This study investigates the problem-solving strategies that second-language students from different educational backgrounds bring with them to an academic writing task. Three students who participated in this study are discussed in this report: one student who experienced uninterrupted education in her native language, completing high school in her native country, and two students whose education had been interrupted and who completed high school in the United States. Students were videotaped as they wrote, specifically the movement of their pens on paper. They were then interviewed about their writing processes and selected pause times, using excerpts from the videotape to stimulate recall. Results showed that the three students differed in their degree of metacognitive awareness, their ability to integrate information from the reading into their writing, attention paid to different aspects of their writing, and the quantity and variety of problem-solving strategies employed. (Adjunct ERIC Clearinghouse on Literacy Education) (Author/VWL)
Interrupted Educational Background and its Impact on the Acquisition of Academic Writing Skills: Case Studies of Southeast Asian Writers

This study investigates the problem-solving strategies that second-language students from different educational backgrounds bring with them to an academic writing task. Three students who participated in this study are discussed in this article: one student who experienced uninterrupted education in her native language, completing high school in her native country, and two students whose education had been interrupted and who completed high school in the United States. Students were videotaped as they wrote, specifically the movement of their pen on paper. They were then interviewed about their writing process, and selected pause times, using excerpts from the videotape to stimulate recall. The three students differed in their degree of metacognitive awareness, their ability to integrate information from the reading into their writing, attention paid to different aspects of their writing, and the quantity and variety of problem-solving strategies employed.

Educators who have worked with Southeast Asians at the college level will recognize two quite different types of students: 1) students who graduated from high school in their native country and have good academic reading and writing skills, but who have not been in this country for very long, and therefore, have poor oral communication skills, and 2) students who graduated from an American high school, have been in this country for a number of years, are fairly fluent and idiomatic in their spoken English, but do not have good academic reading and writing skills.

Cummins (1979, 1980, and 1981a) has suggested that the development of academic proficiency in L2 is partially dependent on the level of academic proficiency in L1 at the time intensive exposure to L2 begins. Academic proficiency includes those
skills necessary for meaningful communication when the contextual clues of face-to-face interpersonal interaction have been reduced. (elaborate) A common underlying proficiency or interdependence of language allows for the transfer of academic skills from L1 to L2. Students who have not yet acquired academic proficiency in their native language, may experience difficulty with academic uses of their second language.

What does this mean for refugee ESL students whose educational background has been interrupted, and who presumably have not developed academic proficiency in their native language? Are they out of luck? doomed to fail? What can we learn about the similarities and differences between students with interrupted and uninterrupted educational backgrounds which will inform practitioners in the field?

The purpose of this study is to explore: 1) strategies that students with strong academic backgrounds in their native language bring to the writing task that students with little formal schooling in their L1 do not, and 2) implications of prior schooling for L2 writing instruction at the college level.

REVIEW OF THE LITERATURE

The arrival of refugees in the United States in the late 1970's and early 1980's from Southeast Asia who were not literate in their native languages, and who subsequently experienced considerable difficulty acquiring English as a second language, prompted a number of studies investigating the role of native
language literacy and formal schooling in second language acquisition (Robson, 1981; Stephany, 1985; Green & Reder, 1986). Most of these studies, however, focused on preliterate adults and young children learning English.

In bilingual education, there have long been anecdotal reports suggesting that Mexican students who had had some education in their native language before immigrating to the United States acquired English more successfully, and performed better academically than Mexican-Americans who had been educated exclusively in English in the U.S. (Wong Filmore & Valadez, 1986).

These reports are consistent with the findings of a study conducted in Sweden of Finnish immigrant students (Skutnabb-Kangas & Toukoman, 1976), and another more recently of Japanese and Vietnamese immigrant students in Canada (Cummins, 1984). Both studies indicate a direct relationship between the number of years students had spent in school studying in their native language and their eventual academic performance in their second language.

Collier (1987) found that second-language students who were at their age/grade level in their native language who entered the American school system between ages 8-11 needed less time to reach the 50th percentile on academic achievement tests than students who entered the school system between ages 4-7 because they had had more time to develop literacy in their native language. The amount of time it takes for students who entered
between the ages 12-16 actually exceeds the number of years students have remaining in high school, because of the increasing difficulty of content material at each successive grade level.

Because bilingual education has generally not been available for Southeast Asian students (Ima and Rumbaut, 1989), students from Vietnam, Cambodia, and Laos, including the Hmong, are placed in courses which require a minimum of language skills such as art, physical education, and music (Stephany, 1985; Woods, 1987), in addition to their ESL classes, until they reach a certain level of language proficiency. Many students, however, have been graduating from high school with limited content knowledge acquisition, as well as limited proficiency in reading and writing English for academic purposes (Collier, 1987).

Although there has been increasing awareness and concern at the post-secondary level about the language proficiency and academic preparedness of refugee students (Verts, 1984; Terdal, 1985; Nadelstern, 1986; Poh, 1988; Bosher, 1989b), there has been little research to document their needs at the post-secondary level, and even fewer studies that focus on their acquisition of academic writing skills.

Researchers in the composing processes of second-language learners have found evidence of the transfer of first language writing skills and strategies to the second language (Brooks, 1985; Jones & Tetro, 1987; Cumming, 1989), although the evidence is not conclusive (Carson, Carrell, Silberstein, Kroll, & Kuehn, 1991).
Brooks (1985) in her investigation of the writing processes of five "unskilled" college writers found that students who had read and written extensively in their native language were able to use those competencies writing in English, including a sense of audience, a variety of composing strategies, and a fund of implicit models. Students who were not competent writers in their native language, however, had difficulty writing in English, as well.

Cumming (1989) found systematic differences between the amount of attention given to different aspects of writing and the problem-solving behaviors and strategies of ESL students at different levels of writing proficiency in their native language. Second-language proficiency added to students' ability to write in the second language, but did not entail "qualitative changes in the thinking processes or decision-making behaviors used for composing" (Cumming, 1989, p. 121), suggesting the need to distinguish between language proficiency and writing proficiency in second-language students.

THE STUDY

Subjects

Three students who participated in this study will be discussed in this article: one student who experienced uninterrupted education in her native language, completing high school in her native country, and two students whose education had been interrupted and who completed high school in the United
States. At the time of this study, these students were enrolled in an academic bridge program for refugee/immigrant students at General College, University of Minnesota. They entered the program with very similar final MELAB (Michigan English Language Assessment Battery) scores (67-70), and by the time of this research project, had completed two quarters of reading and writing instruction in the program, with another two quarters of writing and one quarter of reading instruction left to go, before completing the program. Students volunteered to participate in the project, for which they were paid $10 an hour. Their participation lasted approximately four hours. Table 1 provides background information about these students.

<table>
<thead>
<tr>
<th>Name</th>
<th>Years of Schooling in Li</th>
<th>Years of Schooling in U.S.</th>
<th>Length of Residency in U.S.</th>
<th>1st-Year GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student with an uninterrupted education:</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1. Thi</td>
<td>12</td>
<td>-</td>
<td>1.5</td>
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Students with an interrupted education:

<table>
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<th>Length of Residency in U.S.</th>
<th>1st-Year GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Manisone</td>
<td>9</td>
<td>4</td>
<td>7.0</td>
<td>2.53</td>
</tr>
<tr>
<td>3. Leang</td>
<td>1.5</td>
<td>7</td>
<td>8.5</td>
<td>3.41</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>MELAB Objective Listening Score</th>
<th>MELAB Listening Score</th>
<th>MELAB Composition Score</th>
<th>MELAB Final Score</th>
<th>Essay Score for Research Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with an uninterrupted education:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Thi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Students with an interrupted education:

1. Thi
   - MELAB: 76, 60, 73, 70, 78

2. Manisone
   - MELAB: 51, 76, 73, 67, 71

3. Leang
   - MELAB: 68, 65, 67, 67, 73

TABLE 1: Background information about participating students

The first student, Thi, was from Vietnam, and had completed high school in her native country in 1980. At the time of the study, she had been in this country for a year and a half. She was an "orderly departure" refugee and so, had come directly to this country without spending any time in the camps.

On entry into the program, Thi had a MELAB score of 70. Her subscores were: 76 (Objective, including Reading, Vocabulary, and Grammar); 60 (Listening); and 73 (Composition). The high Objective and low Listening scores are typical of refugee/immigrant students who have completed high school in their native country, but have not been in the U.S. for very long (Bosher and Rowekamp, 1990). The essay she wrote for this research study represents a relatively strong piece of writing, and received a score of 78 by two independent raters, using an 100-point scale that rates essays for content, organization, language use, vocabulary, and mechanics (Jacobs, Zinkgraf, Wormuth, Hartfiel, and Hughey, 1981). Her GPA at the end of the year was 3.8.

Manisone, the second student, had experienced interruption
in her schooling in Laos, eventually graduating from high school in this country. At the beginning of the academic year, Manisone reported having completed nine years of schooling in Laos, but during the interview conducted in Spring, she could not remember how many years she had attended school because she and her family had moved around so much. In any event, the nature of her schooling had been very different from her experiences in the West, as revealed in the following description of the reading and writing activities in her classes in Laos:

Manisone: Just write what the teachers say so just write it down... They don't give a book to try to read so they just talk, talk, talk and you just copy down. That's it.

She spent two years in the refugee camps, where she did not attend school, and then continued school in the U.S. in 9th grade. She was in ESL in 9th, 10th, and 11th grades, and was mainstreamed in 12th grade. At the time of this study, Manisone had been in this country for 7 years.

On entry into the program, Manisone had a MELAB score of 67. Her subscores were: 51 (Objective); 76 (Listening); and 73 (Composition). The low Objective and high Listening scores are typical of refugee/immigrant students with interrupted educational backgrounds who have lived in this country for a number of years (Bosher and Rowekamp, 1990). Her writing was relatively weak, and received a 71 by the two independent raters. Her GPA at the end of the year was 2.53.

Leang, the third student, had also experienced interruption
in his educational background. In fact, from a description of his educational background, one might assume he would have a very difficult time doing well at the post-secondary level. But, such was not the case. Leang had completed only two years of schooling in his native Cambodia, and then started school again in this country in 6th grade, after spending several years in the camps. He was in ESL in 9th and 10th grades, (his first school apparently did not have an ESL program), which raises the question, how he survived his first three years in school. At one point in the interview, he described his situation as follows:

Leang: I didn’t have a chance to be in school in Cambodia because of my country, you know, war going on, and so... I was very upset for myself because I want to learn, I want to know... you see, like math, I never had math in my country, and what I'm learning is in U.S. and I'm not really completely understood what it meant, you know. So, it's very hard to me now.

Leang had been in this country for eight and a half years. On entry into the program, his MELAB score was 67. His subscores were: 68 (Objective); 65 (Listening); and 67 (Composition). His essay was rated 73, and his GPA at the end of the year was 3.41.

Materials

Students were first given an article to read, and then asked to write their opinion about the topic. Although students knew they would be asked to write something related to the article, they were not given the writing assignment until they had finished reading.
The reading was a slightly modified version of an article which had appeared in a local newspaper in November, 1989, about a recent requirement of all students in the local school district to pass competency tests in mathematics, reading, writing, and language, to graduate from high school, and the impact of these tests on the Southeast Asian community. The article was selected because of its accessibility to students, and because it could potentially elicit a variety of written responses, from a purely personal to an analytic response, which synthesized and integrated portions of the reading. Some minor changes were made in the article, such as replacing several ambiguous pronouns with noun phrases, and rearranging some potentially confusing syntactic phrases, to reduce the potential for miscomprehension. Students were given approximately 30 minutes to read the article, although they could have more time if they needed it. Students could use also any dictionary they wanted, and were given the opportunity to ask any questions they had about the reading, before they were given the writing assignment.

The writing prompt asked students to write an essay to the local newspaper in response to the article, discussing their opinion about whether second-language students should be required to take these competency tests to graduate from high school. Students had recently completed a similar assignment for their writing course, so they were familiar with the nature of the writing task. Students were invited to use portions of the reading in support of their opinion, but the instructions were
purposely left open-ended, since I was interested in analyzing how students would use the reading, if at all. Students were given approximately an hour to write, but could take more time if they needed to. Although time was not a variable, students took approximately 63 minutes to complete the writing task.

Procedure

In order to explore problem-solving strategies of these students while maintaining the integrity of their writing process, students were videotaped as they wrote, specifically the movement of their pen on paper. Immediately after students completed the reading/writing task, selections of the videotape, specifically their pause times, were used to stimulate recall of their thought processes.

During the writing sessions, students were observed from another room, and the time of their pauses noted using the counter on the video recorder, as well as when students referred back to the reading or reread what they had written. Immediately after each student had finished writing, they were interviewed about their writing process, and what they had been thinking about during selected pause times. The interviews were audiotaped and transcribed for analysis.

Videotaping subjects as they write provides an alternative to think-aloud protocols for an on-line record of the composing process. This technique has been used in studies of L1 composing (Pianko, 1979; Matsuhashi, 1981; Rose, 1984) and by Jones (1985)
in his study of monitor use in L2 composing.

Although think-aloud protocols have been widely used for studies in both L1 and L2 composing, there is sufficient criticism of the method to suggest the need for a less intrusive alternative, especially where L2 students are the subjects (Cooper & Odell, 1976; Perl, 1980; Faigley & Witte, 1981; Cooper & Holzman, 1983; Rose, 1984). Of particular concern with ESL students is the fact that many writers may think in their native language as they compose (Jones & Tetroe, 1987; Cumming, 1989). To add the additional task of having to report aloud in English might result in cognitive overload and distortion of the writing process. Another alternative, assuming the resources are available, would be to have students record in their native languages, and then translate their protocols into English.

Rose (1981 and 1984) first used the videotape as a stimulus for post-writing interviews. This technique is based on the assumption that the replay will stimulate recall of mental processes that occurred during the writing. Since stimulated recall does not intrude on the actual composing process, Rose argued, it does not lead a student to simplify or hold to the task, as think-aloud protocols might do. Furthermore, it allows the researcher to ask questions of the process, thus uncovering "rules, assumptions, strategies, and conflicts that might otherwise go unvoiced" (Rose, 1984, p. 24).

Pauses seemed a logical point at which to have students recall their mental processes while they were writing, partly
because of the convenience of students' having momentarily stopped their scribal activity, and partly in hopes that students might be engaging in more conscious planning during those moments, planning which might be more accessible for recall at a later time during the interview.

Matsuhashi (1982) has described pauses as "moments of scribal inactivity during writing [which] reflect time for the writer to engage in cognitive planning and decision-making behavior" (p. 270). Writers are generally unaware of their mental processes as they are writing (Nisbett & Wilson, 1977), but as plans and decisions become difficult, conscious attention may return (Weigl, 1975; Scardamalia, Bereiter, & Goelman, 1982). It is those moments of conscious attention during scribal inactivity that the stimulated recall procedure hopes to capture.

Data Analysis

Pausing

In order to investigate general differences in the pausing behavior of these students, pauses of 0.1 second or longer (Jones, 1985) in the first 10 minutes of each student's writing were recorded. Table 2 summarizes this information.

<table>
<thead>
<tr>
<th></th>
<th>Thi</th>
<th>Manisone</th>
<th>Leang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total words</td>
<td>67</td>
<td>119</td>
<td>92</td>
</tr>
<tr>
<td>Total pauses</td>
<td>42</td>
<td>46</td>
<td>34</td>
</tr>
<tr>
<td>Average number of words between pauses</td>
<td>1.6</td>
<td>2.6</td>
<td>2.7</td>
</tr>
</tbody>
</table>
Total pause time (sec) 441 252 376
Mean pause length (sec) 10.5 5.48 11.06
% total time pausing 73.5% 42% 62.7%

TABLE 2: Pausing Behavior during the first 10 minutes of writing

As Table 2 indicates, Thi is the least fluent of the three writers, and Manisone the most fluent, as measured by number of words produced in the first 10 minutes of writing. If we look at another indication of fluency, the average number of words produced between pauses, Leang is slightly more fluent than Manisone, but again Thi is the least fluent of all. Thi paused an average of 10 seconds per every 1.6 word! Although the length of Leang's pauses is slightly longer, he produced more words in between. That is, he paused at greater intervals, for longer periods of time.

Although Manisone is the most fluent of the three writers, she spent the least amount of time pausing. If pausing reflects time spent planning, as suggested by Matsuhashi (1981), than she spent the least amount of time planning. In contrast, Thi spent over 73% of composing time pausing, but some of that time was inefficiently spent since she produced much less text and at much smaller intervals, than did Leang.

Leang seems to have the best combination of fluency with the language, and longer pauses at greater intervals, for purposes of planning. Matsuhashi (1982) has suggested that "long pauses, accompanied by gazing or rereading activity and by removing the
pen from the page, correspond to multiple decisions, generally ones which encompass global issues as well as local ones" (p. 278). The most productive pauses, those that reflect the cognitive processes of more mature writers, therefore, are the longer ones.

The Interview

Immediately after students had finished writing, they were interviewed about their writing process, and about specific pause times during their writing. (See Appendix A for responses to selected questions during the interview.) Their responses indicate very different priorities and concerns about their writing, and different strategies for solving problems.

Thi frequently focuses on discourse features of her text, indicating a close relationship in her mind between the content of a paper and its organization:

Thi: I focus all of my thoughts in introduction with the problem and... after the introduction I am taking the question in the writing and this question has two main problems. One is that the necessity of taking the competency test and the other one is the reason. So, I revised my body as two problems and the main part is the reason so I write the reason and the problem and I explained them.

Thi very definitely plans what she is going to write before she writes, and refers back to her overall plan throughout the essay.

With regards to content, Thi is eager to relate the ideas of the article to her own experiences, and does so in a balanced, integrated way. Her essay is neither based exclusively on personal experience or the ideas of the article. Rather, the
article serves as a departure point for her own ideas, to which she returns periodically throughout the essay.

Thi is very much concerned with the overall development and coherence of her ideas. She "gets stuck," in her words,

(Thi) because I want to find out some more explanation about my thinking in the article, but when I read... I re-read my writing. I think that there is no more for to write and because of the ideas when I think after I finish my writing it doesn't relate to the problem in the article so I have to decide how to talk to it.

She pauses frequently while she writes, to organize her thoughts and decide how to say something before she writes it down. She is very concerned about the lack of fluency in her thinking/writing process, and frequently complains about the difficulty of thinking and writing in a second language:

Thi: I think Vietnamese first and then translate into English. Because I think with my Vietnamese is easier. When I think in English, with English language, my idea is a very slow. So, it's hard for me to start thinking with English... I think and I translate and at the same time I choose the appropriate ideas, appropriate words with the ideas I write. It's difficult...

Overall, however, Thi is very comfortable talking about her writing and is quite articulate in communicating her intentions, as well as frustrations.

Manisone is a good example of a writer who does not plan before she writes, or while she is writing. She knew right away what she was going to say, and "just wrote, it's come out of my head and just wrote it down. That's just my way."

Her essay is based almost exclusively on her own personal opinion. She briefly referred to one of the students mentioned
in the article "Example like Vang said even he did not pass the test. He will retake over and over again until he pass it. No matter how hard it is." Otherwise, her essay relies on opinions she has formed based on her years in the secondary school system.

During the writing process, Manisone is concerned primarily with getting from one sentence to the next, even if the overall flow of her ideas does not make much sense: "When I had a hard time to think about the next sentence to continue, so I get stuck." When she got stuck, she did not refer back to the article, or reread more than the previous sentence, nor did she generate alternatives and choose the best one:

(Manisone) ... just have only one thing, I didn't choose anything. Everything I think I just wrote it down and just go on and on. I didn't go back and read if it make sense or not, grammar, or the sentence.

Leang's responses to questions about his writing process indicate an approach to academic tasks that is very much grounded in text. He followed the directions carefully, and stayed close to the ideas of the article, and his assumptions about the teacher's expectations for academic discourse:

Leang: It's [the essay] based on the article. The idea's based on the article and to support this article I have to state some of my ideas... Like I'm ESL too... South Asian.

As he read the article for the first time, Leang underlined the main ideas and took extensive marginal notes, which he then presented orally to this researcher when asked if he had any questions about the reading. (Thi took notes on a separate sheet of paper; Manisone neither underlined or took notes.)
started, Leang had to think awhile, then reviewed his marginal notes, and reread the directions:

Leang: I start first, according to the question, direction, whatever, they say where are you... Should school require the ESL student to take the competency test? So, that's the question, so I have to answer it right away... what I think... so, here, I answer it first then I... gave my support statement.

Likewise, when he got stuck, Leang went back to the text— to his marginal notes, or to the article itself.

His essay is more like a summary than an opinion piece. He refers constantly to the ideas in the article, and the opinions he expresses as his own in fact, mirror those of the expert witness in the article.

Stimulated Recall

During the second part of each interview, selected pauses during the writing process were located on the videotape, as well as the place at which each pause occurred in the student's writing. (Although the camera could not get close enough during the videotaping to read what students were writing without loosing some of the page on the screen, it was easy enough to follow along the contours of the writing afterwards to locate specific points in the paper.)

Students' responses to what they had been thinking about at specific moments during the writing process were transcribed and then categorized according to what aspect of their writing they had been attending to, and what strategies they employed to help generate a solution to a perceived problem in their writing. The
following coding scheme, adapted from Cumming (1989), explains

the categories in more detail:

Attention to Aspects of Writing

1. GIST - Substantive content of the writing - the
   writer's thoughts or ideas (formulating, considering,
   reconsidering or searching for content in the writing).

2. DISCOURSE ORGANIZATION - Organization of written
   discourse, its structure beyond the level of the clause
   (paragraphs, introduction, conclusion, points,
   examples, details, summary).

3. INTENTION - Overall purpose of the text or a
   portion of the text.

4. LANGUAGE USE - Use of English as a linguistic code
   (grammar, punctuation, orthography).

5. PROCEDURE - Reference to procedural issues from
   text generation to difficulties with fluency and
   translation.

Problem-solving Strategies

1. PROBLEM IDENTIFICATION #1 - No heuristic search, no
   resolution.

2. PROBLEM IDENTIFICATION #2 - No heuristic search,
   but with resolution. (Solution to the problem follows
   from its recognition.)

3. PROBLEM IDENTIFICATION #3 - Heuristic search, but
   no resolution.

4. PROBLEM IDENTIFICATION #4 - Heuristic search with
   resolution:

   A. ENGAGING A SEARCH ROUTINE - returning to
      the text (either the article or the student's
      writing), or engaging the student's memory,

   B. GENERATING AND ASSESSING ALTERNATIVES -
      either related to gist or to language issues,

   C. ASSESSING IN RELATION TO A CRITERION,
      STANDARD, EXPLANATION, OR RULE - typically to
      solve a question about language use,

   D. DIRECTED QUESTIONS - typically wh-
questions regarding gist,

E. SETTING OR ADHERING TO A GOAL - goals related to specific parts of the text.

(See Appendix B for excerpts from the first five pauses in the students' writing. The pause times in the students' writing have been marked with a number, and the responses categorized according to what aspect students were attending to in their writing and the problem-solving strategies they employed.)

Table 3 compares the three students' attention to aspects of writing and their problem-solving strategies:

<table>
<thead>
<tr>
<th>Number of Pauses</th>
<th>A. Thi</th>
<th>B. Manisone</th>
<th>C. Leang</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>29</td>
<td>27</td>
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<thead>
<tr>
<th>Attention to Aspects of Writing</th>
<th>A. Thi</th>
<th>B. Manisone</th>
<th>C. Leang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gist:</td>
<td>15</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Discourse:</td>
<td>5</td>
<td>3</td>
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<tr>
<td>Intention:</td>
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</tr>
<tr>
<td>Language:</td>
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<td>Procedure:</td>
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<td>10</td>
<td>3</td>
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<th>Attention to two or more aspects of writing</th>
<th>A. Thi</th>
<th>B. Manisone</th>
<th>C. Leang</th>
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<th>C. Leang</th>
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<td>10</td>
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<td>#4b:</td>
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<td>6</td>
<td>3</td>
</tr>
<tr>
<td>#4c:</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>#4d:</td>
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<td>0</td>
<td>7</td>
</tr>
<tr>
<td>#4e:</td>
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<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3: Attention to aspects of writing and problem-solving strategies

A comparison of the writing behavior of Thi and Manisone, as
well as Leang, specifically the attention each paid to aspects of their writing, and their problem-solving strategies, reveals interesting differences.

Thi, who did not experience interruption in her educational background, attended to the content (gist) of her writing to a much greater extent than Manisone. Thi was also more concerned about the organization and structure of her essay (discourse). The way each attended to discourse differed qualitatively, however. Thi planned out the overall structure and organization of her essay early on, whereas from time to time as Manisone wrote, she wondered whether or not to start a new paragraph, or how to join two sentences.

Manisone, who experienced interruption in her educational background, attended to language issues in her writing, more than to any other aspect, and again, there was a qualitative difference in her attention to form and the way in which Thi attended to language issues. Manisone was concerned primarily with spelling and other single-word changes, whereas Thi focused on the clarity of her syntax, at the sentence level, indicating a greater sophistication in her formal knowledge of the language.

On the other hand, Thi was frequently preoccupied with her lack of fluency and struggled with how to make her thoughts come more smoothly (procedure). She is a good example of Krashen's "monitor overuser" (1982), though it is unclear how much her concern with fluency actually interfered with her ability to generate and develop ideas.
In contrast, Manisone was uninhibited as she wrote. Her primary strategy for writing was to write everything that came to mind, without much planning or decision-making along the way. When the words stop flowing however, she had difficulty generating the next sentence.

Thi often attended to more than one aspect in her writing, while Manisone did not. Cumming (1989) found that the more experienced L2 writers in his study attended to two or more aspects of their writing to a greater extent than did the basic writers.

Although Leang experienced the greatest amount of interruption in his education, his writing behavior more closely resembled that of Thi than of Manisone. He attended to gist just as often as Thi, although slightly less to the organization of his essay, and a little more to language issues. However, he attended more to the overall goals of his essay (intention) than Thi, and considerably less on procedural issues. And, he attended to more than one aspect in his writing almost as many times as Thi.

A comparison of problem-solving strategies reveals that Thi used more successful strategies than did Manisone (a combination of 4a - 4e), used a greater variety of strategies (Manisone did not engage in either 4d or 4e), had fewer instances of unresolved problems (a combination of 1 and 3), and relied less on automatic solutions to problems (2). In terms of specific strategies, Thi engaged in more search routines (4a), whether in the text of the
original article or her own emerging essay, or in her memory.

Leang used more successful strategies than Thi (a combination of 4a - 4e), employed almost as great a variety of strategies (he did not engage in 4e), had no instances of unresolved problems (a combination of 1 and 3), and relied least of all on automatic solutions to problems (2). In terms of specific strategies, Leang engaged in more search routines than Thi (4a), and employed directed questions more than Thi (4d).

Table 4 presents a comparison of the problem-solving strategies used in percentages of total pause time.

<table>
<thead>
<tr>
<th></th>
<th>A. Thi</th>
<th>B. Manison</th>
<th>C. Leang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Pauses</td>
<td>30</td>
<td>29</td>
<td>27</td>
</tr>
<tr>
<td>Problem-Solving Behaviors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Successful Strategies (#4a-4e):</td>
<td>63%</td>
<td>52%</td>
<td>85%</td>
</tr>
<tr>
<td>Automatic Solutions to Problems (#2):</td>
<td>27%</td>
<td>24%</td>
<td>7%</td>
</tr>
<tr>
<td>Unresolved Problems (#1 and #3):</td>
<td>10%</td>
<td>24%</td>
<td>0%</td>
</tr>
</tbody>
</table>

TABLE 4: Comparison of Problem-Solving Behaviors in Percentages of Total Pause Time

RESULTS

A comparison of the writing processes of these writers, their problem-solving strategies, and the written text produced reveals interesting differences. First, Thi and Leang were much more capable of talking about what they had been thinking about
at given moments during the writing process than was Manisone. They had greater metacognitive awareness, and were able to converse about their metacognitive functioning to a greater extent.

This is not to be confused with oral language proficiency, since, in fact, Thi was much less fluent in English than either Manisone or Leang who had lived in this country much longer and had graduated from an American high school. While Thi and Leang had a better vocabulary for talking about discourse issues than Manisone, Manisone and Leang spoke more grammatically and with much greater ease.

Scardamalia and Paris (1985) have suggested that explicit discourse knowledge aids mature writers in planning and problem solving through the use of explicit mental representations of structure, gists, and intentions. "Abstract representations free writers from needing to carry in active memory the resource-consuming representations required to hold precise contents, and thus are particularly advantageous when more than one sentence is being considered" (p. 6). Immature writers, on the other hand, are able to use explicit discourse knowledge to help solve the problem of what to say next, a knowledge-telling strategy, but do not use more complex mental representations of their intentions, structure, or gist, during the composing process.

Another difference was the degree to which the three students attended to the content and organization of their essay. Manisone attended primarily either to the generation of text or...
to surface features in her writing, whereas Thi and Leang attended to the content and organization of their essay, though Thi frequently expressed concern about translation and fluency issues.

Finally, from an analysis of their essays, Thi was much more capable of integrating ideas from the article into her writing than either Manisone or Leang. Thi tended to synthesize information and opinions from the article, to evaluate them, and even to challenge them. Her response to the problem of competency testing was multi-dimensional, and included both a personal and a critical response.

Manisone pulled specific bits and pieces of information from the text, which she then copied almost verbatim in her essay, but she relied primarily on her personal experiences to construct her essay.

Leang had difficulty breaking away from the article. His essay was more a summary of the reading, than an integrated response and analysis of it, and his opinion, hastily tacked on at the end of his essay, mirrored those expressed in the article, that if the tests are given, certain concessions for second-language students were necessary, such as allowing them to use a dictionary, and so forth.

These differences between the three writers were revealed not just in the coded responses to the interview with the students about their pause times, but also in their own descriptions of their writing process, and their on-line writing
behavior, as revealed in the length and frequency of their pauses. Furthermore, qualitative differences are clear in the students' writing sample, as additional evidence of the different writing and problem-solving strategies students bring with them to the academic writing task.

DISCUSSION

Southeast Asians with interrupted educational backgrounds, like other inexperienced L1 and L2 writers, may have difficulty interacting with written text in meaningful ways. While the writing of students like Manisone can be quite fluent, and their ability to generate a personal response to written text quite good, they may not have had sufficient practice taking meaning from text, developing their own ideas in expository ways, and integrating the two into an overall plan. In fact, they may tend not to write with a plan, or with a clear sense of organization or purpose.

Their primary strategy may be to freewrite whatever comes to mind, without applying any criteria or judgement, regardless of how it fits or flows from the previous sentence or paragraph. This technique might work with a paper for which multiple drafts will be written, but the writer still needs to be able to apply criteria and make decisions at a later stage.

This study suggests that an uninterrupted educational background in the student's native language may be an important factor in the acquisition of L2 writing for academic purposes.
Length of residency in the U.S. and years of ESL in secondary school are not. These findings support Cummins' interdependence hypothesis and his distinction between language acquired for basic interpersonal communication and language acquired for academic purposes (Cummins, 1979). Acquisition of interpersonal communication skills does not necessarily lead to acquisition of academic language skills, but acquisition of the latter in the native language does facilitate its development in the second language. This study also tentatively supports the findings of other studies which have found positive transfer of writing proficiency, and writing strategies, from the student's native language to their second language, although this study did not observe students composing in their native language, nor did it evaluate students' writing samples in their native language.

This study also suggests that second language students who may be placed in the same level of ESL instruction, indeed who have similar overall test scores, are not at the same stage developmentally in their writing (Brooks, 1985), and may have very different strengths and weaknesses which they bring to the academic reading/writing task.

There are, however, obvious limitations to a study like this. Data from only three students who participated in the study are presented here. In addition, only one writing sample was obtained, and students were not asked to compose in their native language, nor were samples of writing in their first language obtained. Furthermore, students wrote in a laboratory
setting they had not previously been exposed to.

However, three different kinds of data were obtained—a quantitative sample of pausing behavior, interviews with students about their writing process, and stimulated recall of approximately 29 pauses during the writing process itself. Analysis of each of these data indicates similar patterns of differences in planning and problem-solving behavior between Thi, Manisone, and Leang.

**PEDAGOGICAL IMPLICATIONS**

The compensation strategies that Leang brought with him to the reading/writing task offer some insight into appropriate pedagogical responses to students with interrupted educational backgrounds and all that implies. For example, a pedagogical approach to academic writing which is heavily text-based is perhaps more effective than a curriculum based on a predominantly personal, narrative style of writing, which however useful for developing overall fluency in writing and a sense of personal voice and accomplishment, is not sufficient for developing proficiency in academic writing. Students may already be fairly competent writing personal narratives, and need the opportunity to broaden their voice, and integrate the ideas and opinions of others into their own. Once students are comfortable with taking meaning from text and have developed a repertoire of strategies for getting at that meaning, they can begin to move away from the text, integrating it in more sophisticated ways with their own
ideas, and the ideas of others.

Students need a specific framework within which to do this, from reading comprehension strategies such as underlining the main idea and learning how to make appropriate marginal notes, to learning how an essay is organized and attending to certain features of discourse. They need to articulate a clear sense of purpose and direction in their writing, and have an overall plan to which they can refer throughout the writing process. Creating text from sentence to sentence is the result of not having a global plan or set of strategies, and will not lead to effective writing. This is not to suggest that students must have a fixed outline from which they cannot deviate as they write. But, freewriting to fill the page, as students are often told to do, may not be an effective strategy, unless the student knows how to apply selection criteria at a later stage. Inexperienced L2 writers tend not to revise in chunks, at the level of meaning, and tend to focus on surface-level changes. Therefore, a variety of heuristics are necessary for helping L2 inexperienced writers develop a general plan, before they have generated a quagmire of text. Directed questions seem to be a particular useful and accessible strategy with which to begin.

Students should be encouraged to talk about their plans with others. While Thi was less fluent in spoken English, she was more capable of talking about her writing than Manisone. It is unclear, however, whether metacognitive awareness leads to more effective strategies, and presumably better writing, or whether
it is the other way around. In either case, students who have interrupted educational backgrounds also tend to be those who have lived in this country longer and are generally more fluent in spoken English. Their oral fluency should be used to facilitate greater awareness of what they are doing as they engage in academic learning, which may lead to greater sophistication in their cognitive strategies.

CONCLUSION

Refugee students at the post-secondary are not an homogeneous group of students. Although anecdotally we might be able to separate them into two general categories - those with an uninterrupted educational background and those without - there are individual differences within these groups, as well.

In addition, an educational background, whether interrupted or not, does not necessarily mean the same thing in every situation. Literacy is a function of the social, political, and economic context in which it is acquired (Spolsky, 1982; Weinstein, 1984; Bosher, 1989a). We cannot simply equate first language literacy with schooling, nor schooling with proficiency in reading and writing for academic purposes, as Manisone's description of classroom activities in Laos testifies. Furthermore, there will always be differences in the extent to which individuals are successful second language learners, for a host of complex reasons that are beyond the scope of this article.
Nevertheless, those students who have experienced disruption and instability in their lives and have not been able to attend to their education consistently, or whose educational opportunities in this country have been less than equal (Poh, 1988), will most likely need assistance to succeed in higher education. Many of these students are not getting the help they need because colleges and universities are not sure how to respond to the language and academic needs of the permanent resident population. Many state schools at the post-secondary level, for example, do not require these students to take a language proficiency test or to enroll in an ESL program, since these students are permanent residents of the U.S. and have graduated from American high schools. Yet, we also know that this population in many cases does not have the language and academic skills necessary to do well in higher education, and many of these students will not seek out the assistance they need. Indeed, they avoid language intensive classes and typically choose majors in the technical fields, whether or not they are interested or have aptitude in these areas (Stuart & Flinspach, 1990).

Further research is needed in the acquisition of L2 reading and writing skills in the Southeast Asian population, and the effects of an interrupted educational background on cognitive processes and problem-solving strategies. The needs of these students must be documented to help educators develop appropriate materials and pedagogy to facilitate these students' chances for
success in higher education, and thus for a more meaningful and productive life.
REFERENCES


proficiency." Language Learning, 39 (1), 81-141.


APPENDIX A

Responses to Selected Questions from the Interview

(Key words and phrases in the students' responses have been underlined.)

Let's talk first about what you wrote. Should schools require their ESL students to take competency tests? Why or why not? What were your main points?

A. Thi: I just think the main point in the article is taking the test by the Asian students. So I focus all of my thoughts in introduction with the problem and... After the introduction I am taking the question in the writing and this question has two main problems. One is that the necessity of taking the competency test and the other one is the reason. So, I revised my body as two problems and the main part is the reason so I write the reason and the problem and I explained them.

B. Manisone: Ok. They should have the test to improve and keep their background learning English. They can have more skills.

C. Leang: My main point's that they should know, that they should know something, they should know better in order to get to the next step to get college or whatever they should be able to know something. That's my main point. Yes.

Was this a difficult topic for you to write about? Why or why not?

A. Thi: I think it's not difficult. Because I am an Asian student so I have some experiences when I take some tests in English. When I have these sort of tests I get problems. There a lot of new words I don't know, but if I read the whole text I can get what the text requires me to do. Too many days I have been in my course in formal grammar. I have the same experience with the article.

B. Manisone: No. It's not hard, but I think I jump up and down... Because it depends on myself. It's the same situation.

C. Leang: No. I think it's pretty much related to me. I can write it because it's related to me and I did state some statement in there too according to the article.
Where did you get your ideas for the writing from?

A. Thi: At first I attacked the ideas of the article. I wrote the problem in the article is limitation of Asian students with the competency tests. I relate this with my experience from the tests that I passed when I come to the United States. That's all.

B. Manisone: From the article and from your head.

C. Leang: It's based on the article. The idea's based on the article and to support this article I have to state some of my ideas... Like I'm ESL too... South Asian.

Did you know right away what you were going to say or did you have to think awhile?

A. Thi: When I read the article I had think right away but when I write because I want arrange my thinking orderly so I have a lot of pauses when I am writing.

B. Manisone: Uh huh. [she knew right away]. Because I think of myself, I didn't take the test so I don't know how I go out in the English, so.

C. Leang: I had to think awhile what I'm going to say. When I start this, I think it took me for awhile but I don't know... 2 or 3 minutes to review my marginal [notes]. What it is they talking about and to write my main ideas for the introduction.

How did you decide how or where to begin?

A. Thi: I think when I read the article I got the problem is the real ability of Asian students when they take competency tests and this is also my experience when I take the tests, many tests. So, I decide my introduction by the... I put the ability of Asian students in my introduction... I want to focus the problem I got from the article.

B. Manisone: I just wrote, it's come out of my head and just wrote it down. That's... just my way.

C. Leang: I start first, according to the question, direction, whatever, they say where are you... Should school require the ESL student to take the competency test? So, that's the question, so I have to answer it
right away... what I think... so, here, I answer it first gave my support statement.

Did you ever get stuck? When did you get stuck and why? What did you do to get "unstuck"?

A. Thi: Yeah. When I stopped, because I want to find out some more explanation about my thinking in the article, but when I read... I re-read my writing. I think that there is no more for to write and because of the ideas when I think after I finish my writing it doesn't relate to the problem in the article so I have to decide how to talk to it.

B. Manisone: Yes. When I had a hard time to think about the next sentence to continue, so I get stuck. [What did you do it get unstuck?] I didn't go back and read if it make sense or not. I didn't go back and read if it make sense or not. Everything I think I just wrote it down and just go on and on. I didn't go back and read if it make sense or not, grammar, or the sentence. [So when you write, would you say that you write everything down that you think or do you think about several different things and chose one thing and just write down that one thing?] No, just have only one thing, I didn't chose anything.

C. Leang: Uh huh. Often. I had to think. Some... some part, I had to think back a little bit, so I had to look up my marginal [notes]. Not just my marginal but like stating... like counterstatements to defend these statements. You know, math is not a competency test so I had to think to get the fact... what I'm going to say. [And, so to get unstuck you refer to the article alot?] Uh huh. Yea, to the article to get some more idea, to refresh my idea.
APPENDIX B

Excerpts from Students’ Writing and Pause Times

Students were asked to look at the decisions they had made as they were writing, by responding to the following question: "At this point you stopped writing. Can you tell me why you stopped writing and what you were thinking?"

The pause times in the students’ writing have been marked with a number and the responses have been categorized according to what aspect students were attending to in their writing and the problem-solving strategies they employed. Words that have been bracketed in the essay were crossed out. Key words and phrases from the

A. Thi:

To the Asian students, English proficiency is a problem when they get competency tests. Although they have had a lot of years in learning English in their own country, they get trouble in taking tests. (1)

As a matter of fact, then the students study in high school, (2) they don't learn a lot of new don't have enough of (3) too much time for language subject and the teachers emphasize grammar. (4) Moreover the students don't have a lot of new words in such as the technique words (5)...

(1). Because when I think there are a lot of ideas, some related to the problem in the article and some aren't... when I finish my introduction, at that time I don't know what is going on so I don't know how to start my body. Because I don't know how to start my body, so I re-read the main point in the article. I read the question in the article and I took the main point and I write directly. DISCOURSE//SEARCH ROUTINE

(2). At first I suppose I choose when the students study in a high school they don't learn a lot of new words in English subjects, but when I write I... this is not right because in my country English is not the main language and the time when the students study English doesn't have a lot of time and I relate because the students doesn't have a lot of time for English subjects. So I changed my mind by taking the point from don't having enough time. So I continue writing my paper. GIST//GENERATING AND ASSESSING ALTERNATIVES

(3). I finding the word, the word choice there... When
I find the appropriate word I think the word I use before and I change my mind. I choose another word to be appropriate with the letter, yeah, the letter one, the word. You see, I have two processes. The first one and the second one. When I have a pause in the second one, at that time I know I don't find out what I want to write, continue, and so when I write it down I re-read, I remember the first one I use "enough," this word is "enough," appropriate with the idea I think is the second one so I change my mind.

LANGUAGE//ASSESSING IN RELATION TO A CRITERION

(4). At that time I want to explain more the idea I got when I emphasize, the teacher only emphasizes grammar and because I want to explain more... I just think when I study English in my high school in my country, in English class I only study grammar and I don't study another technique and just general words in English, I don't study technique word so that's why I lack of knowledge when I take the test. That's the reason why I want to explain more, the teachers emphasize the grammar, I mean, grammar on general words, not technical words. GIST//SEARCH ROUTINE

(5). My thoughts is stuck so I think, I stop and I think and I apply the idea that isn't easy to write continuously... You know because when I write with my thoughts, of course my thought is not continouly so I have a lot of pause... when my thought is continuous I can write easily and when my thought is stuck I stop and I think again, again. PROCEDURE//PROBLEM IDENTIFICATION #3

B. Manisone:

In my opinion according to this article, I think each school in the United States, before they are going to get diploma, they have to take the test in case (1) to measure their knowlege. Since I have seen myself, I graduated without any test of my language I have very poor in my English language. (2) The result it shows when I attend in the college. I don't have enough knowlege and also my english was poor.

The (3) reason that I want schools should have (4) the test before graduate because each students should know more (5) have has to have a quality, after able to know contain of language...

(1). I going to say something with my idea, not come out so I just erase it out and continue with the other one. [Do you remember what you were going to say?]
"In case" something. PROCEDURE//PROBLEM IDENTIFICATION #1

(2). What I'm going to say next, connect sentence. DISCOURSE//SEARCH ROUTINE

(3). I think should this one go the same paragraph or not... It's a new idea. DISCOURSE//SEARCH ROUTINE

(4). Idea to write. Yep, I think I say more than one time so I just think what should I write. [You say what more than one time?] Test. LANGUAGE//PROBLEM IDENTIFICATION #2

(5). Because I think maybe to continue this sentence, I( say "should know more" what, I don't know what to say next, "should know more..." I don't know what word to go next. LANGUAGE//PROBLEM IDENTIFICATION #1

C. Leang:

According to this article about the Southeast Asian have failed the competency test. Mr. (1) Dufrense an instructor in ESL stated that because of the language. (2) He gave one of the examples in Math - the word problems, math is not the test but reading. (3) Therefore many of the Southeast Asian seek to transfer to other school like (4) West St. Paul or Bloomington where there is no graduating test. For this, I think (5) the competency test is not fair for Southeast Asian...

(1). I was thinking to get some proof that I, see I wrote this according to this article, fail the, Southeast Asian fail the competency test, so, why? So I'm thinking back to get a statement to defend, because of the language. INTENTION,GIST//DIRECTED QUESTIONS

(2). It's part of, you know, introduction, it's kind of hard for me to concentrate. So, I have to stop often, to think and at this point, umm, in order to... I kind of like answer myself step by step. See... because of the language. In what way of language and then it said math, the word problem, and yeah, that's why I said "math - the word problem is not the test". DISCOURSE,GIST//DIRECTED QUESTIONS

(3). "Math - the word problem is not the test but reading." And I look at... I look at back... umm, yeah, to make sure that I stated it right. GIST//SEARCH ROUTINE

(4). Oh, yeah, I have to state my main point, to state
that, therefore me as a student, South Asian, seek to transfer to other school. Like what school? So, St. Paul or Bloomington, from the text.

DISCOURSE, GIST//DIRECTED QUESTIONS

(5). I was thinking that the test not fair for those students, you know, is... um... I wasn't thinking that they transfer to other school, and it's not fair, you know, why should they have to transfer to other school? I state they you see some students have high knowledge in doing, at something else. GIST//DIRECTED QUESTIONS