Investigating the Use of Interactive Whiteboards During the Pre-Task Phase of Speaking Tasks in the Secondary English Classroom

Zöe Handley*

Department of Education, University of York, Heslington, York, UK

Abstract. Working within a task-based approach to the teaching of speaking, two interactive whiteboard-based pre-task activities focusing on different phases of the speech production process (Levelt, 1989) were developed and compared with an activity based on the speaking activities currently offered in English as a foreign language course books. The first activity, *Dialogue Expansion*, was based on expansion drills/back-chaining (Larsen-Freeman & Anderson, 2011) and intended to focus on articulation. The second, *Dialogue Reconstruction*, was based on total text reconstruction activities, e.g., *Storyboard* (Levy, 1997), and intended to focus on formulation. The comparison focused on their impact on the quality (fluency and accuracy) of students' oral productions in follow-up dialogue activities. Three classes of 12-13 year old Spanish learners of English participated in the study which had a within-participants design. The independent variable was the pre-task activities. The dependent variables were the (1) fluency, and (2) accuracy of the language produced during follow-up dialogue tasks. The activities developed in this study had a differential impact on both fluency and accuracy, with the Dialogue Expansion activities promoting accuracy and the Dialogue Reconstruction activities promoting fluency. This evidence corroborates previous research which suggests that the focus of pre-task activities has an impact on the quality of language that students produce during the task cycle and demonstrates that teacher-fronted interactive whiteboard activities can play a role in a task-based approach to language teaching.

Keywords: interactive whiteboard, speaking, task-based language learning, English, secondary.

1. Introduction

It is estimated that one in six classrooms Worldwide are now equipped with an interactive whiteboard (IWB; Matthews-Aydinli & Elaziz, 2010). A recent systematic review of

* Contact author: zoe.handley@york.ac.uk

empirical research on the use of new technologies in primary and secondary English as a Foreign Language (EFL) classes, however, found few studies investigating IWBs (Macaro, Handley, & Walter, 2012). Moreover, none of these studies are grounded in second language acquisition theory and research or best practice in language learning and teaching.

Spain is one of the countries currently investing in IWBs (Alvarez, 2011). At the same time, an oral component has been added to the English tests which form part of Spanish university entrance examinations (Alastrué & Pérez-Llantada, 2010; Payne, 2009). Working within this context, the study reported here investigates the possibility of developing theoretically-grounded IWB activities to support the development of speaking skills.

2. Pre-task speaking activities for IWBs

The activities developed in this project were based on a task-based approach to language teaching and Levelt's (1989) model of speech production. Task-based language teaching (TBLT; Ellis, 2003) was adopted because, unlike the approach commonly adopted in EFL course books which involve students writing and then performing a dialogue, it has the potential to engage students in the full range of processes involved in speaking, namely conceptualization, formulation and articulation (Levelt, 1989).

Building on research which suggests that IWBs are well-suited to teacher-fronted presentations (Higgins, Beauchamp, & Miller, 2007), IWB activities were developed for use during the pre-task phase of task-based lessons (Harmer, 2001). Following research by Sangarun (2001) which found that the focus of pre-task activities (language, content or both) had an impact on the quality of students' productions during speaking tasks, these activities were designed to focus on the different processes involved in speaking (see Levelt, 1989). The activities which were developed, namely *Dialogue Expansion* and *Dialogue Reconstruction*, and the control activity, *Dialogue Completion*, are described below.

2.1. Dialogue completion

Dialogue Completion activities (henceforth Completion activities) are similar to the speaking activities that are currently offered in students' course books. In the first part of these activities, students listen to a dialogue and answer a question related to it. They are then presented a transcript of the dialogue and are asked to check their answer against it. In the second part, students write their own dialogue based on an outline comprising just the content words and then perform the dialogue with a partner.

2.2. Dialogue expansion

Dialogue Expansion activities (henceforth Expansion activities) focus on articulation. The first part of these activities is the same as that of the Completion activities.

The second part implements expansion drills or back-chaining (Larsen-Freeman & Anderson, 2011) and students are asked to repeat the utterance, or constituent thereof, highlighted in bold on the screen, after their teacher.

2.3. Dialogue reconstruction

Dialogue Reconstruction activities (henceforth Reconstruction activities) focus on formulation. The first part of these activities is similar to that of the Completion and Expansion activities. However, students are not presented a transcript of the dialogue against which to check their answer. They are presented the dialogue transcript in the form of a total text reconstruction activity like *Storyboard* (Levy, 1997).

3. An investigation of IWB-based pre-speaking activities

Following previous research on TBLT, the main research question which guided this research was:

- Does the quality (fluency and accuracy) of the language that students produce during *Dialogue Restoration* activities depend on the way in which the language required to complete the task has been presented in pre-task activities?

3.1. Method

A convenience sample which comprised three first grade secondary school classes of Spanish EFL students from two schools in Madrid was used in this study. One class (Class A) was recruited from a private school in the suburbs and the two other classes (Class B and Class C) were recruited from a publicly funded but privately managed school in the city centre. The classes differed in English language proficiency, with Class A having the highest level of proficiency and Class C the lowest according to the cloze task and vocabulary test administered at the start of the study (see Table 1 below).

Table 1. Results of vocabulary test and cloze task for each class

		Class A	Class B	Class C
Vocabulary test	*M*	28.25	27.09	22.21
	SD	1.14	2.04	2.93
Cloze task	*M*	38.57	29.22	16.33
	SD	4.31	6.95	3.92

The independent variable was the pre-task activities. The dependent variables were the fluency (pruned syllables per minute, i.e., repetitions and reformulations were omitted from the syllable count; Ellis, 2009), and accuracy (percentage of error-free clauses; *ibid.*) of the language produced during the tasks. Language proficiency was investigated as a covariate through the administration of a vocabulary test and a cloze task.

The students participated in seven twenty-minute sessions. In the first session the proficiency tests were administered. In the remaining sessions, the students participated in an IWB pre-speaking activity followed by a Dialogue Restoration activity (henceforth Restoration activity) based on the same topic. The Restoration activities were based on the approach described by Brooks (1964); students were provided with the outline of a similar dialogue to the one they had listened to in the IWB pre-speaking activity comprising just the content words and asked to record themselves performing the complete dialogue with a partner. The order of presentation of the activities was counterbalanced across classes to mitigate any potential order effects.

4. Results

The fluency and accuracy data were each submitted to a one-way independent ANCOVA with task as a between-participants factor* and scores on the vocabulary test and the cloze task as covariates.

These analyses suggested that scores on the cloze task were significantly related to the fluency of students' oral productions in the follow-up Restoration activities ($F(1, 92) = 5.148$, $p < .001$, $r = .43$) and that there was a significant effect of pre-task IWB activity after controlling for performance on the cloze task ($F(2, 92) = 3.298$, $p = .002$, partial $\eta^2 = .13$). Planned contrasts found that students produced significantly more syllables per second following the Reconstruction activities ($M = 2.65$) than following the Completion activities ($M = 2.29$; $t(92) = 2.849$, $p = .005$, $r = .38$), but no differences in fluency between the Expansion ($M = 2.20$) and Completion activities ($t(92) = -.533$, $p = .596$, $r = .06$).

The analyses also suggested that the scores on the cloze task were significantly related to the accuracy of the students' production in the Restoration activities ($F(1, 92) = 31.248$, $p < .001$, $r = .50$) and that there was a significant effect of pre-task IWB activity after controlling for performance on the cloze task ($F(2, 92) = 151.318$, $p = .001$, partial $\eta^2 = .77$). Planned contrasts found that the accuracy of students' productions was significantly higher following an Expansion activity ($M = 84.50$) than following a Completion activity ($M = 70.47$; $t(92) = 4.181$, $p < .001$, $r = .40$), which in turn was significantly higher than following a Reconstruction activity ($M = 27.57$; $t(92) = -12.320$, $p < .001$, $r = .79$).

5. Discussion

These results suggest that focusing on different phases of the speech production process has a differential impact on both fluency and accuracy. Specifically, focusing

---

* The students did not work with the same partner in every session.

on formulation, as in the Reconstruction activities, promotes fluency and focusing on articulation, as in the Expansion activities, promotes accuracy.

The beneficial impact of Reconstruction activities on fluency might be explained by the fact that focusing on formulation frees up resources for later processes and articulation (Ellis, 2003). The absence of a beneficial effect of Expansion activities on fluency, on the other hand, is surprising given their focus on articulation which promotes the use of formulaic language. It might be explained by hesitations between prefabricated phrases. An analysis of patterns of hesitation is required to explore this possibility.

The beneficial effect of Expansion activities on accuracy might be explained by the fact that focusing on accuracy promotes the use of formulaic language, while the decrease in accuracy observed following the Reconstruction activities might be explained by the fact that focusing on formulation promotes complexity and the trade-off between accuracy and complexity observed in previous research (Ellis, 2003).

6. Conclusion

Two IWB-based pre-task activities focusing on different phases of the speech production process were developed and compared with the speaking activities currently offered in EFL course books. This comparison which focused on the quality of students' oral productions in follow-up dialogue Restoration activities in terms of fluency and accuracy supports the findings of previous research which suggests that that the focus of pre-task activities has an impact on the quality of language that students produce during the task cycle and demonstrates that teacher-fronted IWB activities can play a role in TBLT.

References

Alastrué, R. P., & Pérez-Llantada, C. (2010). A longitudinal attitude survey of English oral skills: Classroom, curriculum, learning and pedagogy implications. *Revista de Humanidades, 16*, 309-326.

Alvarez, P. (2011). Más de 280. 000 alumnos frente a una pizarra digital. *El País*. 14/02/11. Retrieved from http://elpais.com/diario/2011/02/14/educacion/1297638002_850215.html

Brooks, N. (1964). *Language and Language Learning: Theory and Practice* (2nd ed.) New York: Holt.

Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.

Ellis, R. (2009). The Differential Effects of Three Types of Task Planning on the Fluency, Complexity, and Accuracy in L2 Oral Production. *Applied Linguistics, 30*(4), 474-509. doi: 10.1093/applin/amp042

Harmer, J. (2001). *The practice of English language teaching.* Harlow, Essex: Longman.

Higgins, S., Beauchamp, G., & Miller, D. (2007). Reviewing the literature on interactive whiteboards. *Learning, Media and Technology, 32*(3), 213-225.

Larsen-Freeman, D., & Anderson, M. (2011). *Techniques and principles in language teaching.* Oxford: Oxford University Press.

Levelt, M. J. W. (1989). *Speaking from intention to articulation.* Cambridge, Massachusetts: MIT Press.

Levy, M. (1997). *Computer-assisted language learning: Context and conceptualisation.* Oxford: Clarendon Press.

Macaro, E., Handley, Z., & Walter, C. (2012). A systematic review of CALL in English as a second or foreign language: Focus on primary and secondary education. *Language Teaching, 45*(1), 1-43. doi:10.1017/S0261444811000395

Matthews-Aydinli, J., & Elaziz, F. (2010). Turkish students' and teachers' attitudes toward the use of interactive whiteboards in EFL classrooms. *Computer Assisted Language Learning, 23*(3), 235-252. doi: 10.1080/09588221003776781

Payne, C. (2009). Schools of thought. *English Teaching Professional, 63*(July), 4-5.

Sangarun, J. (2001). *The effects of pre-task planning on foreign language performance.* Unpublished doctoral thesis, University of Toronto, Canada.