

Article Review

Tellier, M. (2008). The effect of gestures on second language memorization by young children. *Gestures in language development*

Tellier, M. (2005). How do teacher's gestures help young children in second language acquisition? *International Society of Gesture Studies*

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Abstract

This article tries to review two related articles written by Tellier (2005) and (2008). Tellier in both articles tries to show the impact of gesture, especially reproduction of gesture, on memorization of words. Tellier (2005) works on the impact of teaching gestures on short-term memorization of first language words by young children of about five years of age. Three groups of students participated in the study. Participants in the first group had to listen to the words and try to recall them; but students in the second group had to repeat the words and look at the gestures; and in the last group, participants had to repeat the words and reproduce the gestures. Results show that children who reproduced the gestures could memorize words better than those in the control and comparison group. On the other hand, Tellier (2008) examines the impact of gesture -motor modality- on long-term memorization of second language words by young children of about five years of age. She compares two groups of young children; words in the first group were taught with pictures and in the second group with accompanying gestures. Students in the first group had to look at the pictures and repeat the words, while students in the second group had to repeat the words and reproduce gestures. Results of the study show that gestures and especially their reproduction influence memorization of second language words. Tellier, in both articles, come to the conclusion that reproduction of gestures has positive influence on memorizing words.

Keywords: gesture, motor modality, long-term memorization, short-term memorization, reproduction

INTRODUCTION

The present study aims at comparing two experimental researches done by Marion Tellier (2005) and (2008). In both articles, Tellier emphasizes the crucial role of gestures on language learning and memorization. Tellier believes that teachers use gestures in classes to support not only the learners' comprehension, but also their memorization process. Tellier supports the idea by stating the fact that even in daily conversation people use gestures and words together in order to make the conversation more clear and understandable.

Tellier, in both articles, determines three main roles for teaching gestures: management of the class, evaluation of students' mistakes, and explanation of new vocabulary, syntax, etc. The third role is the focus of both articles.

Research questions in Tellier's study (2005) clearly indicate that the researcher attempts to investigate the impact of repetition, repetition associated with visualization of illustrative gestures, and repetition associated with reproduction of illustrative gestures on vocabulary short-term memorization; and also the impact of the results on second language teaching. On the other hand, Tellier (2008) also attempts to examine the impact of simply seeing pictures versus seeing and reproducing gestures on long-term memorization of vocabulary.

While the main issues discussed in the introductory part in both articles are nearly the same, it is very short and truncated in Tellier's (2005), but long and detailed in Tellier's (2008). Tellier (2008) goes into more details and divides the introduction into three parts: First, the effect of gesture on second language memorization by young children, in which the author talks about multimodality and memorization. The author elaborates how the co-occurrence of several modalities (multimodality) can reinforce memorization. That is, when both verbal and non-verbal modalities co-occur, learning is reinforced. The author believes in the positive impact of enactment encoding on memorization. That is, "enactment adds something to the memory trace of the event; it makes the trace richer, and consequently easier to find at recall" (p.3). Second, the effect of gestures on short term memorization in learners' first language. Third, the effect of gesture on memorization in learners' second language. At these two final parts, Tellier (2008) clearly explains the previous studies done by other researchers. In all cases, gestures show positive effect on memorization. In fact, Tellier (2005) and (2008) clearly explain how the results of previous studies on the impact of gestures (Cohen and Otterbein, 1992; Linda Quinn Allen, 1995; Moreno & Mayer, 2000; Nyberg, Persson & Nilsson, 2002; Feyereisen, 1998) were consistent with the result of the present studies.

METHODOLOGY

Participants

Tellier (2005) has worked on 42 French children from the same school. The age mean was 5 years 9 months old, and the range was 5 years 3 months old to 6 years 3 months old. They were divided into 3 groups of 14 children: a control group, a comparison group and an experimental group.

Tellier (2008) has also done the research with French children. Twenty French children took part in the experiment (age range 4;11-5;10, M 5;5, SD 3 months). They were divided randomly into two groups of 10; the first group was 'picture group' and the second one was 'gesture group'. All the participants were monolingual (French native speakers), none of them knew English.

Neither Tellier (2005) nor (2008) has conducted a pretest or placement test to make sure of the homogeneity of the participants. Tellier (2005) just mentions that students were from the same school.

Materials

Concerning the materials, Tellier (2005) mentions that two lists of 10 French words were chosen based on everyday vocabulary which were built on the same pattern: a fruit, a drink, etc.

Tellier (2008) indicates that the lexical items chosen were common words for children likely to be taught in a second language course by French Official instructions (Ministère de la Jeunesse, de l'Éducation Nationale et de la Recherche, 2002). On the other hand, gestures were also selected from recordings of English lessons to young French children.

Procedure

Tellier (2005) tries to investigate the impact of gestures or iconic movements on first language vocabulary memorization. Participants in the study had to memorize some familiar words in their first language which were recorded on a video tape. Participants in the first group had to listen to the words and try to recall them, but students in the second group had to repeat the words and look at the gestures; in the last group, participants had to repeat the words and reproduce the gestures. The researcher emphasizes that in this study students had to work on words they were familiar with in order to assess the real effect of gestures on short-term memory. Tellier (2008) also investigates the effect of gesture on second language vocabulary memorization. She compares two groups of young children; words in the first group were taught with pictures and in the second group with accompanying gestures. Students in the first group had to look at the pictures and repeat the words, while students in the second group had to repeat the words and reproduce gestures.

The procedure is described clearly and in great details in both articles. Thus, while Tellier's research (2005) involves children memorizing words in their first language and on a short-term memorization basis, Tellier's research (2008) focuses on children memorizing words in a foreign language and on a long-term memorization basis. In both articles, Tellier has made use of some tables and pictures to show the procedure more clearly. They really contribute to clarifying the procedure.

RESULTS

Both Tellier (2005) and (2008) clearly define the procedure to reach the results. Concerning the mean, analysis of variance, and impaired t-test of the three groups for

videos 1 and 2, Tellier (2005) indicates that neither repetition nor visualization of gesture has any effect on short term memorization; while reproduction of gesture has significant impact on learners' short term memorization.

On the other hand, Tellier (2008) has conducted three kinds of assessment. The first one was used to measure the participants' passive knowledge of the vocabularies in which the participants of 'the picture group' had to select among a limited number of pictures, whereas the participants in 'the gesture group' had to remember the gestures. After estimating the mean (3; 3.1) and standard deviation (1.3; 1.4) of the scores, the equality of the performance in both groups was revealed. An independent samples t-test (x) has also showed that the difference was not significant.

The second assessment was used to assess the active knowledge of the vocabularies in which the participants had to produce or name the English words. The mean scores (2.6; 3.7) and standard deviations (1.17; 1.16) were computed; and the results of the second assessment revealed that the gesture group outperformed the picture group ($t(18) = -2.108$; $p < .0493$).

The aim of the third assessment, which was administered one week after the treatment, was to measure the effect of the new techniques on learners' long term memorization. The computed mean scores and standard deviations again showed that the participants of the gesture group outperformed those of the picture group. Moreover, an independent samples t-test also revealed that the difference was significant ($t = -2.433$, $p < .0256$; $t = -1.579$, $p < .1318$).

While Tellier (2008) has used tables and charts to make the results more understandable to the readers, Tellier (2005) has not shown the statistical information on any tables or charts. It is also worth mentioning that the number of participants in both researches was less than twenty in each group, but Tellier has not estimated 'the test of normality' to test the normality of the results.

DISCUSSION

Tellier's research (2008) is consistent with previous research findings (Engelkamp & Cohen, 1991; Cohen & Otterbein, 1992 and Nyberg et al., 2002) which have shown that when gestures act as a motor modality, they have a stronger impact on memorization. Therefore, involving the body in the learning process facilitates recall. Tellier (2008) also states what she has done is related to the memorization of vocabulary, while there may be some differences in memorizing verbs, syllabus patterns, etc., which can be good topics for further research.

Tellier (2008) mentions some limitations for the study: limited number of subjects, low scores obtained, and the amount of repetitions. The limitations in Tellier's research (2005) are first language acquisition and short term memory. That is, Tellier (2005) just predicts that working on a foreign language and long term memory does not make any changes in the result of the present research. But this seems to be only a claim which cannot be proved without doing some other researches.

Tellier (2005) has compared the findings of the study with that of Tellier's (2005a), the results of which was different from the present study in that children who had watched gestures did significantly better than those who had not. On the other hand, Tellier (2005) indicates that neither repetition nor visualization of gesture has any effect on short term memorization; while reproduction of gesture has significant impact on learners' short term memorization. As it is clear, the findings in the two studies are in contradiction. Tellier (2005) assumes that the difference between the two findings, Tellier's (2005) and (2005a), is due to the fact that children, in the previous study, did not have to repeat the words. As it was mentioned earlier, Tellier (2005) believes that repetition weakens the process of concentration and short term memorization. That is, when learners try to repeat the words out loud, they are not able to have enough concentration so they cannot easily memorize the words.

It is worth mentioning that the title of Tellier's article (2005) is "How do teacher's gestures help young children in second language acquisition"; while the method, procedure and results are all about learning and memorizing words in the first language. That is, there is a contradiction between the hypothesis and the results mentioned. It seems that Tellier (2005) could simply do the research on foreign language learners in order to come to the direct conclusion.

CONCLUSION

Tellier (2005) has come to the conclusion that teacher's gestures can have positive influence on foreign language vocabulary memorization. But she emphasizes that teachers should make sure that learners reproduce the gestures while repeating the words. Repetition and reproduction of gestures reinforce the trace of the words in memory. In other words, when learners try to reproduce a gesture, they have to pay more attention to the visualization of gestures and also to the words, so the repetition becomes more active.

Tellier (2008) emphasizes that the findings of her research not only support Paivio's Dual Coding Theory, which discusses that a verbal and a visual modality reinforce memorization, but it also go further and show that gestures leave an even richer trace in memory. That is, gestures- as a motor modality- can have great positive effect on memorization. To conclude, the findings in both Tellier's (2005) and (2008) support the positive influence of gesture reproduction in vocabulary memorization.

The design in both Tellier's articles is appropriate. Tellier in both articles tries to make readers familiar with the importance of gesture in teaching and learning. The procedure is fully explained step by step in both articles. Moreover, pictures and tables make the procedures more comprehensible. Tellier (2005) explains everything shortly, but precisely; while Tellier (2008) goes more into details and explains everything completely. Therefore, Tellier's article (2008) is felt to be easier to comprehend.

The only problem exists with Tellier's study (2005), in which the author has done a research on learner's first language acquisition, but in the conclusion she relates the result to the second language learning. She believes that if reproducing gestures enables

children to improve memorization in their first language, it will 'probably' have an impact on the memorization of second language lexicon. What she mentions is just an assumption, while it seems that further research is also needed to reach such a conclusion.

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