# Effects of Multimedia Task-Based Teaching and Learning Approach on EFL Learners' Accuracy, Fluency and Complexity of Oral Production

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## ABSTRACT
Albeit Task-Based Language Teaching (TBLT) has been extensively researched, there appears to be limited studies that focus on the effects of multimedia technology (MT) enhanced TBLT approach on EFL development. A study was conducted to examine the effects of a MT imbued TBLT, i.e. Multimedia Task-Based Teaching and Learning (MMTBLT) approach on EFL oral production. The Content Management System, a free web-based software program, was used as a platform to create the MMTBLT environment, where various instructional and supplementary materials and hyperlinks to other relevant web pages were incorporated to create a causal link between the real world language use and an EFL learning environment. Online lessons comprised tasks that were structured cluster of ideas to enable students to construct their own knowledge for oral production. Three broad thematic tasks, with four tasks at varying levels of complexity for each theme were carried out as treatment tasks. Upon completion of tasks under each theme, students carried out oral test tasks that were audio recorded for analysis. As a result of performing tasks of varying levels of complexity within a web-based multimedia platform setting, students' accuracy, fluency and complexity of oral EFL production improved significantly. Favourable outcomes suggest that EFL instructors could consider the MMTBLT approach and design web-based syllabus to complement language teaching.

## INTRODUCTION
Since the 1980s, task-based language teaching (TBLT) has held a predominant position in the world of language pedagogy. It has gained popularity as a prominent instructional means through which learners effectively develop their second language (L2) (Lee, 2000; Bygate et al., 2001, Ellis, 2003; Nunan, 2013; East, 2012, Ellis & Shintani, 2013). Willis and Willis (2007, p.1) asserted, "… the most effective way to teach a language is by engaging learners in real language use in the classroom. This is done by designing tasks-discussions, problems, games, and so on-which require learners to use the language for themselves". Nunan (1989, p.10) defined task as "a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the TARGET LANGUAGE while their attention is principally focused on meaning rather than form."
Nunan stressed on prioritising meaning over form in performing tasks. Ellis (2003, p16) added that

> "a task is intended to result in language use that bears a resemblance, direct or indirect, to the way language is used in the real world. Like other language activities, a task can engage productive or receptive, and oral or written skills, and also various cognitive processes".

With tasks considered as building blocks for language learning, and with claims made of the positive effects of TBLT, EFL researchers began examining tasks and their effects on EFL learners' language development from different perspectives (Bygate, Skehan, & Swain, 2001; Van den Branden, 2006).
L2 researchers also began looking at technology-enhanced teaching in various contexts and reported its positive effects on learners' learning outcomes (Neo & Neo, 2009; Boyer, Briggeman & Norwood, 2009; Bava Harji et al., 2010; Madhubala et al., 2014 Tsai, 2011; Almudibri, 2012). The introduction of technology into the TBLT context provides more resources for task performance and "encourages learners to exercise agency and enact identities" (Ortega, 2009, p.263). Literature on digital literacy highlights the importance of technology-mediated language teaching to foster learners' digital literacy development, which is pivotal in the 21st century era. However, despite the fact that TBLT is introduced as a "very powerful language pedagogy" (Van den Branden et al., 2009, p.1), there appears to be limited studies that focus on the effects of technology-enhanced TBLT approach on students' EFL development (Li & Ni, 2013). This paper presents the outcome of an attempt to imbue multimedia technology (MT) into TBLT.

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## LITERATURE REVIEW

According to Ellis and Shintani (2013, p.149), "probably the most ambitious attempt to formulate a theory of TBLT is Robinson's Cognition Hypothesis" (RCH). Robinson (2001, 2003, 2005) claimed that complex tasks promote more accurate and complex, though less fluent, output than simpler tasks. He believed that when EFL learners engage in carrying out a task, attention to different aspects of the task potentially enables them to enhance performance in all three areas of language production, namely, accuracy, fluency, and complexity. Robinson maintained that increasing cognitive demands of the task generates more interaction, more attention to form, and more intake of information from the input.

Taking into consideration his Cognition Hypothesis, Robinson (2007, 2011) proposed the Triadic Componential Framework (TCF) for EFL task classification. The three classifications are: (1) task complexity, (2) task condition, and (3) task difficulty. Firstly, task complexity refers to the cognitive demands of the task that can be manipulated along two key variables: "resource-directing" and "resource-dispersing". Resource-directing variables control the extent to which learners focus on specific linguistic forms; therefore, they affect the development of inter-language, EFL acquisition and automaticity. In contrast, "resource-dispersing" variables govern learners' memory resources, but their attention to linguistic forms; thus conversely, they do not affect inter-language development, and EFL acquisition and automaticity. Secondly, task conditions, which relate to the interactive demands of the task. Task conditions can be defined as tasks that are open or closed, one-way or two-way and convergent or divergent. Finally, task difficulty, which is concerned with cognitive factors, such as aptitude and working memory, as well as affective factors, such as motivation and anxiety that can help explain individual differences (Spilsbury, Stankov & Roberts, 1990; Robinson, 2001a, 2001b).

Robinson (2003, p.57) believed that task complexity should be "the major basis for proactive pedagogic task sequencing in task-based approaches to syllabus design" and argued that task complexity is "the result of the attentional memory, reasoning, and other information-processing demands imposed by the structure of the task on the language learner, and these are relatively fixed and invariant" (Robinson, 2001, p.28). Robinson outlined three factors, i.e. task complexity, task condition, and task difficulty in his TCF. According to Malicka and Levkina (2012), these factors interact and affect task performance, and possibly the interlanguage development. However, task complexity is the only variable, which can be manipulated intentionally to increase or decrease the cognitive loads on learners in order to elicit specific linguistic behavior (Robinson, 2007). Robinson and Gilabert (2007, p.162) noted that increasing cognitive demands of a task will "push learners to greater accuracy and complexity of EFL production".

Skehan (1998) maintained that performance of tasks can be assessed using three dimensions of language production based: accuracy, fluency, and complexity. He asserted that fluency requires learners to use their exemplar-based memory and that learners can attain accuracy and complexity of oral production by employing their rule-based memory. Skehan (1996, p.46) defined the three dimensions of EFL learners' speech as follows:

> "Accuracy is concerned with a learner's capacity to handle whatever level of interlanguage complexity s/he has currently attained. Complexity, and its attendant process restructuring, relates to the stage and elaboration of the underlying interlanguage system. Fluency, finally, concerns the learner's capacity to mobilize an interlanguage system to communicate meaning in real time."

Several studies examined have whether accuracy, fluency and complexity represent distinct features of language and different measures loaded on them (Skehan & Foster, 1997; Mehnert, 1998).

Saville-Troike (2012, p.80) maintained that "fluency is achieved in production […] through use of automated rule-based systems". Similarly, Schmidt (1992, pp.358-359 as cited in Bava Harji et al., 2014) referred fluency as "automatic procedural skill" that showed the speech which can be easily and automatically produced with no effort and attention (Wood, 2010). Foster and Skehan (1999) elaborated on these three dimensions and explained that accuracy is associated with conventionalism and in applying better structure and having more control on the uttered language; complexity succeeds in having less monitoring, but more tentative structure at the edge of the interlanguage; and fluency is associated with the ability to handle the communicative demands of the real environment, and presumably is more lexical-based.

## MULTIMEDIA TASK BASED LANGUAGE TEACHING AND LEARNING

With studies reporting favourable outcomes of the TBLT approach on oral language production and with limited studies on multimedia technology (MT) based TBLT approach, a study incorporating Web-based MT into TBLT, i.e. termed as Multimedia Task Based Language Teaching and Learning **(**MMTBLT) approach was tested in an EFL context. The overarching aim was to examine the extent to which, with varying levels of task complexity, MMTBLT affects EFL learners' oral production. The study also examined the plausibility of

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applying RCH, focusing on the effects of increasing task complexity along resource-directing dimension on Iranian EFL learners' oral production. Figure 1 illustrates the research design.

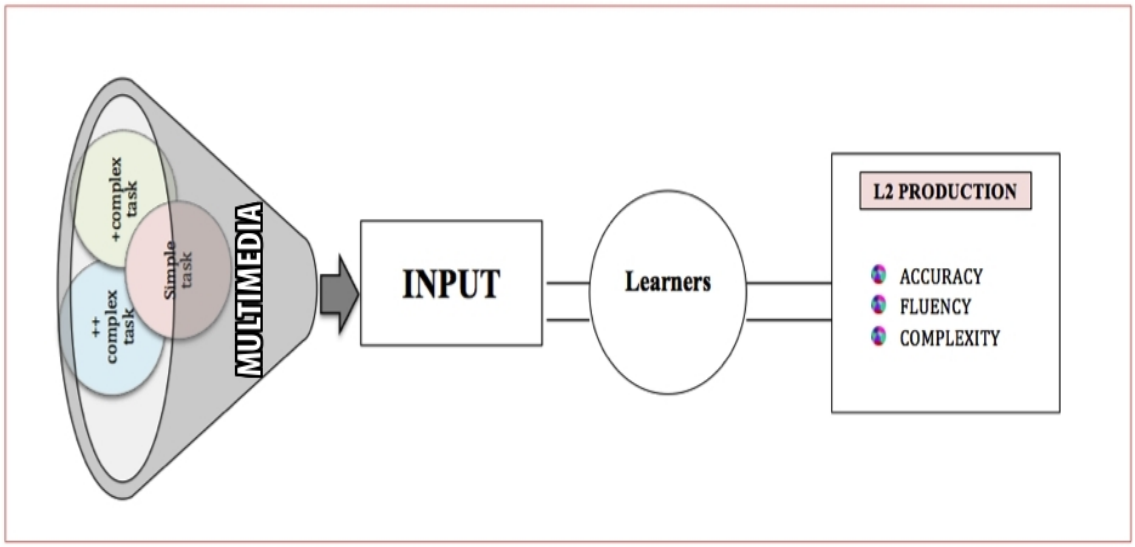


**Figure 1:** Research design

To provide a rich multimedia source, a web-page was set up for students to access a wide range of materials. It created a virtual EFL environment, which drew the students' attention, kept them involved in their learning process, and stirred them towards autonomous learning. The Content Management System (CMS), a free web based software programme, which is a blogging tool was used as a platform to create the MMTBLT environment. Various instructional materials, supplementary materials, hyperlinks to other relevant web pages, hypertext, images, visual, audio, video, games, self-assessment tests etc. were made available on this MMTBLT web-based context. All lessons, which were posted twice a week, comprised tasks that were structured clusters of ideas to help students construct their own knowledge for their oral productions in class. A link, which formed an avenue for virtual communication among fellow peers and the instructor, was also made available on the web-page. This kept students linked up and in constant communication with each other and with the instructor. They were able to post comments, queries and assignments as well as share their views on the link. Links to other websites opened up rich resources for authentic use of language as well as task performance.

As mentioned earlier, in testing RCH, three thematic topics, using Ellis and Shintani's (2013) guiding criteria for determining the thematic content of the tasks, i.e. topic familiarity, intrinsic interest and topic relevancy were designed. The three broad themes were: *Personal Life* (to enable students to kick start their oral presentations on more familiar topics that do not require external information, are less taxing on producing oral EFL sentences, which consequently aid in developing students' confidence), *Travel* (to enable the students to "step" forward and think beyond their personal lives, yet feel being connected to their previous theme) and *World Event* (to enable students to perform tasks that are based on events around them and possible events that they may encounter in real FL context). Adopting Robinson's TCF (2001, 2003, 2007) and Nunan's (2004) categorisation of task difficulties, four tasks under each themes were designed. See Bava Harji, Gheitanchian, & Letchumanan (2014) for more details of the study.

Table 1 presents the description of the tasks: types of tasks, resource-directing dimensions, levels of task complexity, treatment tasks and test tasks.

**Table 1:** Description of tasks

| Phases (Themes) | Types of Tasks *(Nunan's Task Difficulty)* | Resource-directing dimensions *(Robinson's classification)* | Complexity levels | Description of tasks *(4 tasks per theme)* | Test tasks |
|---|---|---|---|---|---|
| Pre | | | | | Talk about self (Pre-test) |
| 1 | Static | +Here-and-now | Simple | Describe family members. | Tell a story |

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| | | | | | |
|---|---|---|---|---|---|
| (Personal Life) | | | | Describe a picture of a place.<br>Describe a favourite place.<br>Describe a favourite job. | with 'you' as the main character |
| 2 (Travel) | Dynamic | -Here-and-now | +Complex | Travel in a city within the country.<br>Travel within the country with an international friend.<br>Travel abroad and book a room in a hotel.<br>Attending an English program abroad. | Talk about a trip |
| 3 (World Events) | Abstract | -Here-and-now<br>- No reasoning | ++Complex | Sharing an event in the university.<br>Sharing an event in the city.<br>Sharing an event in the country.<br>Sharing an event in another country. | Talk about a critical piece of news |

(Adapted from Bava Harji, Gheitanchian & Letchumanan, 2014)

This study was conducted over a 16 week period (four weeks per phase), inclusive of the pre-and post-test. As seen in Table 1, the students were required to carry out specific tasks of different levels difficult and complexity within the specific resource directing dimensions.

## METHODOLOGY

### Participants

57 adult Iranian EFL students (41 females, 16 males; 19 to 58 years) who were registered in a three-credit General English course required for their bachelor's degree at Islamic Azad University, Azadshahr campus in Iran, participated in the study. An interview with individual students prior to the study found that most of them had not participated in any English classes since high school and their oral language proficiency was limited to one or two word level. This could be due to the lesser emphasis on oral skills compared to grammar, reading and vocabulary, which are tested in the university written examination. The results of the students' oral presentation before the study (see Results section) affirms their limited oral proficiency skills.

### Instruments

A total of 4 self-designed oral test tasks, inclusive of a pre-test task was used to examine the students' oral production. Both experienced EFL and ESL instructors, who has more than 15 years of teaching experience vetted the tests. As presented in Table 1, the students carried out the four test tasks, which were based on each theme after the completed performing the four tasks of varying levels of complexity under each theme. The pre-test was administered to gauge the students' oral production prior to the treatments.

Since consideration of various measures to evaluate accuracy, fluency, and complexity of EFL production makes cross study comparison complicated and does not lead to reliable results (Dembovskaya, 2009), measures which have been employed in previous studies (e.g. Mehnert, 1998; Foster & Skehan, 1996, 1999; Yuan & Ellis, 2003, 2005; Larsen-Freeman, 2006; Dembovskaya, 2009) and showed sensitivity in capturing useful variance were adopted. This study, thus, examined the effects of MMTBLT on the EFL students' oral production, i.e. in terms of the following specific measures:

a) accuracy: (i) error-free clauses (ii) verb tenses (iii) use of plurals
b) fluency: (i) words per 90 seconds (ii) number of pauses per 90 second
c) complexity: (i) clausal subordination (ii) use of conjunctions (iii) use of prepositions.

## RESEARCH QUESTIONS

The following research questions are addressed in this paper:

1. What are the effects of MMTBLT approach, using varying levels of task complexity, on the accuracy of the students' oral EFL production, particularly in terms of:
   a) percentage of error-free clauses?
   b) target-like use of verb tenses?
   c) target-like use of plurals?
2. What are the effects of MMTBLT approach, using varying levels of task complexity, on the accuracy of the students' oral EFL production, particularly in terms of:
   a) number of words per 90 seconds?
   b) number of pauses per 90 second?

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3. What are the effects of MMTBLT approach, using varying levels of task complexity, on the complexity of students' oral EFL production, particularly in terms of:
   a) amount of clausal subordination?
   b) frequency of use of conjunctions?
   c) frequency of use of prepositions?

**ANALYSIS**

The description of the analysis of the three dimensions are as follows:

1. Accuracy: Firstly, to acquire the "percentage of error-free clauses, the number of error-free clauses was divided by the total number of clauses and multiplied by 100" (Yuan & Ellis, 2003; Dembovskaya, 2009). Errors in syntax, morphology, and lexical choices were measured. As per Foster and Skehan (1996), and Dembovskaya (2009), lexical errors were measured when a word was absolutely wrong, but not in cases of fine appropriateness of a word in a sentence. For instance, the choice of word "beautiful" in the sentence "My brother is a beautiful man" was not considered as an error. Secondly, to examine target-like use of verb tenses in the students' utterances, the correct use of the verb tenses was measured (e.g. *My brother leave school at 1:00 pm every day*.; *We take a trip to Antalia last summer*.). Finally, to assess the number of target-like use of plurals, the correct use of plural nouns in the sentence (e.g. women not womans) and the subject-verb agreement (e.g. "My friend and I are [not am] talking about a trip now.") were counted.
2. Fluency: The number of trimmed words, which was counted referred to the deletion of words, which were repeated, self-corrected and addressed to the instructor. In terms of pauses, those that took two seconds or more were taken into account throughout the 90-second oral production.
3. Complexity: The number of clausal subordination was defined as the number of dependent clauses produced per 90 seconds. Any incomplete clauses or clauses with errors within the verb phrase boundaries were excluded from the count. Since the students were able to produce only short/simple sentences before the study, the frequency of use of conjunctions and prepositions were counted (See Result Section). The counting of the number of conjunctions and prepositions was thus deemed as an appropriate criterion to show any improvement in the students' ability to produce complex sentences.

A coding system was developed to ascertain reliability. Four independent raters individually coded the data and their levels of agreement were calculated for the eight measures, using Cohen's Kappa Coefficient. The results are presented in Table 2.

**Table 2:** Levels of Agreement between Raters

| Dimensions | Measures | Kappa agreement values |
|---|---|---|
| Accuracy | Percentage of error-free clauses | 1.000 |
| | Target-like use of verb tenses | 1.000 |
| | Target-like use of plurals | 0.833 |
| Fluency | Number of words per minute | 1.000 |
| | Number of pauses per minute | 0.839 |
| Complexity | Amount of clausal subordination | 0.808 |
| | Frequency of use of conjunctions | 1.000 |
| | Frequency of use of prepositions | 1.000 |

(Source: Bava Harji, Gheitanchian & Letchumanan, 2014)

As seen in Table 2, the interpretation of Kappa (Viera et al., 2005) shows that the levels of agreement among four raters were considered "very good". SPSS 16.0 was used for the statistical analysis of the coded data.

**RESULTS**

The multivariate statistical analysis was conducted for the eight measures. In addition the Duncan Multiple range test, followed by MANOVA repeated measure were run to examine the effects of the treatment tasks on the accuracy, fluency and complexity of the students' oral EFL production. The results of the data analysis are presented in answer to each of the research question.

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**Research Question 1:** What are the effects of MMTBLT approach, using varying levels of task complexity, on the accuracy of the students' oral EFL production, particularly in terms of:

d) percentage of error-free clauses?
e) target-like use of verb tenses?
f) target-like use of plurals?

**Percentage of Error-free Clauses**

Table 3 presents the results of the effects of the treatment tasks on the students' oral production, in terms of *percentage of error-free clauses*.

**Table 3:** Duncan Multiple Range test results for error-free clauses

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-treatment | | 57 | .0693 | | | |
| 1 | simple | 57 | | .2068 | | |
| 2 | +complex | 57 | | | .2567 | |
| 3 | ++complex | 57 | | | | .3324 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

As we can see in Table 3, the accuracy of students' oral production, in terms of the percentage of *error-free clauses* improved as a result of the treatment of varying levels of task complexity. Before the treatment, a mean score of less than .07 was recorded, but as the students underwent the three treatments of *simple*, *+complex* and *++complex* tasks, the mean scores gradual increased by approximately 0.14 ($M$=0.2068) after treatment 1, by 0.0499 ($M_2$=0.2567) and 0.0757 ($M_3$=0.3324) respectively after treatments 2 and 3. A significant difference in the mean scores was recorded after each treatment.

**Target-like use of Verb Tenses**

The results of the Duncan Multiple range test for the sub-measure of *target-like use of verb tenses* are presented in Table 4.

**Table 4:** Duncan Multiple Range test results for target-like use of verb tenses

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-Treatment | | 57 | 1.3158 | | | |
| 1 | simple | 57 | | 3.9298 | | |
| 2 | +complex | 57 | | | 4.9474 | |
| 3 | ++complex | 57 | | | | 6.4561 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

Similar to the improvement in the students' ability to produce error free clauses, an improvement was also seen in their ability to produce *target like use of verb tenses*. The effects of the treatments were obvious with the onset of the very first treatment of simple tasks, i.e. a mean score of approximately 4 ($MD$=2.614). The students continued to improve in their production of *target-like use of verb tenses* after the second and third phases of the study. A mean difference of 5.1403 was found between the pre- and post-third treatment of ++ complex task. The increase in mean scores throughout the treatments was once again found to be significant.

**Target-like Use of Plurals**

Table 5 presents the results of the students' oral production of *target-like use of plurals* in their oral presentations.

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**Table 5:** Duncan Multiple Range test results for target-like use of plurals

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-Treatment | | 57 | .9123 | | | |
| 1 | simple | 57 | | 3.1754 | | |
| 2 | +complex | 57 | | | 3.7895 | |
| 3 | ++complex | 57 | | | | 5.6848 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

Once again a significant difference is found in the mean scores before and after the first phase of treatment ($M_0$=0.9123<$M_2$=3.1754; *MD*=2.2417). Albeit, the improvement in producing *target-like use of plurals* was more obvious after the third treatment of ++complex task ($M_3$=5.6848) than after the second treatment. A more gradual improvement was after the first treatment. A mean difference of approximately 5 points (*MD*=4.8) was found between pre- and post-treatments.

**Research Question 2:** What are the effects of MMTBLT approach, using varying levels of task complexity, on the accuracy of the students' oral EFL production, particularly in terms of:

c) number of words per 90 seconds?

d) number of pauses per 90 second?

**Number of words per 90 seconds**

The results of the Duncan Multiple range test in Table 6 show that there was a significant progress in the students' ability to use the words they had acquired during the course of the study.

**Table 6:** Duncan Multiple Range test results for number of words per 90 seconds

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-Treatment | | 57 | 13.4035 | | | |
| 1 | simple | 57 | | 23.7368 | | |
| 2 | +complex | 57 | | | 37.4386 | |
| 3 | ++complex | 57 | | | | 60.8596 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

The rising trends in the mean scores depicts the effects of the treatments on the fluency of the students' oral production, i.e. they were able to utter more English words. With increased levels of task complexity, i.e. from simple to ++ complex tasks, the students displayed evidence of improved vocabulary and increased number of words produced after each phase of treatments. A rather wide mean difference of 47.46 was recorded between the pre- and third treatments. Hence, it is obvious that the effects of the treatments were significant in enabling the students to produce more words per 90 seconds during their oral presentations.

**Number of pauses per 90 seconds**

As the students' ability to produce more words increased as seen earlier, they also displayed increased levels of confidence. As seen in Table 7, the mean scores for number of pauses (more than 2-3 seconds) counted in 90 seconds reflected a descending trend throughout the study.

**Table 7:** Duncan Multiple Range test results for number of pauses per 90 seconds

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-Treatment | | 57 | 7.1404 | | | |
| 1 | simple | 57 | | 6.6140 | | |
| 2 | +complex | 57 | | | 3.7895 | |
| 3 | ++complex | 57 | | | | 2.6316 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

With the treatment of the varying levels of tasks and with their ability to produce more words, the students began to display more confidence. They were less hesitant and therefore consequently were gradually making less pauses which is reflected in the decline of the *number of pauses per 90 seconds*. The students initially paused

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more often during the pre-test (*M*=7.1404), however, after the ++ complex task treatment, a significant difference in means scores (*MD*=4.51) is apparent.

**Research Question 3:** What are the effects of MMTBLT approach, using varying levels of task complexity, on the complexity of students' oral EFL production, particularly in terms of:

d) amount of clausal subordination?
e) frequency of use of conjunctions?
f) frequency of use of prepositions?

**Amount of Clausal Subordination**

Table 8 presents mean scores for the number *of clausal subordination* the students produced during their oral presentations. The improvement was clearly significant.

**Table 8:** Duncan Multiple Range test results for amount of clausal subordination

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-Treatment | | 57 | 2.000 | | | |
| 1 | simple | 57 | | 5.4912 | | |
| 2 | +complex | 57 | | | 6.9298 | |
| 3 | ++complex | 57 | | | | 11.1754 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

The students' ability to produce more complex oral production was clearly once again evident in the study. They recorded a gradual increase in mean scores throughout the treatments. The students' ability to produce clausal subordination increased significantly after the very first treatment of simple tasks (*MD*=3.5). An even greater increase was found after the third treatment ($M_0$- $M_3$=9.1754).

**Frequency of Use of Conjunctions**

The students' *frequency of use of conjunctions* was also found to increase as a result of the treatments, albeit the increase was more gradual after the first treatment phase.

**Table 9:** Duncan Multiple Range test results for frequency of use of conjunctions

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-treatment | | 57 | .1228 | | | |
| 1 | simple | 57 | | .2982 | | |
| 2 | +complex | 57 | | | 1.2807 | |
| 3 | ++complex | 57 | | | | 6.1228 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

The students were using more *conjunctions* after the treatment of ++ complex task than after the treatments of simple and +complex tasks. This is seen in the wider difference in mean scores between the pre- and post-third treatments ($M_{0=}$.1228; $M_{3=}$6.1228; *MD*=6), than between the first and second treatments ($M_1$=0.2982; $M_2$=1.2807; *MD* = .9825).

**Frequency of Use of Prepositions**

Table 10 presents the mean scores for the *frequency of use of prepositions*. Similar to the other measures, significant differences were found after each phase of the treatments.

**Table 10:** Duncan Multiple Range test results for frequency of use of prepositions

| Treatment Phases | Types of Treatment Tasks | N | Subsets | | | |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| Pre-Treatment | | 57 | .1579 | | | |
| 1 | simple | 57 | | .3158 | | |
| 2 | +complex | 57 | | | .5789 | |
| 3 | ++complex | 57 | | | | 4.3509 |
| Sig. | | | 1.000 | 1.000 | 1.000 | 1.000 |

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The students appeared to take a longer time to be more confident to frequently use prepositions. As seen in Table 10, mean scores of less than 1 point were recorded after treatments 1 and 2. The students were using prepositions less frequently in these two phases. However, a significant improvement in mean scores was found after performing ++ complex tasks. They clearly were using *of prepositions* more frequently ($M_0$-$M_3$=4.1930).

## CONCLUSION

The findings of this study clearly showed positive effects of the MMTBLT approach on the students' oral production. The students were able to produce more accurate, more fluent, and more complex language output within 16 weeks of treatments. Increasing the degree of complexity of tasks along resource-directing dimension and using a web-based multimedia platform as a means of the MMTBLT approach resulted in improved levels of oral EFL productions. A closer examination of the results found that, albeit, significant improvements were found in the accuracy, fluency and complexity of the students' oral production between the pre- and post-tests, improvements were obvious in the production accuracy of *target-like use of verb tenses* (*MD*=5.14) and *target-like use of plurals* (*MD*=4.77) compared to *percentage of error-free clauses* (*MD*=0.26). The increase in the *number of word per 90 seconds* (*MD*=47.46) and the decrease in *number of pauses per 90 seconds* (*MD*=4.50) affirmed the students' improvement in their fluency of their foreign language. As for the production of complex sentences, the increase is greater for the *amount of clausal subordination* (*MD*=9.17), followed by the *frequency of use of conjunctions* (*MD*=6.0) and the *frequency of use of prepositions* (*MD*=4.19). In comparison, of the eight measures, the most obvious improvements were in the *number of words produced per 90 seconds*, followed by the *amount of clausal subordination.* However, relatively lesser levels of improvements were found in the students' ability to use *prepositions* and produce *error free clauses.*

The results of this study partially support Robinson's Cognitive Hypothesis as increased degree of task complexity along resource-directing dimension improved all three dimensions of the students' EFL oral production, particularly in the measures examined in this study. The results, which was conducted in an EFL context affirms the flexibility of the TBLT approach. The results were consistent with what Ellis (2009) mentioned as one of the strengths of this approach, i.e., meaning is prioritised over form. This study had extended the TBLT approach by imbuing MT into TBLT and found that the web-based multimedia platform aided in creating a causal link between the real world language use and an EFL learning environment that clearly attributed to improved oral production.

With positive outcomes in favour of MMTBLT, EFL instructors could consider MT imbued TBLT approach and design web-based syllabus to complement the language teaching delivery. Real world events can be manipulated into tasks can also aid in sustaining students' interest as well as motivating them to learn FL.

## REFERENCES

Almudibri, K. (2012). The Effectiveness of a CALL Multimedia Classroom on EFL Learners' Achievements, Attitudes and the Word Solving Strategies' Frequencies and the Perceptions of Helpfulness, when Compared with Learners in Traditional Classrooms: A Quasi-Experimental Study. Doctoral thesis, Durham University.

Bava Harji, M., Woods, P.C., Zhinoos Kamal Alavi, M (2010). The Effect of Viewing Subtitled Videos on Vocabulary Learning. *Journal of College Teaching & Learning, 7*(9). 37-42.

Bava Harji, M., Gheitanchian, M., & Letchumanan, K. (2014). The Effects of Multimedia Task-Based Language Teaching on EFL Learners' Oral EFL Production. *English Language Teaching*, *7*(4). 11-24).

Boyer, T., Briggeman, B., and Norwood, B. (2009). Demand for Multimedia in the Classroom. *Journal of Agricultural and Applied Economics*. *41*(3):791-808. doi: 10.1017/S1074070800003229.

Bygate, M., Skehan, P. & Swain, M. (2001). *Researching Pedagogical Tasks: Second Language Learning, Teaching and Testing*. Harlow: Longman.

Dembovskaya, S. B. (2009). *Task-Based Instruction: The Effect of Motivational and Cognitive Pre-Tasks on Second Language Oral French Production*. PhD dissertation, University of Iowa. Retrieved February 2012 from http://ir.uiowa.edu/etd/231/.

Ellis, R. (2003). *Task-Based Language Learning and Teaching*. Oxford: Oxford University Press.

Ellis, R. & Shintani, N. (2013). *Exploring Language Pedagogy through Second Language Acquisition Research*. Routledge. NY.

Foster, P. & Skehan, P. (1996). The Influence of Planning and Task Type on Second Language Performance. *Studies in Second Language Acquisition*, 18. 299-323.

Foster, P. & Skehan, P. (1999). The Influence of Planning and Focus on Planning on Task-Based Performance. *Language Teaching Research*, *3*(3). 215-247.

Lee, J. (2000). *Tasks and Communicating in Language Classroom*. Boston: McGraw Hills. Global Education Holdings.

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Li, G. & Ni, X. (2013). Effects of a Technology-Enriched, Task-Based Language Teaching Curriculum on Chinese Elementary Students' Achievement in English as a Foreign Language. *International Journal of Computer-*
*Assisted Language Learning and Teaching*, *3*(1), 33-49.
Madhubala, B. H., Zhinoos K. A. & Krishnaveni L. (2014). Captioned Instructional Video: Effects on Content Comprehension, Vocabulary Acquisition and Language Proficiency. *English Language Teaching*, *7*(5); 2014.
Malicka, A. & Levkina, M. (2012). Measuring Task Complexity: Does EFL Proficiency Matter? In A. Shehadeh & C. Coombe (Eds.). *Task-Based Language Teaching in Foreign Language Contexts: Research and Implementation*. Amsterdam: John Benjamins.
Mehnert, U. (1998). The Effects of Different Lengths of Time for Planning on Second Language Performance. *Studies in Second Language Acquisition, 20*. 83-108.
Neo, M. & Neo, T.K. (2009). Engaging Students in Multimedia-Mediated Constructivist Learning-Students' Perceptions. *Journal of Educational Technology and Society 12*(2), 192-233.
Nunan, D. (2004). *Task-Based Language Teaching*. Cambridge: Cambridge University Press.
Nunan, D. (2013). *Learner-Centered Language Education: The Selected Work of David Nunan*. Routledge. NY.
Ortega, L. (2009, September 13-16). Task and Technology in Language Learning: Elective Affinities and (dis) ecounters. Plenary Delivered at the 3rd International Task-Based Language Teaching Conference. Lancaster, UK.
Robinson, P. (2001a). Task Complexity, Task Difficulty and Task Production: Exploring Interactions in a Componential Framework. *Applied Linguistics, 22*(1). 27-57.
Robinson, P. (2001b). Task Complexity, Cognitive Resources, and Syllabus Design: A Triadic Framework for Examining Task Influences on SLA. In P. Robinson (Ed.), C*ognition and Second Language Instruction* 285-316. Cambridge: Cambridge University Press.
Robinson, P. (2003). Attention and Memory during SLA. In Doughty, C. & Long, M. (eds), *The Handbook of Second Language Acquisition*, pp.631-78. Molden, MA; Blackwell.
Robinson, P. (2005). Cognitive complexity and Task Sequencing: A Review of Studies in a Componential Framework for Second Language Task Design. *International Review of Applied Linguistics in Language Teachi*ng. *43*(1). 1-33.
Robinson, P. (2007). Task Complexity, Theory of Mind and Intentional Reasoning: Effects on EFL Speech Production, Interaction, Uptake and Perceptions of Task Difficulty. *IRAL, 45*, 193-213.
Robinson, P. & Gilabert, R. (2013). Task-Based Learning: Cognitive Underpinnings. In Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Blackwell Publishing Ltd.
Saville-Troike, M. (2012). *Introducing Second Language Acquisition*. Cambridge: Cambridge University Press.
Skehan, P. (1996). A Framework for the Implementation of Task-Based Instruction. *Applied Linguistics*, *17*(1), 38-62.
Skehan, P. (1998). *A Cognitive Approach to Language Learning*. Oxford: Oxford University Press.
Skehan, P. & Foster, P. (1997). Task Type and Task Processing Conditions as Influences on Foreign Language Performance. *Language Teaching Research. 1*(3).185-211.
Schmidt, R. (1992). Psychological Mechanisms Underlying Second Language Fluency. *Studies in Second Language*
*Acquisition. 14*. 357-85.
Spilsbury, G., Stankov, L. & Roberts, R. (1990). The Effects of Task's Difficulty on its Correlation with Intelligence, Personality and Individual Differences, 11, 1069-1077.
Tsai, S.C (2011). Multimedia Courseware Development for World Heritage Sites and Its Trial Integration into Instruction in Higher Technical Education. *Australasian Journal of Educational Technology*, 27(7), 1171-1189. Retrieved January 2012 from https://ajet.org.au/index.php/AJET/article/view/911/188
Van den Branden (ed.), *Task-Based Language Education, from Theory to Practice*. Cambridge: Cambridge University Press.
Van den Branden, K., Bygate, M., & Norris, J. M. (2009). *Task-Based Language Teaching*. John Benjamins B.V. USA.
Willis, D. & Willis, J. (2007). *Doing Task-based Teaching*. Oxford: Oxford University Press.
Yuan, F. & Ellis, R. (2003). The Effects of Pre-Task Planning and On-Line Planning on Fluency, Complexity and Accuracy in Oral EFL oral production. *Applied Linguistics*. *24*(1), 1-27.

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