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THE EFFECTS OF LANGUAGE OF ASSESSMENT AND L2 READING PERFORMANCE ON ADVANCED READERS' RECALL

Cindy Brantmeier
cbrantme@wustl.edu

Abstract

The extent to which L2 reading comprehension of advanced language learners¹ is a function of language of recall task and/or former L2 reading performance has yet to be investigated. The present study examines how much variance in L2 comprehension, measured via written recall, is accounted for by the condition (L1 or L2) of assessment under which it is administered. It also considers prior L2 reading achievement as a predictor of comprehension with advanced learners. Participants were 106 learners enrolled in Advanced Spanish at the university. Initial results indicate that overall language of recall does not matter with learners from advanced levels of language instruction. Language of recall accounts for only 3% of variance in written recall. However, when advanced learners are further analyzed according to prior L2 reading achievement instead of level of instruction, there are significant differences in the quantity recalled by language. Readers recall better in their native language when L2 reading achievement is taken into account, with learners of lower L2 reading achievement performing better on L1 recalls than L2 recalls. Prior L2 reading performance accounts for 28% of variance in L2 written recall. This positive relationship holds important implications for research, and it may suggest that, with learners from advanced levels of language instruction, researchers should assess reading achievement before making a decision about language of assessment for comprehension.

Introduction

Research on L2 reading has considered a plethora of variables involved in the reading process, and most of this research has consists of participants from the beginning and intermediate levels of language instruction (Brantmeier, 2003a, 2003b; Carrell, 1981, 1983a, 1983b; Hudson, 1982; James, 1987; Johnson, 1981; Young & Oxford, 1997; Schueller, 2004). At this point little empirical research has investigated readers at the advanced levels of language instruction, and it is at this stage of acquisition where more L2 reading research is needed (Brantmeier, 2001; Young, 2003). As more researchers begin to focus on the advanced reader, one variable in question is the role of L1 and L2 in recall tasks. Language of questions has been a concern to test constructors, and for some time L2 reading researchers have recommended that the recall be written in the

¹ For the present study, advanced language learners are determined by instructional level using Lee's (1988) timeline. Advanced level students average approximately 700 class hours of exposure to the target language.

reader's native language in order to avoid a test of writing instead of reading (Alderson, 2000; Bernhardt, 1991; Lee & Ballman, 1987; Shohamy, 1984; Wolf, 1993).

With readers from beginning and intermediate levels of instruction, Lee (1986a) found that a native language written recall task yields more evidence of comprehension. His pioneering study held profound implications for research design. Lee categorized participants according to instructional level, and he also contended that future research should divide participants in relation to L2 reading level to gain further insights into this issue (p. 208). More recently Upton and Thompson (2001) included advanced language learners as part of their participant group in a study that considered language of task for reading assessment. They developed think-aloud protocols and found that with both intermediate and advanced learners the L1 plays a critical role in L2 reading tasks, and that for post ESL students (most advanced) the L1 was not nearly as important (p. 478). The present study, in part, addresses the question of whether advanced readers perform better on recalls written in the L1 or L2. To date, it appears that no direct comparison of recalls done in L1 versus those in L2 has been made with advanced learners. Results will hold important implications for future research design.

In the written recall task students are asked to read a text, and without looking back at the text, write down everything they can remember about what they just read. Bernhardt (1991) contends that the written recall is the purest measure of L2 reading comprehension. The written recall protocol does not influence a reader's understanding of the text as there is no tester interference and there are no retrieval cues provided. This protocol is a common procedure used in both L1 (Fitzgerald & Spiegel, 1983; Pearson & Camperell, 1981; Rand, 1984; Snyder & Downey, 1983) and L2 investigations (Bernhardt, 1983; Brantmeier, 2002; Carrell, 1983a; Lee, 1986a; Young & Oxford, 1997; and more). This investigation is motivated, in addition, by the dearth of investigations that involve advanced readers and the frequency that L2 reading researchers utilize the written recall protocol.

Language of Assessment: L1 and L2 Reading Research

L1 research concerning the recall protocol has considered a variety of variables involved in treatment questions for this procedure. For example, Coffman (1997) explores the influence of varying question treatments on the amount of information recalled and found no significant differences for any question treatments. Earlier, Shanahan (1986) and Fielding, Anderson, and Pearson (1989) reported similar results with no differences on recall between prediction questions and other question treatments. Fielding et al. (1989) used the oral recall procedure to study the influence of prediction questions on comprehension and found that students who were asked justification questions performed better. Clearly, L1 researchers do not have to contend with language of questions for the design of comprehension assessment tasks. Bernhardt (2005) explains how factors involved in L2 reading studies are more complicated than the set involved in L1 reading investigations, and one such variable is language of assessment.

Some prior L2 reading investigations on assessment tasks have investigated the importance of first or second language in test design. As long ago as 1930, Stroebe (1930) was aware that second language learners might comprehend more than they can produce at the early stages of acquisition. Unfortunately, it was not until several decades later that this assertion was revisited. Hock and Poh (1979) found significant effects for

language of assessment with ESL students in Malaysia. They suggested that questions written in the target language might have a debilitating effect on learners at early stages of acquisition. Shohamy (1984) echoes this concern and suggests that questions written in L1 are easier than in L2, and that L2 comprehension questions may not give researchers a true depiction of comprehension. She found that fixed response questions, such as multiple choice, were easier in the L1 than in L2. She reported the same finding for open-ended questions. She speculates that anxiety may be a factor that affects test-takers in this situation, and that low-level learners may be less anxious with L1 assessment tasks. She also suggests that L1 questions may be more authentic because low-level learners may think about questions of L2 texts in their L1 (native language). Uruhart & Weir (1998) and Alderson (2000) repeat these concerns and discuss the importance of first or second language in test design. Alderson (2000) asserts that the recall should be completed in the test taker's L1 because otherwise it becomes a test of writing instead of reading (p. 230), and most recently, Bernhardt (2005) reinforces this recommendation until learners reach the highest L2 proficiency/fluency levels. What, precisely, constitutes the highest L2 proficiency/fluency levels? Prior L2 reading research categorizes learners according to semesters of university level instruction. This categorization of seat time does not always equate to proficiency as many students are not at the highest levels of proficiency after several semesters/years of language study. In addition to level of language instruction, the present study also examines L2 reading achievement as measured via an online reading exam. It is important to note that the online exam is not proctored or given in a controlled environment. It is timed and the exam ends if the student takes too long to complete each section. Students are told they are not allowed to use dictionaries.

Lee (1986a) found that written recall of a text was significantly better when completed in L1 rather than L2. In his study a main effect was found for language of recall with students from both beginning and intermediate levels of Spanish. Students achieved higher written recall scores when writing in their native language than they did in the target language. Lee used an expository text about feudalism that contained approximately 253 words with first and second year students of Spanish. Lee stated that this grouping of participants did not reflect L2 reading levels, and that future research should take these factors into account. The present study utilizes longer passages with advanced learners, and it also considers prior L2 reading achievement in addition to L2 instructional levels.

Levels of Foreign Language Instruction

Generally, the first and second year L2 courses in Romance Language departments in the United States emphasize the development of speaking and listening skills. After this, the focus usually shifts to the development of reading and writing skills with culture and civilization as a major component. Students often read newspapers, magazines, and vignettes from history books, and they may write about what they read. In the advanced levels of language instruction learners begin to read complete, authentic texts. Consequently, the instructional practices shift from a focus on language skills to an emphasis on text analysis and interpretation, where the objective is to prepare students for the level of reading and writing required in the literature courses. In most universities students in the advanced language courses enroll because they choose to, not because they are obliged to take the course in order to fulfill general language requirements.

These courses are usually required for the major or minor. As stated earlier, more research is needed involving readers at the advanced levels of language instruction (Brantmeier, 2001; Young, 2003).

Contribution of L1 Reading to L2 Reading

Bernhardt and Kamil (1995) investigated whether L2 reading is a language problem or a reading problem. Results show that neither factor is completely reflective of the reading process as both variables are contributors. They state that the contribution of L1 reading performance must be considered when examining the L2 reading process. Bernhardt (2005) offers a synthesis of research that analyzes the contribution of L1 literacy and second language knowledge to L2 reading performance. Overall, the studies estimate the contribution of L1 reading to L2 reading to be between 14% and 21% (Bernhardt & Kamil, 1995; Bossers, 1991; Brisbois, 1995; Carrell, 1991). Bernhardt's (2000) model includes both L1 reading and L2 language as factors involved in the multivariate L2 reading process. Her model also underscores the need for more research across languages and levels that takes into account the contribution of L1 reading to L2 reading. The present investigation considers L1 reading achievement as a variable involved in the advanced reader's L2 reading process.

The Present Study

As researchers attempt to learn more about advanced L2 readers (Brantmeier, 2005a; 2005b; 2004) the role of L1 reading (Bernhardt, 2005) and L2 reading achievement (Lee, 1986a) should be explored. This study attempts to aid L2 reading researchers with assessment task design while taking into account both native and target language reading achievement. This investigation utilizes learners from advanced levels of language instruction, and it also divides these learners according to L1 and L2 reading achievement in order to examine performance on L1 and L2 written recalls. The following research questions guide the present investigation:

1. Are there significant differences in L1 or L2 recalls with learners from advanced levels of L2 language instruction?
2. When advanced learners are grouped according to former L2 reading performance, are there significant differences in the quantity recalled if the recalls are written in L1 or L2?

Participants

Participants were 106 students, ages 19-22, all enrolled in an advanced-level Spanish grammar and composition course at a private university in the Midwest. The seven sections of this third-year course were taught by different instructors, and this class serves as the first in a two-course sequence taken immediately before entering the literature courses. As part of the course students are assigned to read lengthy, authentic literary works from the literary canon. At the university where data were collected there is no language requirement, and therefore all students in the study enrolled in the course voluntarily.

Prior to enrolling in this course, all incoming freshmen completed an online written placement exam. The instrument, entitled the "Romance Languages and Literatures Online Placement Exam" (OPLE) is completed by freshmen during the

summer months prior to arrival at University X. The online placement exam is taken from any terminal at any time, and placement results are reported immediately upon completion of the exam. The OPLE tests grammar, vocabulary, listening, and reading and scores correspond to the appropriate level of language instruction. To ensure a homogeneous population of participants, only students with the following criteria were included in the final data analysis: (1) students who achieved the appropriate composite score on the OPLE (tested into Advanced Grammar and Composition) (2) students whose native language was English, and (3) students who completed all tasks for data collection. In the end, a total of 66 participants were included in final data analysis.²

Prior L2 Reading Achievement on OPLE

Scores on the reading section of the OPLE determined prior L2 reading achievement. This section contains 8 different vignettes of varying styles and lengths. The readings include excerpts about the daily lives of students, historical vignettes, a poem, personal narratives, and encyclopedia-like readings. Comprehension is measured via multiple choice items. For each of the multiple choice questions four possible responses were created: one correct response and three distractors. All distractors in the multiple choice questions were plausible (Alderson, 2000; Bernhardt, 1991; Wolf, 1993), and all were written in English. Some questions included inferential items as well. The maximum possible score for the reading section of the OPLE was 30.

L2 Reading Passage and Assessment for Classroom Performance

Investigations concerning the role of schemata in L2 reading comprehension have revealed that learner's existing knowledge significantly affects their comprehension of L2 reading materials (Carrell, 1983a; Hudson, 1982; James, 1987; and Johnson, 1981). Other related studies found significant gender differences with topic familiarity levels and comprehension (Bügel and Buunk, 1996; Brantmeier, 2002, 2003a; Schueller, 2004). Reading researchers need to take both passage content and gender into account when conducting investigations about the L2 reading process (Chavez, 2001), and therefore the present research went to great lengths to control for gender differences in topic familiarity. Before the investigation, the reading passage was piloted with 67 students to ensure that it contained a topic familiar to students. Participants completed a questionnaire that included information such as sex, age, major, native language, and number of years of Spanish study in high school and university. Topic familiarity was assessed via questions with five possible choices ranging from 1 (I was really familiar with this topic) to 5 (I was not familiar with this topic at all). The results revealed no significant gender differences in topic familiarity, with both male and female participants indicating that "I was familiar with some and unfamiliar with some" of the passage topic.

The short story used in this study, *Aniversario*, by Luis Romero, was taken from an anthology for advanced readers entitled *Aproximaciones al estudio de la literatura hispánica*, by Virgilio, Friedman, and Valdivieso. The story consists of 1,270 words and was kept in the form it was found in *Aproximaciones*, including word glosses. A male adolescent who died years ago narrates the story. His family is sitting at the dinner table

² Only incoming freshmen were required to complete the OPLE exam before the semester. All other students fulfilled the required courses at the University before entering Advanced Grammar. Consequently, not all students who participated in the in-class investigation were included in final data analysis.

talking about daily activities. The father, mother, son and daughter discuss their plans for the evening, which include playing soccer and going to the movies. They talk about the recent happenings in the neighborhood. In the end, the mother is upset because no one remembers that today is the anniversary of the death of his or her son/brother. The entire story takes place in the house at the dinner table.

Language of response on recall was controlled for via random selection. Immediately after reading the passage, the written recall protocol asked readers, without looking back at the passage, to recall and write down as much as they could of what they just read. Approximately half of the participants were asked to recall in English, and half of the participants were asked to recall in Spanish.

L1 Reading Achievement

In order to examine how much variance L1 reading ability accounts for in L2 reading, the advanced learners were divided according to L1 reading performance. Findings from prior investigations (Bernhardt, 2005) with less advanced learners indicated that the contribution of L1 reading to L2 reading was between 14% and 21%. For this study, to test for L1 reading achievement, a short story³ was selected from an anthology used in freshmen English courses. The reading, entitled “The Wild Man of the Green Swamp” consisted of 1,000 words and was about a Chinese immigrant who resided in a swamp in Florida upon arrival to the United States. After reading the passage, students completed 10 multiple choice questions. Again, for each of the multiple choice questions four possible responses were created: one correct response and three distractors. All distractors in the multiple choice questions were plausible (Alderson, 2000; Bernhardt, 1991; Wolf, 1993), and all were written in English. Some questions included inferential items as well. The total possible score for L1 reading performance was 10.⁴

Data Collection Procedures

As discussed earlier, all incoming freshmen at the University were required to take the OPLE for foreign language placement purposes. All students enrolled in Advanced Spanish participated in the investigation during regular class time during the 2nd week of class and completed the following instruments in this order: L2 reading passage, written recall (either in L1 or L2), topic familiarity questionnaire, L1 reading passage, and multiple choice questions. The researcher and instructors for the courses were present during all data collection sessions so that students would not look back at any previous pages while reading and completing all tasks.

Data Analysis

Recall tasks may be scored by tallying the quantity of correct information recalled with a variety of scoring rubrics including idea units, propositional units, pausal units, etc

³ To measure L1 reading level the same text type as the L2 reading selection, a short story, was used for the in-class investigation.

⁴ The author recognizes the limitations of utilizing only 1 reading passage and test to measure L1 and L2 reading achievement. The Human Subjects Committee placed restrictions on the amount of time to conduct the in-class investigation, and therefore only one test of L1 reading was used with multiple choice items. With more time, a future inquiry may include the Nelson-Denny test for reading.

(Barnett, 1988; Brantmeier, 2002; Carrell, 1983; Lee, 1986a; 1986b; among others). The present research utilizes the pausal unit protocol to analyze the text and recalls. A pausal unit is a unit or entity that during normally paced oral reading has a pause on each end of it (Bernhardt, 1991). For recall, the researcher and two additional raters (native speakers) identified the total pausal units for the text. When the three raters disagreed, a fourth assistant (a native speaker) was consulted. The percent of scoring agreement between the three raters was .96. In the end, the total number of pausal units was 133.⁵ For multiple choice items, there was one correct answer for each of the 10 questions.

Means and standard deviations were calculated for each research question. Multiple regression analysis was used to show the influence of two or more variables on the dependent variables and to generate scores that measure the strength of relationship between variables.⁶ The Alpha level for statistical significance was set at .05.

Results

A linear regression was calculated with language of recall as the independent variable and overall recall score as the dependent variable. Means, standard deviations, and ranges are listed on Table One. The mean score for L1 recall was higher (M=17.0; SD= 9.0) than L2 recall (M=14.2; SD=6.1).

Table One

Means and Standard Deviations for Recall Scores by Language

	L1 Recall	L2 Recall
Mean	17.0	14.2
(SD)	9.0	6.1
Range	41.0	24.0
Minimum	2.0	5.0
Maximum	43.0	29.0

n= 66; 37 for L1 recall and 29 for L2 recall

⁵ In the present study, L1 and L2 pausal unites were not ranked in terms of salience to the message of the text. The present investigation does not examine weighted pausal units but rather the total number of correct pausal units recalled from the text.

⁶ Regression allows for a more sophisticated research design, which includes an analysis of the contribution of IVs on DVs (Bernhardt, 2005; Brantmeier, 2004).

The advanced learners were also assessed according to former L2 reading achievement, as measured through the OPLE. The total possible score on the reading section of the OPLE was 30. Table Two lists the mean, standard deviation, and range for prior L2 reading performance ($M = 23.1$, $SD = 6.9$).

Table Two

Means and Standard Deviations for L2 Reading and L1 Reading Achievement

	L2 Reading Achievement	L1 Reading Achievement
Mean	23.1	8.3
(SD)	6.9	1.5
Range	29.0	6.0
Minimum	0.0	4.0
Maximum	29.0	10.0

$n = 66$; Maximum possible score for L2 Rding Achievement = 30; Maximum possible score for L1 Rding Performance = 10.

A multiple regression was calculated to measure the amount of influence the independent variables, prior L2 reading performance and language of recall, had on the dependent variable, recall score. Results are listed on Table Three. There was no significant main effect for language of recall on recall scores with all participants. However, when participants were divided according to their OPLE reading score, there was a significant main effect for L2 reading achievement on overall recall scores ($p < .05$). Results show that language of recall accounts for 3% of variance in written recall of advanced learners, and prior L2 reading achievement accounts for 16% of variance. In order to provide further analysis, the two groups were analyzed separately. Findings reveal a significant main effect for L2 reading achievement on recall scores in Spanish ($p < .05$), and a significant effect for L1 reading achievement on recall scores in English ($p < .05$). Prior L2 reading performance accounts for 28% of variance in L2 written recall and 16% of variance in L1 written recall.

Participants were further analyzed according to comprehension scores with an L1 reading passage, as an indicator of L1 reading achievement. The total score possible for the multiple choice comprehension items was 10. Means, standard deviations and ranges are listed on Table Two ($M = 8.3$; $SD = 1.5$). A multiple regression was calculated to measure the strength of the relationship between the independent variable, L1 reading achievement, and the dependent variable, recall score. As shown on Table Three, there

was no significant main effect for L1 reading achievement on recall scores. Further analysis showed that L1 reading achievement accounted for 3% of variance in L2 recall and 5% of variance in L1 recall (see Table Three).

Table Three

Regression Analysis: Relationship between Language of Recall, L1 and L2 Reading Performance

Predictors (Constant)	Assessment Task	β	R ²	T-ratio	P
Language of Recall	Recall	-0.18	0.03	-1.43	0.16
Prior L2 Rding Performance	Overall Recall	0.40	0.16	3.48	0.01
	L2 Recall	0.53	0.28	3.28	0.01
	L1 Recall	0.39	0.16	2.47	0.02
L1 Rding Performance	Overall Recall	0.22	0.05	1.29	0.21
	L2 Recall	0.16	0.03	0.86	0.40
	L1 Recall	0.22	0.05	1.29	0.21

Discussion

Research Question One: When learners are grouped according to advanced levels of L2 language instruction, are there significant differences in the quantity recalled if the recalls are written in L1 or L2?

As indicated on Table One, readers from an advanced language course scored slightly higher on the L1 recall (m=16) than on the L2 recall (m=14), but this difference was not significant ($p > .05$). These results suggest that, overall, language of recall does not matter with advanced language learners. Findings support Upton & Thompson (2001) where language or assessment (oral recall) did not matter with most advanced ESL learners. As expected, results differ from prior research concerning language of recall with learners from beginning and intermediate levels of language instruction where

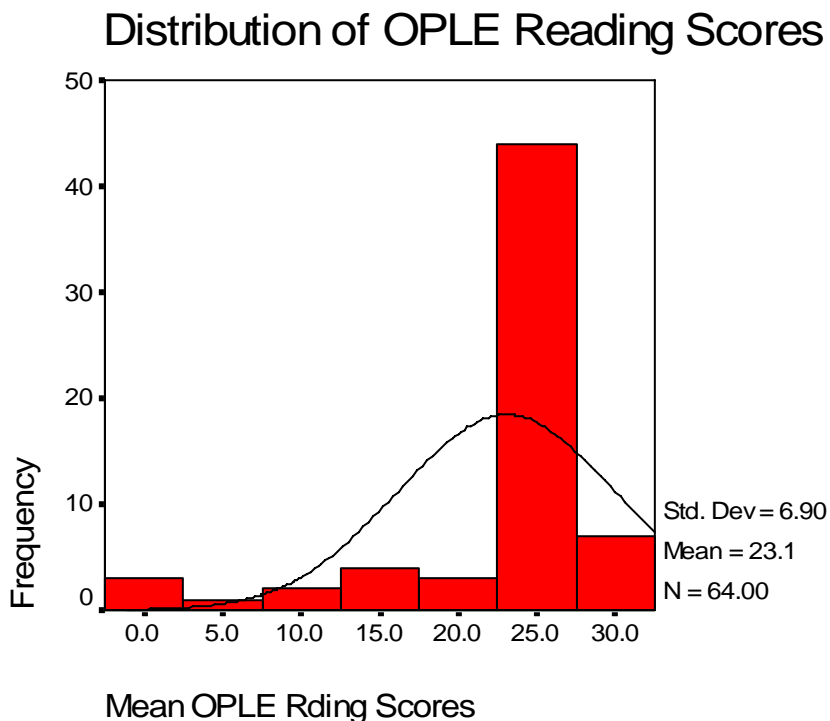
readers recall more with L1 than L2 written recalls (Lee, 1986; Shohamy, 1984). Shohamy (1984) reported that open-ended questions in L1 were easier than open-ended questions in L2. Shohamy speculated that low-level learners may think about questions of L2 texts in their L1, and that L1 may reduce anxiety among low-level learners with consequences on L1 assessment tasks. (Alderson, 2000) interprets these results (Shohamy, 1984) by suggesting that the L1 words used in the testing items may have given readers clues to the meaning of the text. This study used the written recall so findings cannot be interpreted the same way. However, an insightful topic for future inquiry could involve anxiety levels and L1/L2 recalls with advanced learners.

With both beginning and intermediate learners, Lee (1986a) reported that recall scores depend on whether recall is in the first or target language. Findings in this investigation reinforce Upton and Thompson's findings as well as Bernhardt's (2005) assertion that language of assessment matters only until the highest levels of proficiency. The important finding in this study is that language of written recall may not matter with advanced language learners when learners are grouped according to their instructional level. A future inquiry could expand and utilize the think aloud protocol with advanced learners to examine whether they think about questions of L2 texts in their L1 or L2. This study suggests that with readers from advanced levels of language instruction that L2 recall is not a test of writing, but is actually a test of reading. It also shows that learners no longer depend on their L1 at this level of language instruction. However, when the advanced learner group is further divided according to L2 reading performance, different patterns emerge.

Research Question Two: When advanced learners are grouped according to prior L2 reading performance, are there significant differences in the quantity recalled if the recalls are written in L1 or L2?

As previously discussed, there were no overall significant differences on L1 and L2 recalls with learners from the advanced levels of language instruction. However, when these advanced learners were further divided according to L2 reading achievement as determined via an online reading exam, the outcomes were different. Participants all achieved the appropriate score on the OPLE in order to enroll in this advanced course, and they completed the online exam two weeks before participating in the in-class experiment. Figure One graphically depicts mean frequencies of the online reading scores.

Figure One
Histogram: Frequency by Mean Totals



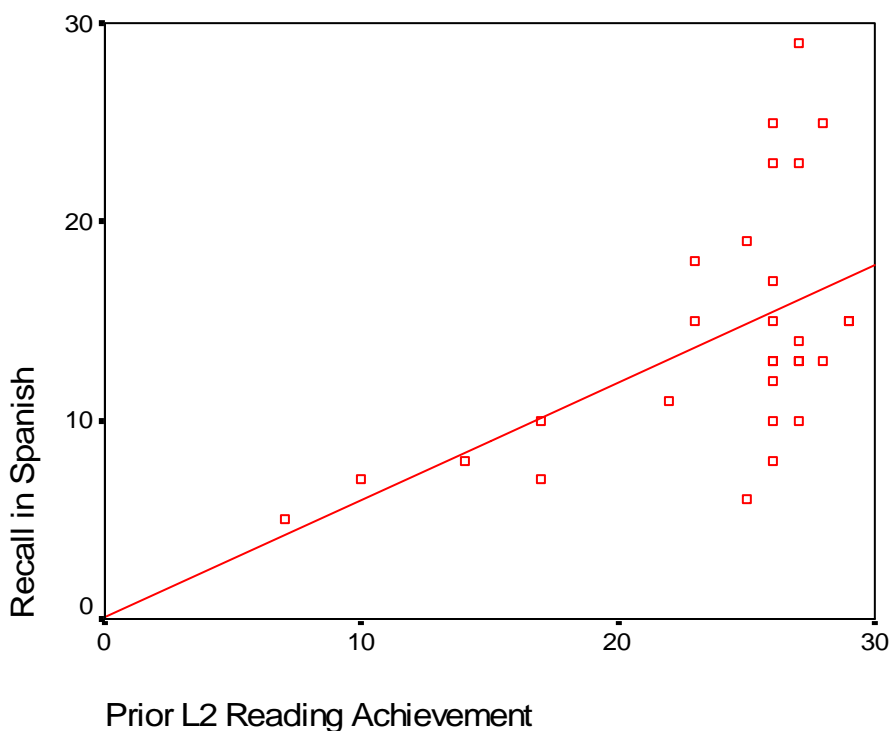
The variance in student scores suggest that students enrolled in the advanced level courses are not reading at the same level. Regression analysis revealed that L2 reading performance does significantly affect overall recall scores. This significant interaction is analyzed further with regression analysis that indicated that 28% of variance in L2 written recall is accounted for by prior L2 reading achievement and 16% of variance in L1 written recall could be explained by prior L2 reading achievement. The findings also suggest that, with learners from advanced levels of language instruction, L2 reading achievement strongly predicts performance on L2 written recalls. This positive relationship may suggest that, with learners from advanced levels of language instruction, researchers should assess reading achievement before making a decision about language of assessment for comprehension. Not all readers at the advanced levels of language instruction perform equally well on recalls written in the target language. Furthermore, the problem may be resolved by using a variety of assessment tasks. The proficiency guidelines for ACTFL start with easier question types and then move to open-ended items, and assessments could be completed in L1 and L2.

Lee (1986a) advocated categorizing L2 readers by prior L2 reading performance in addition to instructional levels when examining comprehension via written recalls. Results of the present study suggest that learners at advanced levels of language instruction are not equally successful readers, and that prior L2 reading achievement does predict subsequent classroom performance (as measured by the written recall). The present findings provide evidence about the strong relationship between L2 reading

achievement or level and actual classroom performance. Results also show that when advanced readers are divided according to prior L2 reading performance, language of recall may matter. More successful L2 readers (as determined by scores on reading section of OPLE) achieved higher scores on L2 recalls than did their counterparts. Figure Two displays the nature of the relationships between OPLE reading score and recall in Spanish.

Figure Two

Positive, Linear Relationship between Prior L2 Reading Achievement and Recall in Spanish



The regression line indicates a positive, linear relationship between these variables. As expected, low OPLE reading scores tend to go with low Spanish recall scores, and high recall scores are common for those who scored high on the OPLE reading test. Interestingly, the line on the scatterplot does not touch all points, and toward the end of the line the points are scattered from the straight line. It is clear that the variation of prior reading achievement within groups of advanced learners needs to be considered when making decisions about assessment tasks. This finding highlights individual learner differences in reading at the advanced levels of language instruction.

Another interpretation of results can be explained by the test-method effect. Empirical evidence supports the assertion that type of task used to measure comprehension may affect performance (Carrell, 1991; Shohamy, 1984; Lee, 1986a;

Wolf, 1993). The OPLE reading section uses multiple choice items to assess comprehension, and the follow-up in-class investigation employs the written recall to measure comprehension. Generally, multiple choice items are used for online assessment because of the accuracy and immediacy in scoring, while L2 reading researchers often utilize the recall protocol during in-class investigations because there is no tester interference or retrieval cues (Bernhardt, 1983; Brantmeier, 2002; Carrell, 1983a; Lee, 1986a; Young & Oxford, 1997; and more). In the present study, the outcome of each assessment task may provide a limited representation of reading comprehension and this could have affected results. One of the objectives of this research was to categorize learners according to level of language instruction as well as actual reading performance or level as a factor in analysis. To meet these objectives the commonly used assessment practices were incorporated.

To probe data further and examine how much variance L1 reading ability accounts for in L2 reading, the advanced learners were divided according to L1 reading performance. A distinctive finding surfaced when L1 reading performance and language of recall were taken into consideration. The fact that L1 reading achievement accounted for only 5% of variance in L1 recall and 3% of variance in L2 recall may suggest that L1 reading ability matters little with the written recall procedure at this level of language instruction. L2 reading ability seemed to matter more. Findings of prior research (Bernhardt, 2005) with less advanced learners indicated that the contribution of L1 reading to L2 reading was between 14% and 21%. The contradictory results could be interpreted in the following way: The learners are from advanced levels of language instruction, and perhaps L2 reading ability is the most significant factor in the L2 reading equation at this level. Learners may reach a stage of L2 acquisition where L1 reading level is no longer part of the L2 reading equation. Results lend support for future inquiries with advanced language learners.

Conclusion

An important part of reading test design is language of written recall. With participants from beginning and intermediate levels of language instruction, prior research shows that recall of a text was better when completed in L1 rather than L2. With participants from the advanced level of language instruction, this investigation both contradicts and supports earlier findings. When these participants are classified by level of language instruction, language of recall does not matter as there were no significant differences in recall scores by language. However, when the same participants are categorized by prior L2 reading achievement, language of recall appears to be of concern as readers scored higher on the L1 than L2 recall. Researchers who investigate L2 reading with advanced learners need to take into account L2 reading achievement in addition to level of language of instruction before making a decision about language of assessment for comprehension. Overall, the present study is a preliminary attempt to address the issue of language of recall with advanced language learners. More research of this nature is needed before any generalizations for research design can be drawn.

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Cindy Brantmeier is currently Assistant Professor of Applied Linguistics and Spanish, Washington University in St. Louis. She is Co-Director of the Graduate Certificate in Language Instruction and Director of Advanced Spanish. She also oversees language program assessment and placement. Dr. Brantmeier has experience teaching ESL in Spain, Nicaragua, Mexico, and the USA. Dr. Brantmeier's publications concern interacting variables in adult second language reading, reading research methodology, testing and assessment, and other related areas. She was recently nominated to the College Board's World Advisory Committee for Advanced Language Placement. Dr. Brantmeier has been invited to give presentations and workshops on language learning in Nicaragua, Costa Rica, Argentina, The University of Amsterdam, Oxford University (UK), and more.