



Exploring the Learning Styles of Russian-Speaking Students of English as a Second Language

■ This study investigates the learning styles of college and university Russian-speaking students of English as a second language (ESL) through an analysis of their responses to Reid's (1984) Perceptual Learning Styles Preference Questionnaire (PLSPQ), of their responses to a background questionnaire, and of data from oral interviews. The research questions are:

1. What learning styles emerged from Reid's PLSPQ?
2. How well did the PLSPQ findings correspond to the oral interview results?
3. Did the learning style preferences reflect more the students' individual preferences or their cultural traditions?

Findings from the data indicate that the preferred learning style of these Russian-speaking students is kinesthetic, closely followed by auditory. In addition, the results of the data suggest that the learning style preferences of these subjects reflect more their individual learning style preferences than the influence of cultural traditions. Discrepancies, however, arose in the findings among the three elicitation instruments. The article also provides insights into the area of research design and methodology and questions the validity of the PLSPQ.

Learning styles are general tendencies or preferences (R. Oxford, personal communication, February 20, 2000) of individuals with respect to *how* they learn. Ehrman and Oxford (1990) define them as "preferred or habitual patterns of mental functioning and dealing with new information" (p. 311). Not all people enjoy learning in the same way. Some individuals prefer to hear information, others prefer to read it, and still others prefer to do something with the information. According to Ehrman, a learning style can range from a mild preference to a rigid one (as cited in Nam & Oxford, 1998). Within any preferred learning style, an individual may utilize different learning strategies in order to access and

assimilate relevant information. Learning strategies that individuals choose are often linked to their learning styles.

Varied models have been used to characterize learning styles. A popular model for educators is Gardner's theory of multiple intelligences, an information-processing framework based on cognitive theory. Gardner (1983, 1993) has proposed that people might possess different degrees of at least seven types of mental functioning or intelligences, each with its own set of abilities. His work investigates the mental processes involved in obtaining, sorting, storing, and utilizing information. Other researchers such as Dunn, Dunn, and Price (1975, 1989), Dunn (1990), and Dunn and Griggs (2000) have focused attention on the instructional and environmental preferences of students.

Regardless of the discipline of the researchers performing the learning styles research, and regardless of which theoretical framework they used, the emphasis has focused primarily on the learning style preferences of native speakers of English (e.g., Dunn, Dunn & Price, 1975, 1989; Dunn & Griggs, 1983; Kolb, 1976; Reinert, 1976). More recently, researchers have investigated the learning style preferences among ethnic groups within the U.S. (e.g., Dunn & Griggs, 1990, 1995; Henry & Pepper, 1990; Jacobs, 1990), the learning style preferences of ESL populations in the U.S. (e.g., Reid, 1987), and the learning style preferences of cultural groups overseas (e.g., Cheng & Banya, 1998; Herbert, 1988).

Our study investigates the learning styles of ESL students by analyzing their responses to Reid's (1984) Perceptual Learning Styles Preference Questionnaire (PLSPQ) (see Appendix A for complete PLSPQ text), responses to a background questionnaire (see Appendix B for complete background questionnaire text), and data from oral interviews. The study focuses on Russian-speaking ESL students at the college and university level in the United States, a group of particular interest because of its large-scale immigration to the northeastern U.S. The study also attempts to determine whether participants' learning style preferences reflect more their individual preferences or their cultural traditions. Although our initial intent was to investigate the learning styles of these participants, in the course of the study we expanded and slightly altered our goal to include an investigation of the validity of Reid's PLSPQ.

Learning Styles and Cultural Traditions

Several studies have found links between cultural traditions and learning style preferences (e.g., Cheng & Banya, 1998; Guild, 1994; Heath, 1983; Nelson, 1995; Oxford & Anderson, 1995; Oxford & Green, 1996; Philips, 1983; Reid, 1987; Rossi-Le, 1995; Violand-Sánchez, 1995; Vogt, Jordan & Tharp, 1987). Learning style is frequently defined as individual preference, each person preferring to learn in slightly different ways (Nelson, 1995). Culture, in contrast, implies that which is shared by or common to a group of individuals and emphasizes similarities, not individ-

ual differences. These two concepts are linked since members of different cultural groups “*learn how to learn* through the socialization processes that occur in families and friendship groups” (Nelson, 1995, p. 6). In short, there are demonstrable cultural differences in learning style (between-group differences), but within a culture there are many individual differences in learning style (within-group differences) as well.

Similarly, Oxford, Hollaway and Murillo (1992) suggest that cultural influences often play a significant role in the preferred learning styles of members of a given culture. Indeed, Oxford and Anderson (1995) contend:

Language learning is fully situated within a given cultural context. The student becomes enculturated (apprenticed into a particular learning culture or environment that in many ways reflects the general culture) through classroom activities and through the modeling and coaching of the teacher and many others. (p. 202)

It is indisputable that individuality and culture both play important roles in the choice of learning styles. Reid’s (1987) study as well as studies cited in Oxford and Anderson (1995) and in Reid (1995) found that Asian students, particularly Koreans, are very visual. Oxford (1990) summarizes research that shows Hispanic learners are generally auditory learners and many non-Western students favor tactile and kinesthetic learning. Reid (1987) also found that some of the learning style preferences of the participants in her study were related to gender, length of residence in the U.S., academic field of study, and level of education. Nevertheless, one should not assume that learning style preferences can be accurately predicted by cultural backgrounds alone (Brown, 1994; Katz, 1988; Parry, 1996; Reid, 1998).

In a study comparing the learning strategies of immigrants from the former Soviet Union to those of people who have lived in Israel for at least five years, Levine, Reves and Leaver (1996) found distinct differences related to education and culture between the two groups in pre-academic English as a Foreign Language (EFL) courses. With the use of multiple methods, they confirmed that students brought up in a highly structured, uniform educational system such as that found in the Soviet Union developed learning strategies that differed from those developed by students who received a less structured, more democratic education. These findings highlight the important role of cultural-educational factors in the students’ development of language learning strategies, which in turn may impact their learning style preferences.

The Study

Research Questions

Given the wide range of models of learning styles and the great variety of learning styles that have been identified, we limited this study to the six learning style preferences that Reid (1987) identified: visual, auditory, kinesthetic, tactile, group learning, and individual learning.

The research questions asked were:

1. What learning styles emerged from Reid's PLSPQ?
2. How well did the PLSPQ findings correspond with the oral interview results?
3. Did learning style preferences reflect more the students' individual preferences or their cultural traditions?

Participants

We selected Russian-speaking ESL students as subjects because even though the number of immigrants from the former Soviet Union has been increasing in the United States, little research has been conducted on this group. Participants were 32 undergraduate Russian-speaking students¹ enrolled in ESL programs at two private institutions of higher learning in metropolitan New York—a major university in New York City ($N=15$) and a small college on Long Island ($N=17$). In order to matriculate, both the university and the college require placement on standardized tests. The university requires a minimum score of 500 on the Test of English as a Foreign Language (TOEFL),² as well as an in-house writing sample and oral interview. The college requirement is an “acceptable” score on the Michigan Test of English Language Proficiency (MTELP).³ In order to ensure that all participants shared a similar range of English language proficiency, only the Russian-speaking students enrolled in courses for academic credit, intermediate or advanced ESL writing and reading courses, were asked to participate in this study. The 15 university students were enrolled in different sections of these courses. Seven of these students were also taking speaking-listening courses. The 17 college students were enrolled in intermediate or advanced ESL writing-reading courses as well as in speaking-listening courses.

The 32 participants came from different regions of the former Soviet Union: Ukraine (11), Uzbekistan (7), Russia (6), Tajikistan (4), Azerbaijan (1), Kazakhstan (1), Latvia (1), and Turkmenistan (1). On the background questionnaire, Russian was indicated as the primary home language, even when it was a minority language in a region. In cases where the native language of the home region was different, participants still indicated Russian as their first language.

The ages of the 32 participants varied from 18 to 41, with a mean age of 26. The ages of the 15 participants from the university group ranged from 18 to 26, with a mean of 19. The ages of the 17 participants from the college group ranged from 20 to 41, with a mean of 28. Thus, the college participants were considerably older than their university counterparts.

The gender ratio among participants was roughly 3:1 female to male.⁴ Of the 32 subjects who participated in the PLSPQ survey, 25 were female (nine university students and 16 college students) and 7 were male (six university students and one college student). Of the 13 students who participated in the oral interview, 10 were female and 3 were male (seven university students and six college students).

The background questionnaire also revealed that the university students had been exposed to EFL and ESL longer than the college students, had been in the U.S. longer, and had studied a wider range of academic majors (with the college students being primarily nursing majors). For the most part, both groups of students came from homes with university-educated parents. Actually, very few of the participants were recent arrivals, or the kind of informants who might be expected to be closer to the cultural preferences of the native country than the host society.

Materials

In addition to the background questionnaire, the two primary data collection instruments were Reid's (1984) learning styles inventory, The Perceptual Learning Styles Preference Questionnaire (PLSPQ), and tape-recorded oral interviews. Participants described themselves in a background questionnaire that featured variables such as age, gender, major, number of years English was studied in the home country and in the U.S., the region of the home country where the individual was schooled, years of schooling, and parents' educational levels and occupation both in the home country and in the U.S.

PLSPQ. We selected the PLSPQ because this instrument had been previously normed on high intermediate or advanced ESL classes in university-affiliated English language programs and had been shown to be both reliable and valid (Reid, 1987). Even though the reliability and validity of the PLSPQ instrument was later questioned by Itzen (1995), who provides an in-depth discussion of the reliability and validity of this norming, we nonetheless decided to use the PLSPQ survey instrument for three reasons.

First and most importantly, the PLSPQ continues to be widely used in research, particularly in investigations of cultural differences (Dirksen, 1988; Hyland, 1994; Reid, 1998; Stebbins, 1995; Su, 1995; Sy, 1991). Since we were interested in cultural variables, the instrument appeared particularly appropriate for our needs, especially as we also planned to use oral interviews to gain additional insights into student learning styles.

Second, the PLSPQ was one of only three known normed survey instruments allowing for replication in the ESL/EFL field. The other two are O'Brien's (1990) The Learning Channel Preference Checklist and Oxford's (1995) Style Analysis Survey. The PLSPQ instrument was not as lengthy as these instruments, nor was it as time consuming for classroom data collection.

Finally, the PLSPQ had pre-established cut-off scores for major, minor, and negligible learning style categories. By using the PLSPQ, we believed we would not have to devise our own instrument or determine our own cut-off scores. As our results show, such reasons need to be reassessed in the future. We intend to demonstrate to other researchers that a well-known, widely used, and accepted instrument might not always be as valid as one would expect.

Reid's PLSPQ consists of 30 randomly ordered statements, with five statements for each of the six learning style preferences: visual, auditory, kinesthetic, tactile, group learning, and individual learning. According to Reid

(1987), a visual preference is defined as learning best from seeing words in books, on the chalkboard, and in workbooks. An auditory learning preference is learning from hearing words spoken and from oral explanations. A kinesthetic learning preference is learning best by being involved physically in classroom experiences, while a tactile preference refers to requiring a “hands-on” experience with materials. A group preference refers to learning best by studying with at least one other student or working together with others, while an individual preference refers to learning best by working alone. Students, however, may show a preference for more than one learning style.

Participants respond to each item of the PLSPQ on a five-point Likert scale, ranging from strongly agree to strongly disagree. Each of the five statements under each learning style has a numerical value of one to five. Reid (1995) suggests adding these numbers together and then multiplying by two to obtain the total score for each learning style. Cut-off scores range from 38 to 50 for a major learning style preference, 25 to 37 for a minor learning style preference, and 0 to 24 for a negligible learning style preference.

Oral Interview. The oral interviews, conducted in English, consisted of a mix of direct and open-ended questions. Among these were questions asking the participants to describe how they had been taught English in the former Soviet Union and what they thought were some of the major similarities and differences with respect to teaching and learning there and in the U.S. Participants were asked to share their thoughts about group work, teacher lectures, and learning styles. In the college interviews, general questions about the overall educational system in the former Soviet Union were added. In short, oral interviews were used to better understand participants’ prior and current educational experiences as well as to corroborate their responses on the PLSPQ.

Davis (1995), Eliason (1995), Lazaraton (1995), and Wolfson (1986) point out that a qualitative approach such as that found in an oral interview adds an extra dimension by allowing researchers to explore educational issues often overlooked or unobtainable through quantitative methods. Interviews under the right conditions and properly conducted are a useful tool for understanding how participants view their experiences.

Data Collection Procedures

The background questionnaire and the PLSPQ were administered to the university students in New York City and the college students on Long Island midway through the 1997 fall semester. The teachers in the ESL writing-reading classes were asked to distribute the survey packets to the students in attendance. The packet consisted of the background questionnaire, instructions for participating in the survey that included participant-release forms, and the PLSPQ. The teachers were asked to read the instructions to the students, to allow adequate time to complete the questionnaires, and to answer any questions.

For the oral interviews, the researchers interviewed a sub-sample of the Russian-speaking ESL students who completed the questionnaires.

The 13 participants—7 from the university in New York City and 6 from the college in Long Island—were invited to participate by their respective ESL teachers.

One of the two researchers conducted the interviews, each lasting approximately 15 to 25 minutes, in an office or an empty classroom. The researcher placed a tape recorder between the interviewer and the student. Then, to help the students feel at ease, the researcher exchanged pleasantries before turning on the tape recorder.

Data Analysis Procedures

We used descriptive statistics rather than inferential statistics in order to follow the analysis procedures employed in other studies using the PLSPQ and adhered to Reid's system of reporting major, minor, and negligible learning styles (Reid, 1995). The interview data were analyzed qualitatively and reported in narrative form.

Results

The research questions asked were: (a) What learning styles emerged from Reid's PLSPQ, (b) how well did the PLSPQ findings correspond with the oral interview results, and (c) did the learning style preferences reflect more the students' individual preferences or their cultural traditions?

Research Question One

The raw scores on this survey (see Figure 1) indicated that kinesthetic was the preferred major learning style (25 out of 32) of all Russian-speaking ESL participants, very closely followed by auditory (24 out of 32). Individual work was their preferred minor learning style (18 out of 32), followed by both tactile and visual (15 out of 32). The participants showed negligible preferences for both group learning and individual learning, (4 out of 32 each), followed by visual (3 out of 32). These learning style preference categories are not mutually exclusive; a learner may have more than one learning style preference.

The results revealed that some numerical differences exist between the university group and the college group. For the university participants (see Figure 2), kinesthetic was the preferred major learning style (10 out of 15), followed by auditory (8 out of 15). This contrasted with the college participants (see Figure 3) where auditory was the preferred major learning style (16 out of 17), closely followed by kinesthetic (15 out of 17). There were also differences with respect to minor learning styles. The university group selected visual as their preferred minor learning style (9 out of 15), very closely followed by tactile (8 out of 15), and then auditory and individual learning (7 out of 15 each). The college participants chose individual learning (11 out of 17), followed by group learning (8 out of 17), and then tactile (7 out of 17).

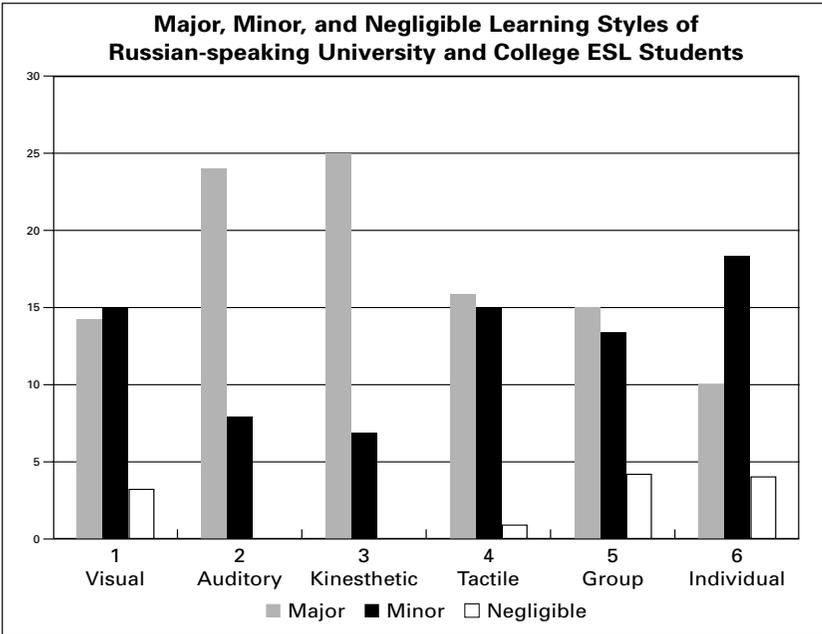


Figure 1. Major, minor, and negligible learning styles of Russian-speaking university and college ESL students.

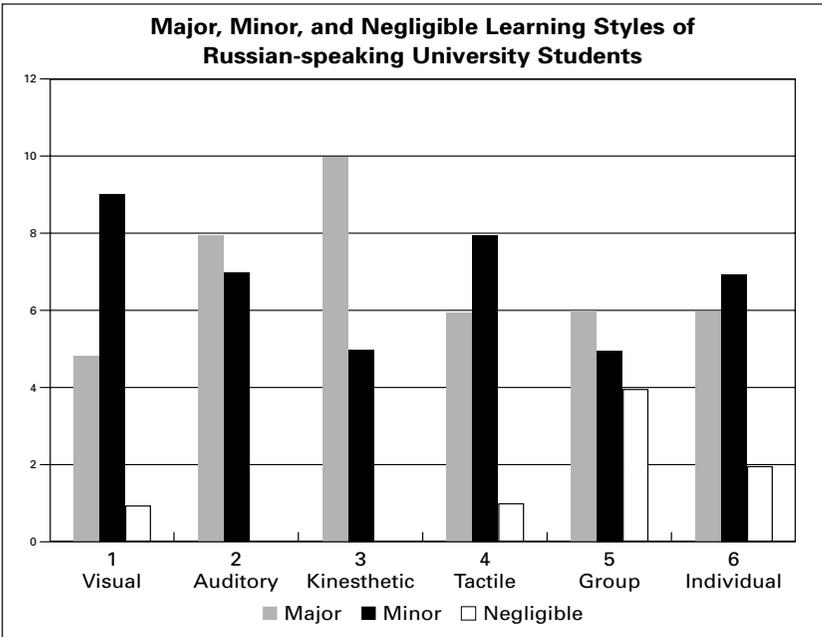


Figure 2. Major, minor, and negligible learning styles of Russian-speaking university ESL students.

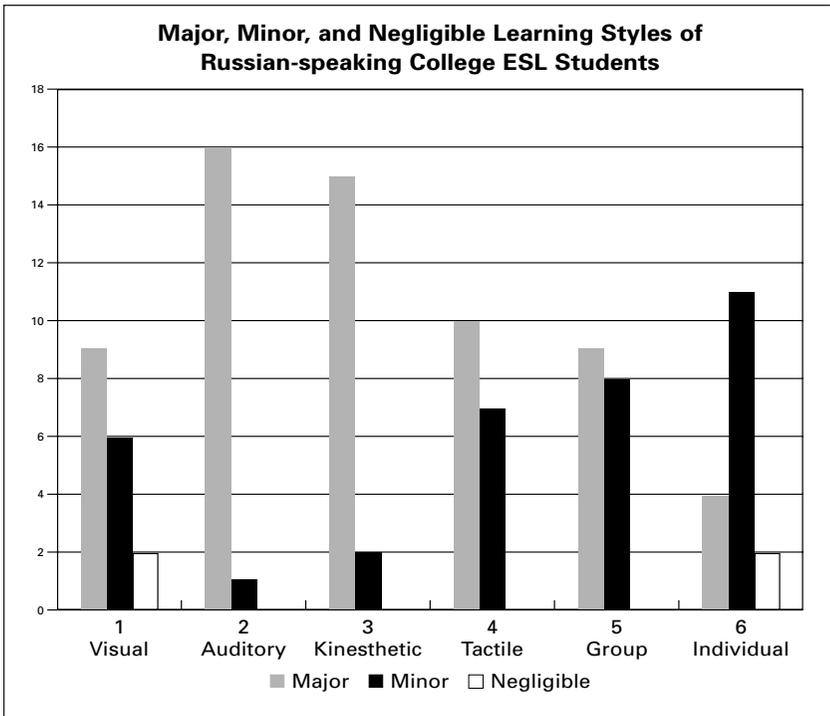


Figure 3. Major, minor, and negligible learning styles of Russian-speaking college ESL students.

Research Question Two

When interviewed and asked how they preferred to learn and study English, the responses of the participants often did not match their responses on the PLSPQ. Of the 7 university students interviewed, 2 of their oral descriptions corroborated with their survey responses, while 5 indicated different preferred learning styles from those reported on the PLSPQ.

For instance, one student (A) stated that he learned best by listening and seeing written materials and that he preferred group work above individual work in the classroom. However, when we compared this response with his answers on the PLSPQ, we found that the two did not match. For group work, A's score on the PLSPQ indicated that this was only a minor learning style for him, as were visual, auditory, tactile, and individual. The only major learning style for A on the PLSPQ was kinesthetic, a learning style he indicated little interest in during the interview. Likewise, another student (Z) stressed during the interview that she liked group work. However, her PLSPQ results indicated that group work was only a minor learning style (34 out of 37) for her.

There were also discrepancies among the 6 college students interviewed, although to a lesser extent. Half of them indicated the same learning style preferences as on the PLSPQ, while half of them indicated differ-

ent learning styles. Student J, for example, reported in the interview that she preferred to work individually. On the PLSPQ, however, this was a negligible learning style (24 out of 24) for her. Upon reviewing J's individual responses to the survey statements, we found that on statement number 30 ("I prefer to work alone") she responded "disagree" and on statement number 28 ("I prefer to work on projects by myself") she responded "strongly disagree." Similarly, during the course of his interview, student K stated that he preferred visual ("I need to see") and individual learning styles. However, on the PLSPQ, these two were his minor learning styles—visual (36 out of 37) and individual (30 out of 37). The other four learning styles were his major ones—auditory (40 out of 50), kinesthetic (40 out of 50), tactile (38 out of 50), and group (38 out of 50).

Research Question Three

The learning style preferences in this study reflected more the students' individual preferences than their cultural traditions. Data from the oral interviews revealed that of the 13 participants, 4 preferred visual, 3 both visual and auditory, 2 auditory, 2 tactile, 1 both kinesthetic and visual, and 1 kinesthetic. These results did not indicate any one major learning style preference.

The participants had been educated in a rigid, traditional, teacher-centered authoritarian school system that emphasized rote learning and translation with little or no opportunity for such learner-centered activities as group work. If cultural tradition is indeed more important than individual preference as an influence on one's preferred learning styles, we would expect to see the majority of the study participants indicate individual learning as their preferred learning style. However, the data from the oral interviews indicated that more than half of the participants (8 out of 13) preferred group learning to individual learning. While group learning is a popular teaching technique in the U.S., it was generally not approved of in the former Soviet Union. As student U expressed:

For me it's better to work with the group. People have different opinions and ideas and they share with the group. We didn't have group work in Russia. Teachers didn't like us to be in groups in Russia.

The data from the PLSPQ were also revealing. A majority of the participants chose kinesthetic (78%) as their major learning style, closely followed by auditory (75%). An auditory learning style preference would seem to be consistent with an educational system that emphasizes teacher lecture (as in the case of the Russian students' prior educational experience). A kinesthetic learning style, on the other hand, would seem to be consistent with fields such as nursing or computer science, where individuals are physically involved in classroom experiences (e.g., performing laboratory experiments or develop-

ing computer software coding). On the background questionnaire, 21 (66%) of the students indicated nursing or computer science as their major fields. Yet this consistency was not confirmed in the oral interviews. When students were questioned, neither their cultural backgrounds nor their current educational experiences seemed to be dictating their learning style preferences, which instead appeared to be more a factor of individual preference.

Discussion

This discussion is organized around the following themes: general comments, internal contradictions with PLSPQ results, comparison between PLSPQ responses and oral interview results, PLSPQ design issues, and comments on oral interview responses.

General Comments

The PLSPQ showed that kinesthetic was the preferred major learning style of the Russian-speaking ESL students in this study, closely followed by auditory (Wintergerst & DeCapua, 1998a,b). This differs from the results found by Reid, Mata Vicioso, Gedeon, Takacs, and Korotkikh (1998) in their study of Siberian EFL teachers in training. The Siberian participants preferred both kinesthetic and tactile learning styles. While the participants in our study also chose kinesthetic, our participants preferred auditory above tactile.

Kinesthetic and auditory were also found to be the two most important learning styles of both the university group and the college group. We interpret the difference between the two groups to be relatively minor. For example, the preferred learning style of university participants was kinesthetic followed by auditory, whereas for the college students auditory was the preferred, closely followed by kinesthetic. Group was the preferred major learning style while individual was the preferred minor style.

Internal Contradictions With PLSPQ Results

On the PLSPQ, participants are asked to respond to five statements on each of the six learning style variables. These statements are randomized so that statements intended to correspond to a particular learning style may be separated by several statements reflecting other learning styles. In our analysis of the responses, we found that some participants answered with “strongly agree” on one statement and with “disagree” on another statement intended to measure the same learning style.

One possible explanation for why alternate statements elicited a range of responses is that participants experienced linguistic difficulty with the survey items. For example, they may have misunderstood some words and thus misunderstood the intended meaning of the item. Alternately, they may have focused on a certain word out of context without considering the statement’s entire meaning, or they may have experienced some other kind of language confusion. According to Itzen (1995), ESL students are likely to rely on

word-level linguistic cues, whereas native speakers rely more on general meanings and concepts. Reid (personal e-mail communication, January 21, 1998) indicated that her cut-off scores for each of the learning style modes were set based on looking “carefully at the ranges, and where the natural splits occurred” in the data. However, we must emphasize that only one misunderstood question can move a student’s learning style from one category to another due to the pre-established cut-off scores.

A second explanation for the contradictory responses given by participants on the PLSPQ is that participants had problems due to time pressure. Although the PLSPQ is not a timed test, the participants completed it in their ESL classes under their teachers’ supervision and were allowed a set time to answer all items. Under these circumstances, some students may have become anxious and thus may have been unable to respond appropriately.

Comparison Between PLSPQ Responses and Oral Interview Results

In addition to the contradictory responses received on the PLSPQ itself, the responses to the learning styles inventory and the information provided by students in the oral interviews also contradicted each other at times. For example, student J’s preferred learning style for individual work came out as negligible on the survey. However, in the interview she stated a clear preference for individual work. Both student V and student K also stated a clear preference for individual work in the interview but in the survey indicated only a minor preference for this learning style.

During the interviews, participants were asked to expand on their language learning and their general educational experiences both in the U.S. and in their home regions. However, the instructions on the PLSPQ asked participants to respond to the statements as they applied to their study of English. Thus, in the survey participants may have been referring to their learning experiences in U.S. American ESL classes. As an example of the differential responses received in the survey and the interview, students reported that in their home regions they had for the most part learned English via teacher-lecture. However, on the PLSPQ they reported kinesthetic as their preferred major learning style, closely followed by auditory. Since kinesthetic is a learning style often used in ESL classes in the U.S., this response is not entirely surprising.

PLSPQ Design Issues

The above-reported discrepancy in findings between the PLSPQ and the oral interview prompted us as researchers to investigate possible design flaws in the PLSPQ. We wanted to know if a given PLSPQ statement really reflected what occurred in the language learning process.

One issue that we investigated was the possibility that responses to the PLSPQ are strongly culturally influenced. For example, the Japanese students in Reid’s 1987 study responded more moderately on the PLSPQ than did all the other non-native speaker language groups. We noted a similar

tendency in our Russian-speaking participants, who rarely checked “strongly agree” or “strongly disagree” on the PLSPQ. This tendency is further corroborated by Oxford and Anderson (1995), who point out that several studies (e.g., Call, 1995; Oxford, Ehrman, & Lavine, 1991; Reid, 1987) have shown that Japanese do not indicate any single perceptual learning style. Eliason (1989, 1995) and Nelson (1995) attempt to explain this tendency by suggesting that cultural factors lead Japanese to “take the middle way” or to avoid extremes, thus discouraging them from making strong statements on survey questionnaires. In sum, in cultures where extremes are not favored, participants may avoid checking “strongly agree” or “strongly disagree” and therefore may not display clearly defined major learning style preferences. This may have affected our findings.

The influence of language proficiency on the validity and reliability of an instrument that is used for both native and non-native speakers of English requires further elaboration. The language of the PLSPQ was simplified by Reid to facilitate understanding by high intermediate or advanced ESL students. It was validated on native English speakers and on advanced ESL students in college programs. Itzen (1995) notes that the statement items were not found to be valid measures of the proposed learning style constructs because “the majority of factor loadings for multiple indicators of the six learning style factors were found to be extremely low” (p. 48) and the overall hypothesized model (the six-learning style model) did not prove to be a good fit for the data in his confirmatory factor analytic study of the PLSPQ.

As for reliability, it was relatively easy to obtain reliable scales for the native English speakers (Reid, 1990) but more difficult for the ESL students since the reliabilities for the scales were very low in the pilot tests. Itzen (1995) claims:

While evidence was finally provided on the reliability of the scales used in the study, the reliabilities were established only on two (individual learning and group learning) of the six scales for the ESL students. Moreover, no mention was made as to the validity of the constructs in the survey. No form of factor analysis was utilized to determine the validity or a corresponding factor structure for the constructs. No other studies have been published that examine the psychometric properties of the Reid PLSPQ. (p. 17-18)

Because the validity of the survey instrument was determined solely on the split-half reliability coefficient (Reid, 1990), Itzen concludes that this instrument does not demonstrate acceptable internal validity nor does it take into account the linguistic proficiency of students, which may have had an influence on the psychometric properties of the instrument.

Bonham (1988) and Cummins (1981) have argued that language proficiency is an important variable in survey instruments. Reid (1990) states that the survey items were clearer for those students with a higher level of English language proficiency. Itzen (1995), however, claims that the evidence suggests

the opposite—that the effectiveness of the 30 items to measure learning styles is not influenced by the English proficiency of the survey participants. Though the instrument was empirically tested, he found it to be an inappropriate measure for both native and non-native speakers. The hypothesized factor structure for the survey was found to be equally inadequate for both native and non-native speakers of English. In other words, regardless of the language proficiency of the participants, the items in the survey were not clear measures of the learning styles they intended to measure. Generally, items in the PLSPQ that were intended to measure one particular learning style were not perceived as such by the students (Itzen, 1995).

Comments on Oral Interview Responses

The oral interviewers first asked participants to describe their English language learning experiences in the former Soviet Union and then to compare how English was taught there with their experiences in the U.S. Subsequently, participants were asked about their personal language learning style preferences. This question order could have influenced participants to report a preference for U.S. American style language learning practices. Since the interviews were conducted in English, participants may not have been able to fully articulate their true preferences and may have repeated commonly used expressions.

Certain oral interview questions such as “What Russian cultural traditions do you think affect the teaching and learning of English?” were generally not understood. Participants responded that they did not know or gave an inappropriate response. As a result, it became necessary for us to gather our information by using less direct questions or by deriving the information we needed from their responses to other questions. This inability to reflect upon their cultural traditions may be attributed to a lack of understanding of the question or to a level of thought for which they were unprepared (DeCapua & Wintergerst, 1998a, 1998b). In contrast, when we posed this question to Russian EFL teachers and Americans teaching in Russia, these informants had little difficulty understanding and responding to the question. Hall and Hall (1990) point out that “because culture is experienced personally, very few individuals see it for what it is—a *program for behavior*” (p. xiv). In other words, without training it is difficult to see one’s own culture.

Some interview questions contained terminology unfamiliar to the participants, such as *teacher-centered* and *learner-centered*. Once these terms were explained, they were able to respond to the questions. The term *study group* also caused some initial confusion since participants interpreted this phrase to mean group work. Once we became aware of the confusion, we were able to modify the questions accordingly.

Differences in interview responses between the university and the college students may be partially understood by examining their ages. The mean age of the university students interviewed was 18 whereas that of the college students interviewed was 28. Many of the college students had completed uni-

versity or technical studies in the home country and had already begun careers before emigrating. Furthermore, all 6 college students interviewed had declared nursing majors. By contrast, 3 of the 7 university students interviewed still had undecided majors. These differences indicate that overall maturity may have played a role in determining the types of interview responses. Given their prior educational and professional background coupled with their older age, the college students expressed greater insights into their personal learning preferences and processes. Even though the university students had been exposed to English more, were younger, and had better educated parents, they did not elaborate as extensively in their comments.

There is also the issue of self-reporting for both the interview and the survey. Are participants able to report accurately on their language learning processes and styles? Their descriptions may be based more on what they think they do (or should do) than on what they actually do (McLaughlin, 1990; Vann & Abraham, 1990). When participants have difficulty with a written instrument (Bonham, 1988), they have no recourse. An important advantage of oral interviews is that when questions, misunderstandings, or both arise in interview sessions, participants have the opportunity to use interactional techniques including elaboration, interlocutor feedback, and back-channeling⁵ to clarify meaning. These techniques played a valuable role in the interviews. There were numerous instances when a participant did not understand the question as initially posed and asked the interviewer for clarification. Likewise, when a participant provided a very abbreviated response to a question, the interviewer was able to ask additional questions to elicit pertinent information. Such options are not available on a written survey instrument.

Conclusion

In this study the participants, despite sharing Russian as their native language, differed in a number of important characteristics. These differences, including among others cultural background and home region, affected their position in the former Soviet Union as well as their current status in the U.S. In view of these differences, we acknowledge that these study participants do not necessarily represent a model of general Russian culture. Though we are assuming a shared cultural background among our participants, the fact that they are from diverse areas of the former Soviet Union might have been instrumental in their emphasizing the differences in their cultures rather than the similarities.

The findings of this study indicated that individual preferences outweighed cultural traditions, though other studies cited in Ehrman and Oxford (1995) and Reid (1995) have suggested that cultural variables impact learning style preferences. In our study, these individual preferences became clear in the oral interviews as participants elaborated on their individual learning style preferences in their ESL/EFL language learning experiences and in their responses to the statements in the PLSPQ.

Our comparison of the results of the PLSPQ with those of the oral interviews revealed that the paper and pencil responses on the PLSPQ frequently did not match the answers in the oral interviews. We attribute these discrepancies in large part to problems in Reid's (1984) survey design. The oral interviews, however, did reconfirm the demographic information on the participant background questionnaire.

This study provides insights into the problematic area of research design and methodology. As a result, we include a warning to researchers to be aware of the nature and psychometric properties of a chosen instrument, even when that instrument is one of the best known and most popular in the field. The outcome emphasizes the need for researchers to develop instruments with demonstrated validity and reliability to minimize cultural biases and linguistic problems. One suggestion is to modify Reid's (1984) PLSPQ. Statements that many participants found unclear or difficult to understand should be revised or deleted.⁶ All statements should explicitly relate to language learning. Any adapted version of the PLSPQ needs to be normed across a variety of cultural and linguistic backgrounds. An alternative suggestion is to design a totally new learning style instrument. This entails generating a pool of statements, piloting the instrument on the target population, determining validity and reliability, revising the survey instrument, and then renorming it. Yet another suggestion is to use one of the existing normed survey instruments such as O'Brien's (1990) The Learning Channel Preference Checklist or Oxford's (1995) Style Analysis Survey and verify its validity and reliability.

Research on learning styles provides teachers with an understanding of students and how they learn. ESL teachers need research instruments specifically tailored to language learning and appropriate to the range of cultural and linguistic backgrounds of the target populations. In order to gain better insights into the learning processes of individuals (Vann & Abraham, 1990), researchers must rely on different elicitation instruments and varied research approaches, for no single instrument or approach can provide a truly complete and accurate picture of a learner's learning style preferences.

Acknowledgment

We would like to thank Rebecca Oxford for her valuable insights and for her mentorship in the shaping of this article.

Authors

Ann C. Wintergerst is associate professor of TESOL in the Department of Modern Foreign Languages and Classical Studies at St. John's University. She received her Ed. D. in TESOL from Teachers College, Columbia University. She is the author of Second-Language Classroom Interaction (University of Toronto Press, 1994) and editor of Focus on Self-Study: Evaluating Post-secondary ESOL Programs (TESOL, 1995). Her articles have also appeared in College ESL.

Andrea DeCapua earned her Ed. D. in Applied Linguistics from Teachers College, Columbia University. She has published in the areas of pragmatics and language learning, and sociolinguistics in such journals as Multilingua, Journal of Pragmatics, and Issues in Applied Linguistics.

Endnotes

- ¹ Due to the small sample size, this study, examining the learning styles of Russian students, should be considered exploratory. The authors encourage other researchers to further explore this area.
- ² Available from Educational Testing Services, Princeton, NJ.
- ³ Available from the University of Michigan, Ann Arbor, MI.
- ⁴ This ratio is largely due to the nature of course offerings at a small Long Island liberal arts college offering the only nursing program in the geographical area and thus attracting a higher than usual number of female students to this traditionally female field of study.
- ⁴ Back channeling refers to conversational gambits or interjections such as “right,” “aha,” and body language such as nods or other body movements that signal interlocutor cooperation, awareness, and participation in the interaction.
- ⁵ An example of statements that many participants found unclear are the following: “I prefer working on projects by myself,” and “I learn more when I can make a model of something.” Participants did not understand how these comments related to a language class. What does it mean to “work on a project” or “make a model of something” in the context of a language class?

References

- Bonham, L. A. (1988). Learning style instruments: Let the buyer beware. *Lifelong Learning: An Omnibus of Practice and Research*, 11, 12-16.
- Brown, H. D. (1994). *Principles of language learning and teaching*. Englewood Cliffs, NJ: Prentice-Hall.
- Call, J. W. E. (1995). *The language learning styles of Japanese university students in English as a foreign language*. Unpublished master's thesis, Ohio University, Athens.
- Cheng, M. H., & Banya, K. (1998). Bridging the gap between teaching style and learning styles. In J. Reid (Ed.), *Understanding learning styles in the second language classroom* (pp. 80-84). Upper Saddle River, NJ: Prentice Hall Regents.

- Cummins, J. (1981). *Bilingualism and minority language children*. Toronto: OISE Press.
- Davis, K. (1995). Qualitative theory and methods in applied linguistics research. *TESOL Quarterly*, 29, 427-453.
- DeCapua, A., & Wintergerst, A. (1998a, February). *Learning styles, cultural variables, and the language classroom*. Paper presented at the 12th annual international conference of the Division of English as an International Language and the Intensive English Institute on Pragmatics and Language Learning, University of Illinois, Urbana-Champaign.
- DeCapua, A., & Wintergerst, A. (1998b, March). *Language learning styles and cultural variables*. Paper presented at the annual conference of the American Association for Applied Linguistics, Seattle, WA.
- Dirksen, C. (1988). Learning styles of mainland Chinese studying English. *ELIC Teaching*, 1, 9-20.
- Dunn, R. S. (1990). Understanding the Dunn and Dunn learning styles model and the need for individual diagnosis and prescription. *Journal of Reading, Writing, and Learning Disabilities International*, 6, 223-247.
- Dunn, R. S., Dunn, K., & Price, G. E. (1975). *The learning style inventory*. Lawrence, KS: Price Systems.
- Dunn, R. S., Dunn, K., & Price, G. E. (1989). *Learning styles inventory (LSI): An inventory for the identification of how individuals in grades 3 through 12 prefer to learn*. Lawrence, KS: Price Systems.
- Dunn, R. S., & Griggs, S. (1983). *Learning styles: Quiet revolution in American secondary schools*. Reston, VA: National Association of Secondary School Principals.
- Dunn, R. S., & Griggs, S. (1990). Research on the learning style characteristics of selected racial and ethnic groups. *Journal of Reading, Writing, & Learning Disabilities International*, 6, 262-280.
- Dunn, R. S., & Griggs, S. (1995). *Multiculturalism and learning style: Teaching and counseling adolescents*. Westport, CT: Praeger.
- Dunn, R. S., & Griggs, S. (2000). *Practical approaches to using learning styles in higher education*. Westport, CT: Bergin & Garvey.

- Ehrman, M. E., & Oxford, R. (1990). Adult language learning styles and strategies in an intensive training setting. *Modern Language Journal*, 74, 311-327.
- Ehrman, M. E., & Oxford, R. (1995). Cognition plus: Correlates of language learning success. *Modern Language Journal*, 79, 67-89.
- Eliason, P. (1989). *Perceptual learning style preferences of second language students: A literature survey and research report*. Unpublished master's thesis. University of Minnesota, Minneapolis.
- Eliason, P. (1995). Difficulties with cross-cultural learning-styles assessment. In J. Reid (Ed.), *Learning styles in the ESL/EFL classroom* (pp. 19-33). Boston: Heinle & Heinle.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York: Basic Books.
- Guild, P. (1994). The culture/learning style connection. *Educational Leadership*, 52, 16-21.
- Hall, E. T., & Hall, M. R. (1990). *Understanding cultural differences*. Yarmouth, ME: Intercultural Press.
- Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge, MA: Cambridge University Press.
- Henry, S. L., & Pepper, F. C. (1990). Cognitive, social, and cultural effects on Indian learning style: Classroom implications. *Journal of Educational Issues of Language Minority Students*, 7, 85-97.
- Herbert, P. A. (1988). Comparing teaching and learning English in the Republic of China and in Japan. *Chinese Culture: A Quarterly Review*, 29, 85-92.
- Hyland, K. (1994). The learning styles of Japanese students. *JALT Journal*, 16, 55-74.
- Itzen, R. (1995). *The dimensionality of learning structures in the Reid Perceptual Learning Style Preference Questionnaire*. Unpublished doctoral dissertation, University of Illinois, Chicago.

- Jacobs, R. L. S. (1990). Learning styles of Black high, average, and low achievers. *Clearing House*, 63, 253-262.
- Katz, N. (1988). Individual learning style: Israeli norms and cross-cultural equivalence of Kolb's learning style inventory. *Journal of Cross-Cultural Psychology*, 19, 361-379.
- Kolb, D. (1976). *The learning style inventory: Self-scoring test and interpretation*. Boston: McBer and Company.
- Lazaraton, A. (1995). Qualitative research in applied linguistics: A progress report. *TESOL Quarterly*, 29, 455-472.
- Levine, A., Reves, T., & Leaver, B. L. (1996). Relationship between language learning strategies and Israeli versus Russian cultural-educational factors. In R. Oxford (Ed.), *Language learning strategies around the world: Cross-cultural perspectives* (pp. 35-45). Honolulu, HI: University of Hawai'i Press.
- McLaughlin, B. (1990). "Conscious" versus "unconscious" learning. *TESOL Quarterly*, 24, 617-634.
- Nam, C., & Oxford, R. (1998). Portrait of a future teacher: Case study of learning styles, strategies, and language disabilities. *System*, 26, 51-63.
- Nelson, G. (1995). Cultural differences in learning styles. In J. Reid (Ed.), *Learning styles in the ESL/EFL classroom* (pp. 3-18). Boston: Heinle & Heinle.
- O'Brien, L. (1990). *Learning channel preference checklist (LCPC)*. Rockville, MD: Specific Diagnostic Services.
- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. Boston: Heinle & Heinle.
- Oxford, R. (1995). *Patterns of cultural identity* (Instructor's Manual). Boston: Heinle & Heinle.
- Oxford, R., & Anderson, N. (1995). A crosscultural view of learning styles. *Language Teaching*, 28, 201-215.
- Oxford, R., Ehrman, M., & Lavine, R. (1991). Style wars: Teacher-student style conflicts in the language classroom. In S. S. Magnan (Ed.), *Challenges in the 1990s for college foreign language programs* (pp. 1-15). Boston: Heinle & Heinle.

- Oxford, R., & Green, J. M. (1996). Language learning histories: Learners and teachers helping each other understand learning styles and strategies. *TESOL Journal*, 6(1), 20-23.
- Oxford, R., Hollaway, M., & Murillo, D. (1992). Language learning styles: Research and practical considerations for teaching in the multicultural tertiary ESL/EFL classroom. *System*, 20, 439-456.
- Parry, K. (1996). Culture, literacy, and L2 reading. *TESOL Quarterly*, 30, 665-692.
- Philips, S. (1983). *The invisible culture: Communication in classroom and community on the Warm Springs Indian Reservation*. Longman, NY.
- Reid, J. (1984). *Perceptual learning styles preference questionnaire*. Unpublished manuscript.
- Reid, J. (1987). The perceptual learning style preferences of ESL students. *TESOL Quarterly*, 21, 87-111.
- Reid, J. (1990). The dirty laundry of ESL survey research. *TESOL Quarterly*, 24, 323-338.
- Reid, J. (1995). *Learning styles in the ESL/EFL classroom*. Boston: Heinle & Heinle.
- Reid, J. (1998). *Understanding learning styles in the second language classroom*. Upper Saddle River, NJ: Prentice Hall Regents.
- Reid, J., Mata Vicioso, M. V., Gedeon, E., Takacs, K., & Korotkikh, Z. (1998). Teachers as perceptual learning styles researchers. In J. Reid, (Ed.), *Understanding learning styles in the second language classroom* (pp. 15-26). Upper Saddle River, NJ: Prentice Hall Regents.
- Reinert, H. (1976). One picture is worth a thousand words? Not necessarily! *Modern Language Journal*, 60, 160-168.
- Rossi-Le, L. (1995). Learning styles and strategies in adult immigrant ESL students. In J. Reid (Ed.), *Learning styles in the ESL/EFL classroom* (pp. 3-18). Boston: Heinle & Heinle.
- Stebbins, C. (1995). Culture-specific perceptual-learning-style preferences of postsecondary students of English as a second language. In J. Reid (Ed.), *Learning styles in the ESL/EFL classroom* (pp. 108-117). Boston: Heinle & Heinle.

- Su, D. (1995). *A study of English learning strategies and styles of Chinese university students in relation to their cultural beliefs and beliefs about learning English*. Unpublished doctoral dissertation, University of Georgia, Athens.
- Sy, B. M. (1991). Perceptual learning style preference of English department students. *Studies in Foreign Language Teaching*, 1, 89-112.
- Vann, R., & Abraham, R. (1990). Strategies of unsuccessful language learners. *TESOL Quarterly*, 24, 177-198.
- Violand-Sánchez, E. (1995). Cognitive and learning styles of high school students: Implications for ESL curriculum development. In J. Reid (Ed.), *Learning styles in the ESL/EFL classroom* (pp. 48-62). Boston: Heinle & Heinle.
- Vogt, L. A., Jordan, C., & Tharp, R. G. (1987). Explaining school failure, producing school success: Two cases. *Anthropology and Education Quarterly*, 18, 212-219.
- Wintergerst, A. C., & DeCapua, A. (1998a, March). *Exploring learning styles of Russian ESL students*. Paper presented at the 32nd annual TESOL Convention, Seattle, WA.
- Wintergerst, A. C., & DeCapua, A. (1998b, October). *Investigating the learning styles of Russian-speaking ESL students*. Paper presented at the 28th annual NYSTESOL Conference, Buffalo, NY.
- Wolfson, N. (1986). Research methodology and the question of validity. *TESOL Quarterly*, 20, 689-699.

Appendix A

Perceptual Learning Style Preference Questionnaire

	SA Strongly Agree	A Agree	U Undecided	D Disagree	SD Strongly Disagree
	SA	A	U	D	SD
1. When the teacher tells me the instructions I understand better.	___	___	___	___	___
2. I prefer to learn by doing something in class.	___	___	___	___	___
3. I get more work done when I work with others.	___	___	___	___	___
4. I learn more when I study with a group.	___	___	___	___	___
5. In class, I learn best when I work with others.	___	___	___	___	___
6. I learn better by reading what the teacher writes on the chalkboard.	___	___	___	___	___
7. When someone tells me how to do something in class, I learn it better.	___	___	___	___	___
8. When I do things in class, I learn better.	___	___	___	___	___
9. I remember things I have heard in class better than things I have read.	___	___	___	___	___
10. When I read instructions, I remember them better.	___	___	___	___	___
11. I learn more when I can make a model of something.	___	___	___	___	___
12. I understand better when I read instructions.	___	___	___	___	___
13. When I study alone, I remember things better.	___	___	___	___	___
14. I learn more when I make something for a class project.	___	___	___	___	___
15. I enjoy learning in class by doing experiments.	___	___	___	___	___
16. I learn better when I make drawings as I study.	___	___	___	___	___
17. I learn better in class when the teacher gives a lecture.	___	___	___	___	___
18. When I work alone, I learn better.	___	___	___	___	___
19. I understand things better in class when I participate in role-playing.	___	___	___	___	___
20. I learn better in class when I listen to someone.	___	___	___	___	___
21. I enjoy working on an assignment with two or three classmates.	___	___	___	___	___
22. When I build something, I remember what I have learned better.	___	___	___	___	___
23. I prefer to study with others.	___	___	___	___	___
24. I learn better by reading than by listening to someone.	___	___	___	___	___

- 25. I enjoy making something for a class project. _____
- 26. I learn best in class when I can participate in related activities. _____
- 27. In class, I work better when I work alone. _____
- 28. I prefer working on projects by myself. _____
- 29. I learn more by reading textbooks than by listening to lectures. _____
- 30. I prefer to work by myself. _____

Note: By Joy Reid, 1995, Department of English, University of Wyoming, Laramie, 82070. Copyright 1984 by Joy Reid. Reprinted with permission.

Appendix B

Background Questionnaire

Last Name _____ First Name _____ Telephone Number _____

Age ____ Sex ____ Religion _____ Native Country _____

Native Language _____ Language (s) spoken at home _____

How many years did you study English in your country? ____ In the United States? ____

Have you taken the TOEFL? ____ yes ____ no. If yes, when? _____ Your score? _____

Which ESL classes are you taking this semester? _____

Are you ____ a graduate student or ____ an undergraduate student?

What is your major? _____

Including this semester, how many semesters have you been at this college/university? ____

How long have you lived in the United States? _____

How many years of school did you complete in the United States? _____

Which grades? ____ 9 ____ 10 ____ 11 ____ 12

College? ____ freshman ____ sophomore ____ junior

How many years of school did you complete in your country? _____

In what republic/region was your school located? _____

Did you attend any university in your home country? ____ yes ____ no

If yes, how many years? _____ Which university? _____

Did you receive a degree? ____ yes ____ no. What kind of degree? _____

In which field? _____

How many years of school did your father complete? ____

If your father completed university, what was his major field of study? _____

Your father's occupation in the U.S.: _____ in your country _____

How many years of school did your mother complete? ____

If your mother completed university, what was her major field of study? _____

Your mother's occupation in the U.S.: _____ in your country _____