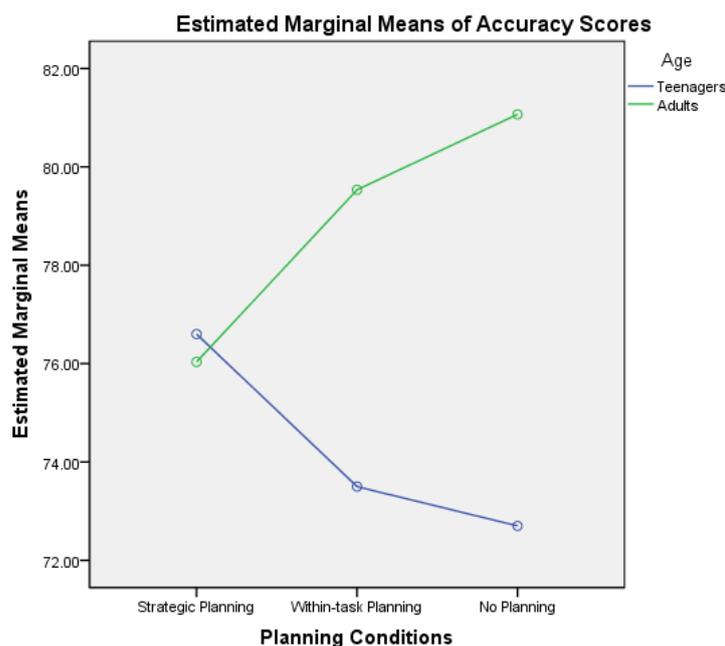
six groups of participants in terms of NELT scores at the significance level of 0.05 (see Appendix B: Table 5).

B. The Univariate Analysis Assumption

To examine the effects of the independent variables (i.e., age and planning condition) on the dependent variable (i.e., use of accurate verb forms), the researchers utilized ‘General Linear Model: Univariate analysis. To ensure that univariate analysis could be used safely, the researchers initially checked the Leven’s test as the main assumption behind this test. In the Leven’s test, the level of significance was greater than 0.05, and therefore not significant (see Appendix B: Table 6). This testifies to the safe use of Two-way ANOVA with significance level of 0.05.

C. Effects of Independent Variables

In this section, the results of the statistical analyses related to the impact of age and planning condition on the use of accurate verb forms in writing are dealt with. Table seven (see Appendix B: Table 7) presents the descriptive statistics related to accuracy of verb forms in the writings of the six groups of participants. Profile plot one below presents the comparison between teenagers and adults’ performance.



Profile Plot 1: Comparison between the Accuracy Scores of Teenagers and Adults in the Three Writing Conditions

To explore the impact of age and planning conditions on the accuracy of verb forms in the participants’ writing, the researchers conducted a two-way between-groups analysis of variance (see Appendix B: Table 8). For interpreting the strength of effect size statistics, Cohen’s criteria (cited in Pallant, 2013) were used (see appendix B: Table 9).

The results of the two-way ANOVA revealed that all the three null hypotheses were accepted. Regarding the first null hypothesis (H01: There is no significant difference between the accuracy of teenage and adult EFL learners' writings.), there was no statistically significant main effect for age, $F(1, 84) = 2.27, p = .14$, and the effect size was small (partial eta squared = .03). This indicates that the first null hypothesis is not rejected.

Concerning the second null hypothesis (H02: There is no significant difference between the accuracy of EFL learners' writings under strategic planning, within-task planning, and no planning conditions.), the main effect for planning conditions, $F(2, 84) = .02, p = .99$, did not reach statistical significance either, and the effect size was small (partial eta squared = .00). This shows that the second null hypothesis is not rejected either.

Regarding the third null hypothesis (H03: There is no significant difference between the accuracy of teenager and adult EFL learners' writings under strategic planning, within-task planning, and no planning conditions.), the results of the two-way ANOVA revealed that the interaction effect between age and planning conditions was not statistically significant, $F(2, 84) = .76, p = .47$. It means that the planning conditions did not influence the performance of teenage and adult EFL learners differently.

Although no significant differences were detected between the groups, there were slight differences between the performance of teenagers and adults across the three planning conditions. As it is clearly shown in Profile plot one above, adults had the lowest performance in strategic planning condition, and the highest performance in no planning condition. However, teenagers had the lowest performance in no planning condition, and the highest performance in strategic planning condition.

D. Interview Results

The data obtained from the interview provided information about the nature of the planning activities that the participants in the strategic planning group were engaged in, and about the participants' attitude toward planning. The information obtained from the interviewed candidates in the strategic group ($N= 4$) and within-task planning group ($N= 3$) are presented below.

All the interviewed participants in the strategic planning group believed that strategic planning time enhanced the content length and the quality of the content organization in their writing. Three of the interviewed participants in this group believed that strategic planning time had more effect on vocabulary than grammar in their writing. Three of these participants stated that they wrote down some relevant words in the planning stage, and they used them in their writing. None of the interviewed participants in this group reported making revisions in their writing. Two of the interviewed participants in this group stated that having the planning time before writing (i.e., strategic planning) can enhance the content of writing better than within-task planning.

Two of the participants in the within-task planning group reported that the time was adequate for writing the text. One of the participants in this group believed that if she had been given less time, she would have felt stressed, and she couldn't have written so well. One of them stated that she was weak at writing and that the time was not enough for her. Two of the participants in this group believed that planning enabled them to provide a better content

and write a long enough text. Two of the interviewed participants in this group reported that they made changes to their writing because they had enough time.

E. Discussion

As it was mentioned above, planning condition did not have any significant effect on the accuracy of the adult and teenage participants' writing. This is partially in agreement with the findings of Ortega (1999). Ortega found mixed results. She concluded that planning improved only the use of noun modifiers, but not the accurate use of articles in L2 Spanish.

The results of the present study are against the findings of Haghverdi, Biria, & Khalaji (2013). This may be due to the nature of the task type used in the present study. In this study, the participants were asked to write an argumentative paragraph. However, Haghverdi, Biria, & Khalaji (2013) asked the participants to write a narrative text.

Concerning the effect of strategic planning on accuracy and complexity, Skehan and Foster (1997) proposed trade-off effects between accuracy and complexity. They maintained that there was an interplay between task type and planning time. They argued that a cognitively demanding task requires learners to produce complex language resulting in weak control over language form, whereas a less demanding task type makes it possible for learners to focus on form and to produce more accurate language. The notion of trade-off between accuracy and complexity seems to be supported by Mehnert (1998). In Mehnert's study, one minute of planning time improved accuracy. However, ten minutes of planning time led to the production of more complex language. Limitation of attentional resources caused the participants to achieve accuracy or complexity at one time. Based on Skehan and Foster's (1997) argument, the lack of significant effect of planning on accuracy may be attributed to the task type used in the present study.

Although no significant major effect or interaction was found, there were slight (non-significant) differences between the groups. We first discuss the results for adults' performance and then the results for teenagers' performance.

Adults in the within-task planning condition had a slightly better performance than the strategic planning condition. This may be accounted for by Zimmerman's finding (cited in Ellis & Yuan, 2004). Zimmerman found that writers revised more when writing in their L2 than in their L1; thus, one of the effects of allowing time for strategic planning may be to reduce the number of revisions undertaken in L2 writing. Concerning this point, two of the interviewed participants in the within-task planning group reported that they made changes to their writing because they had enough time. However, the interviewed participants in the strategic planning group did not report such revisions.

Along the same line, Ellis and Yuan (2004) found that pre-task planning (i.e., strategic planning) had a very little effect on accuracy. They hypothesized "that pre-task planning assists internal goal setting, the rhetorical organization of the text to be produced, and the prepositional content to be encoded... However, pre-task planning does not contribute to editing when writers are pressured to write quickly (p. 79)". Similarly, Crookes (1989) found that planning time did not have a significant effect on general measures of accuracy (e.g., number, length, or error-free units). However, Crookes noted that only one of the accuracy

measures (i.e., target-like use of the definite article *the*) improved when the participants had planning time.

In this regard, Haghverdi, Biria, & Khalaji (2013) found that planning had a positive effect on the accuracy of written narrations produced by Iranian EFL - learners. Regarding the comparative effects of strategic planning and within-task planning, the findings related to the adult participants in the present study are against the findings of Haghverdi, Biria, & Khalaji (2013). They found strategic planning to be more effective than within-task planning as far as accuracy was concerned. They operationally defined accuracy as error-free clauses and accurately-used verbs. As mentioned above, in the present study, accuracy is defined as the percentage of accurately used verbs.

Contrary to our expectation is the point that in the present study, although no significant difference was found between the groups, adults had the best performance in the no planning condition. This may indicate that given too much time, adults make wrong decisions, and wrong revisions about the accuracy of the language they produce. Whether learners, given planning time, can make correct revisions in their writing may depend on such intervening factors as the amount of the planning time, the learners' level of L2 proficiency, etc. Concerning the amount of planning time, Philp et al. (2006) found that children produced fewer non-target like utterances when given two minutes of pre-task planning time than when they were given 5 minutes or no planning time at all.

In this regard, it should be noted that, as the interview results revealed, the participants in the strategic planning and within-task planning conditions believed that planning time improves the quality of their writing. The interviewed adult participants in the strategic planning group stated that strategic planning time had a positive effect on the content length and content organization in their writing.

Another point of concern is the fact that adults had the lowest performance in the strategic planning condition. This may imply that learners focus their attentional resources on the plan they produced at the planning stage prior to writing. As the planning notes were taken away from them before they started to write, they focused their attention on trying to remember the content of their plan. This may have caused them to concentrate less on the accuracy of their writing including the accuracy of the verbs that they used. We may hypothesize that trying to remember a previously-constructed plan requires more attentional resources than constructing a plan online, at least as far as adults are concerned. In other words, strategic planning played an impeding role rather than a facilitative role in learners' production of accurate verb forms. If the learners had been allowed to consult their notes in writing the text, the mediating role of the notes – to use a term from sociocultural theory – might have enabled them to have a better performance.

Although no significant differences were observed between the groups, teenagers' performance in the strategic planning condition was better than their performance in the within-task planning and no planning conditions. This is in accordance with the findings of Haghverdi, Biria, & Khalaji (2013). The strategic planning group focused on preparing the content, retrieving the required words and making an outline at planning stage. This enabled them to allot their attentional resources to the form and accuracy of their writing including using correct verb forms at the writing stage. This may have caused them to have more accurate writings in the strategic planning condition.

The teenagers' performance in the within-task planning condition was slightly better than their performance in the no planning condition. This is also somewhat in accordance with the findings of Elis and Yuan (2004) and Haghverdi, Biria, & Khalaji (2013). It should be noted that in Elis and Yuan's (2004) study the online (i.e., within-task) planning group had a better performance than the no planning condition in terms of accurately-used verbs; however, the difference was also non-significant. Another point to be noted is that in Elis and Yuan's (2004) study, the online planning group significantly outperformed the other groups in terms of accuracy defined as error-free clauses. Yuan and Ellis (2003) similarly found that online planning had a positive effect on accuracy.

The better performance of the within-task planning group can be accounted for by the third system in Kellogg's model of writing (i.e., monitoring). Monitoring consists of the processes of 'reading' and 'editing'. In this system the writer reads his/her production and attends to either micro aspects of the text such as linguistic errors, macro aspects of the text such as paragraph and text organization, or both aspects. In this regard, Zimmerman (cited in Ellis & Yuan, 2004) found that writers revise more when writing in their L2 than in their L1. Therefore, the teenagers' better performance in the within-task planning condition may be due to having the chance of making revisions.

IV. CONNCLUSION

To sum up, it should be reminded that age and planning condition did not have any significant effects on the accuracy – operationalized as accurately used verbs- of the participants' writing. Furthermore, no significant interaction was found between the effects of age and planning condition. However, the adults and teenagers had slightly different patterns of performance across the three planning conditions. Strategic planning seemed to be useful and facilitative in improving accuracy in the teenagers' writing but not in the adults' writing. However, planning seemed to impede rather than facilitate adults' writing, and adults achieved the highest rate of accuracy in the no planning condition. These differences may be due to the different cognitive characteristics that teenagers and adults possess. However, further research and replications of this study are required before firm judgments and decisions can be made.

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APPENDIXES

Appendix A

Instructions Given to the Participants in Strategic Planning Condition

Write a paragraph about the following topic. You should write **at least 90 Words**. Before writing, you have **10 minutes to plan** what to write, how to organize your writing, and what words and grammar to use, but you shouldn't write the whole paragraph now. For planning, you should write notes on the special paper sheet given to you, and your notes will be taken away from you before you start writing the paragraph. After planning, you will have **15 minutes to write the paragraph**.

Topic: Saving money is difficult and unnecessary.

Do you agree or disagree? Write a paragraph about it.

Instructions Given to the Participants in Within-Task Planning Condition

Write a paragraph about the following topic. You should write **at least 90 Words**. You should spend **at least 25 minutes on writing the paragraph**. You can have more time if like. **Star writing immediately**.

Topic: Saving money is difficult and unnecessary.

Do you agree or disagree? Write a paragraph about it.

Instructions Given to the Participants in No Planning Condition

Write a paragraph about the following topic. You should write **at least 90 Words**. You have **15 minutes time**. **Start writing immediately**.

Topic: Saving money is difficult and unnecessary.

Do you agree or disagree? Write a paragraph about it.

Appendix B

Table 1: Descriptive Statistics Related to NELT Scores.

Groups	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	15	28.4667	8.09644	2.09049	23.9830	32.9503	18.00	42.00
2.00	15	26.4000	8.46674	2.18610	21.7113	31.0887	14.00	42.00
3.00	15	29.2000	7.80293	2.01471	24.8789	33.5211	12.00	40.00
4.00	15	28.1333	11.64883	3.00771	21.6824	34.5842	12.00	44.00
5.00	15	27.7333	9.97473	2.57546	22.2095	33.2572	13.00	41.00
6.00	15	25.6000	6.08041	1.56996	22.2328	28.9672	14.00	34.00
Total	90	27.5889	8.68926	.91593	25.7690	29.4088	12.00	44.00

Table 2: Tests of Normality of NELT Scores

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NELT Scores	.084	90	.142	.966	90	.017

a. Lilliefors Significance Correction

Table 3: ANOVA Results Showing Participants' Homogeneity on the NELT Scores

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	135.789	5	27.158	.346	.883
Within Groups	6584.000	84	78.381		
Total	6719.789	89			

Table 4: Test of Homogeneity of Variances of NELT Scores

Levene Statistic	df1	df2	Sig.
2.812	5	84	.021

Table 5: Robust Tests of Equality of Means of NELT Scores

	Statistic ^a	df1	df2	Sig.
Welch	.496	5	38.934	.778
Brown-Forsythe	.346	5	72.307	.883

a. Asymptotically F distributed.

Table 6

Leven's Test Showing the Error variance of Accuracy Scores

F	df1	df2	Sig.
1.613	5	84	.165

Table 7: Descriptive Statistics Related to Accuracy Scores

Descriptive Statistics

Dependent Variable: Accuracy Scores

Age	Planning Conditions	Mean	Std. Deviation	N
Teenagers	Strategic Planning	76.6000	18.89936	15
	Within-task Planning	73.5000	8.77903	15
	No Planning	72.7000	16.25335	15
	Total	74.2667	15.00401	45
Adults	Strategic Planning	76.0333	16.37776	15
	Within-task Planning	79.5333	12.39595	15
	No Planning	81.0667	12.03250	15
	Total	78.8778	13.59569	45
Total	Strategic Planning	76.3167	17.37839	30
	Within-task Planning	76.5167	10.99097	30
	No Planning	76.8833	14.68091	30
	Total	76.5722	14.42407	90

Table 8: Results of Two-Way ANOVA Related to Accuracy Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	805.381 ^a	5	161.076	.764	.578	.043
Intercept	527697.469	1	527697.469	2502.715	.000	.968
Age	478.403	1	478.403	2.269	.136	.026
Planning Condition	4.956	2	2.478	.012	.988	.000
Age * Planning Condition	322.022	2	161.011	.764	.469	.018
Error	17711.400	84	210.850			
Total	546214.250	90				
Corrected Total	18516.781	89				

a. R Squared = .043 (Adjusted R Squared = -.013)

Table 9: Criteria for the Strength of Effect Size

Size Eta squared	(% of variance explained)	Cohen's d (standard deviation units)
Small	.01 or 1%	.2
Medium	.06 or 6%	.5
Large	.138 or 13.8%	.8