The Relationship between Gaining Mastery on 'Content' (School Subject Matters) and 'Linguistic Competence Level in Second Language' through Immersion Program

Shaban Barimani, Ph. D. Candidate
Islamic Azad University, Sari Branch

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Abstract

One of the main concerns for the immersion students' parents has always been about their children's lag in academic courses and the school subjects. They thought their children would lag behind in matters such as math in comparison to the non-immersion students.

In this study it was attempted to find the proportionate relationship between the level of linguistic competence in second language and mastery on content (subject matters) among the Indian students. Two homogeneous groups of students from two immersion schools from Mysore, Karnataka participated in the study. They were given two different tests on proficiency and content. The obtained data were analyzed through Pearson product moment correlation by SPSS version 17 with alpha 0.05. The result (Sig. = .000) statistically confirmed that the relationship is quite significant.

Keywords: Immersion program, content, linguistic, competence

Introduction

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One of the recent innovative approaches and a very interesting innovation in second language education is 'immersion program', a specific type of integrated language teaching with the instruction of the regular school curriculum. In fact, in this method the school subject matters or contents are taught through the medium of a second language. In their early childhood education, the students are provided with an opportunity to learn the elementary academic subjects along with developing competence in a second language. In immersion schools, the students experience a cooperative learning where they can acquire a second language while they master the school subject matters or contents. In this method the target language is not the subject of instruction but a vehicle for acquiring knowledge from different subject areas, content instruction, as well as the object of instruction. Language is not taught in isolation, it is integrated with teaching content-subject matters.

Statement of the problem

Naturally at the initial stages and at the beginning of immersion program implementation, the learners may have problems in comprehending the target language as the medium of instruction. However, this problem has emerged as one of the main concerns for the immersion students' parents. They think that their children may lag behind in the academic subjects in comparison to the non immersion students. Of course, such a concern is not that irrelevant since the studies done by researchers such as Holobow et al (1987), Swain & Lapkin (1991), and Jon Reyhner (1992) justify the presence of such concerns. They tried to determine the rate of the students' achievement of the contents and subject matters taught through the medium of the target language.

If the importance of this problem is not properly taken into consideration by the teachers and the immersion program staff, it can potentially cause various problems. One of its greatest manifestations would be a high rate of student drop-out from the program. Keen (1993), for example, reported that in the province of Alberta between 1983-84 and 1990-91, attrition rates from immersion program ranged from 43% to 68% by grade 6, 58% to 83% by grade 9, and 88% to 97% by grade 12. Definitely, not all drop-out from the program reflects academic difficulties. At a high extent it happens because of improper meaning transmission. So, the first weeks and days may seem intolerable to the students and their parents. This period is called the adaptation period by the theorists.

In this study, it was attempted to determine the proportionate relationship between gaining mastery on content and level of linguistic competence in second (medium of instruction) language.

Methodology

Research Strategy and Design

In terms of research method, this study falls into the category of "quantitative" one as it involves data collection procedures that result primarily in numerical data which is then analyzed by statistical methods.

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Based on the obtained information through the demography form, two groups of the subjects were found as outliers. To avoid any contamination in the results, they were excluded from the process. These were:

1. Those who hadn't passed the kindergarten period namely Lower Kindergarten (LKG) and Upper Kindergarten (UKG) in English medium.

2. Those whose home language was English.

Having selected the participants for the study, the researcher administered a pre-test to secure their homogeneity and to eliminate their pre-existing differences. For this purpose, he applied the '*YEL*' series produced by Cambridge University for *Young English Learners*. The *YEL* series is at three different levels of difficulty namely *Starters*, *Movers*, and *Flyers*. Each of them is composed of two distinctive sections: 'Listening' and 'Reading and Writing'. In this study the '*Movers*' was used to homogenize the participants.

Participants

In this study, in order to provide a logical and data-based answer to the question, two homogenous groups of students at the level of second standard from two immersion schools named St. Joseph's Primary and St. Joseph's Central schools in Mysore, India were selected. Each group was composed of 40 students, 80 students in total. The participants were both male and female. Both groups were studying at schools with the same medium of instruction. The students were taught all subject matters in English. In fact, being educated through immersion program, learning English was a by-product for them.

Instrument

To find out whether *a higher linguistic proficiency corresponds to a proportionately higher content mastery,* the researcher needed two different paper and pencil tests: One to measure the students' mastery on the covered contents at school and another to measure the participants' level of proficiency. For the former purpose, the researcher made a test himself called 'Content Test', and for the latter, he used the *FLYERS* from the YEL series produced by Cambridge University. Each of these two tests is elaborated separately as follows:

Content Test

By 'content test' the researcher means the test of those subject matters such as math, science, and social studies which were taught in target language (English) at school. The available teacher-made tests to measure the students' overall mastery on the covered contents weren't comprehensive enough to be applied. Further, the tests available in the market were not adequate either. In addition, their validity and reliability were under question. So the only remaining option for the researcher was to construct a new test himself. So he did. Based on the drawn table of specification, he devised a test contained 30 items on three subjects: math, science, and social studies.

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This was a Criterion–Referenced Test (CRT) because it was to measure the students' performance against the instructional objectives. The main purpose of this test was to measure the students' mastery on the content of the above-mentioned courses. Like any other newly developed test, this test also required to be validated and its reliability to be established. Being a CRT test, it had to be validated in terms of 'content' and 'construct'. As the most authentic source for determining such types of validity is the experts, the researcher had the teachers who are directly involved in teaching those materials opine on the validity of the test. In terms of observing the principles of test construction, the researcher consulted his colleagues and co-scholars.

This test was administered in one of the parallel classes with the same level to the target group as pilot study. Having scored the papers, the researcher analyzed each item in terms of item facility, item difficulty, and item discrimination. Based on the outcomes of the item analysis, the researcher had to modify some of the items.

The next very important stage was to establish the reliability of the test. Since all the items were in multiple choice type, the reliability of the test could be calculated through the KR 21 formula. According to this formula, the obtained reliability of the test is (r =0.75) which is quite acceptable for a test to be regarded as a reliable one.

Flyers

This test was applied to measure the participants' level of proficiency. It was composed of seven parts as follows:

Part one: This part included ten short definitions and written in a box around which fifteen words were seen. Students read the definitions and chose the correct word which matched each definition and wrote it on the line in front of each definition.

Part two: There was a picture followed by seven sentences in this part. Students read the sentences and by looking carefully at the picture, they decided if the sentences were right or wrong. They gave their answers by writing 'Yes' or 'No' for each one.

Part three: In this part there were five multiple-choice questions which were based on grammar. Students read the questions and chose the best alternative considering the grammatical points.

Part four: Students read a story with five blanks, and then they chose the correct words from a word box or thought about the correct words based on the pictures provided, they wrote the answers in the blanks. At the end of this part, there was an item which asked students to choose the best title/name for the story from the provided alternatives.

Part five: It included a picture and a story related to it. Students first read the story and then the seven questions or incomplete sentences which

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followed the text. Then they provided a correct but short answer for each question or completed the sentences about the story.

Part six: The students were given a text with ten blanks similar to a cloze test. They read the text and chose the best answer for each item from the three alternatives.

Part seven: In this part students read an incomplete letter with five blanks. They had to write a correct word of their own in each blank to complete the letter.

Procedure

To accomplish the purpose of this study, the following procedures were followed. First, two groups of second standard students (for whom English is only a second language) from two schools were selected randomly considering that all have passed Lower Kindergarten (LKG) and Upper Kindergarten (UKG) in English medium centers. As the participants were from two different educational centers, they were definitely required to become homogenized. Therefore they were given a standard proficiency test –Movers-of YEL series produced by Cambridge University as a pre–test to determine their homogeneity.

To test the homogeneity of the two groups, the researcher went through a *t–test* analysis; the results are given in the following table.

Table 1. *t* – test for Pre-test Scores for homogeneity of group two

Groups	N	M	S	df	*t*- observed
St.Joseph Central school	40	45.075	6.054		
St.Joseph Primary School	40	44.90	8.198	78	0.9139
P< 0.05				*t*-critical = 2.000	

According to the table above, the obtained *t*- value (*t* observed) is 0.9139 with concern of the degree of freedom of 78 and the level of significance of 0.05, is smaller than the *t*-critical (2.000). So it can be concluded that the two groups of students of the two schools, Primary and Central, are homogeneous.

When the groups were proved to be homogenous, the test of content to measure their mastery on the content and the proficiency test to determine their level of linguistic proficiency were given in two different administrations.

Result

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To find the proportionate relationship between mastery on content and the level of linguistic competence in the second language, the obtained data were put in proper statistical process. Since the total scores of the tests were 30 and 50 respectively, they were converted to the scale of 100 to facilitate the computation and statistical process. All statistical procedures were carried out using the SPSS version 17 with alpha set as 0.05. Since the main goal was to determine the relationship between two variables, the researcher applied Carl Pearson Moment correlation through SPSS software.

Table 2. Descriptive Statistics of content & proficiency test scores

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Content	80	20.00	77.00	50.5125	12.20292
Proficiency	80	20.00	80.00	52.7500	18.35618
Valid N (list wise)	80				

Table 3. Correlation between mastery on content and level of proficiency

Correlations

		Content	Proficiency
Content	Pearson Correlation	1	.409[**]
	Sig. (2-tailed)		.000
	N	80	80
Proficiency	Pearson Correlation	.409[**]	1
	Sig. (2-tailed)	.000	
	N	80	80

**. Correlation is significant at the 0.01 level (2-tailed).

According to the above table, the significance of (.000) confirms that the relationship between mastery on content and level of linguistic proficiency is significant. So any null hypothesis in this regard is quite rejected. On the other hand, a positive directional hypothesis can be statistically confirmed.

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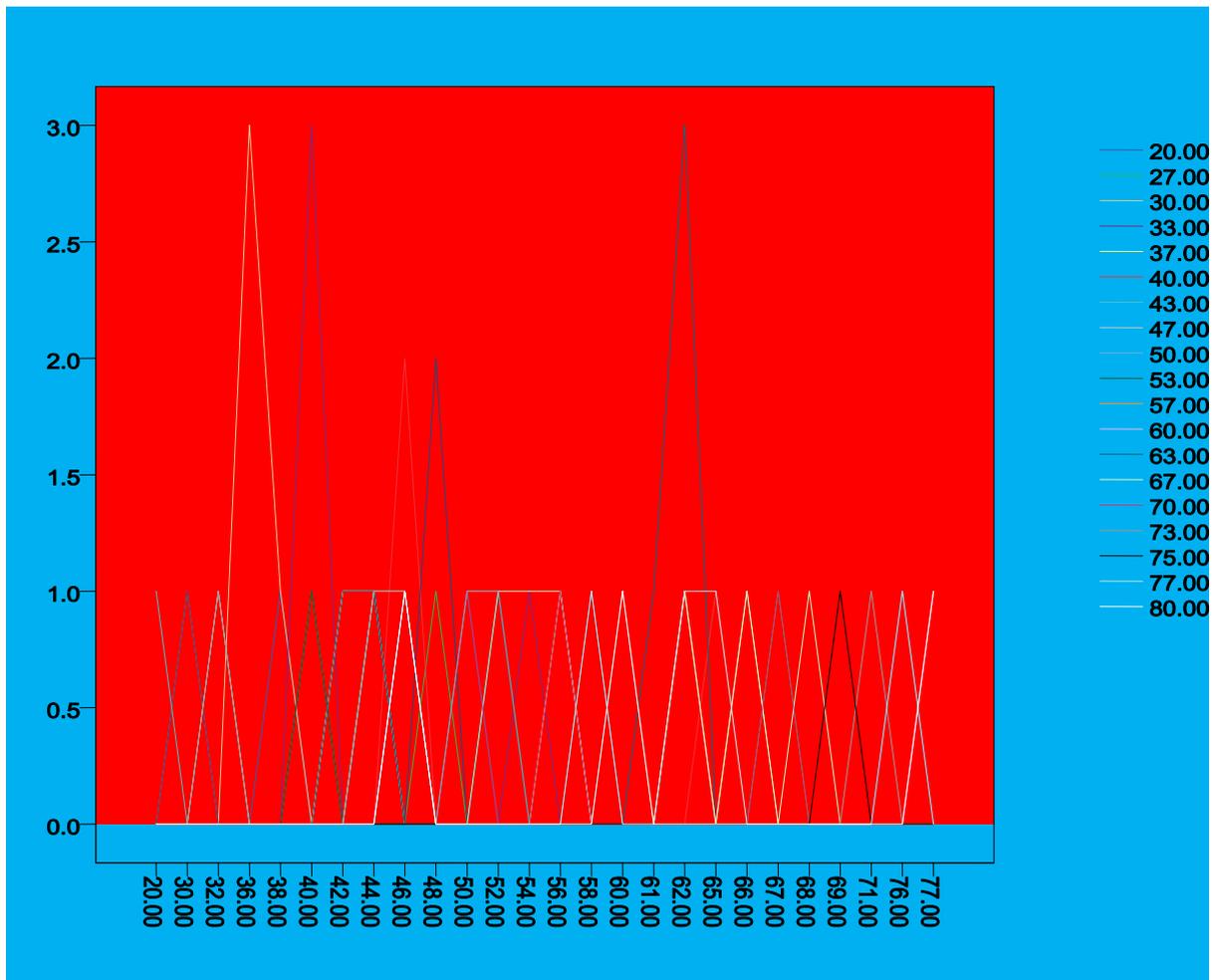
Correlation between mastery on content and level of proficiency

Discussion

The main goal of this study was to explore the relationship between gaining mastery on content (the school subject matters which are instructed in the target language) and the linguistic competence in the second language which is acquired through the implementation of the immersion program. With this objective in mind, the researcher posed his question as *"Is there any proportionate relationship between gaining mastery on content and level of proficiency in second language?"*

The relationship between linguistic mastery in second language (as the medium of instruction) and mastery on content was measured through Pearson Product Moment Correlation. The result (Sig = .000) revealed that there is a positive relationship between these two variables. It is exactly in line with the expectation that wants the students to have the same high levels of achievement in all academic domains as the students in regular programs.

This finding supports the studies such as Holobow et.al., (1987); Swain and Lapkin, (1991) which have consistently shown that immersion program students do as well as, and

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even surpass, comparable non-immersion students on measures of verbal and mathematics skills.

The outcome of this study supports Jon Reyhner's (1992) idea about the content enhancement by the immersion students. He (1992) states 'test scores show that immersion students can learn the same academic content as students in English-Only classrooms along with a second language without losing fluency in English'.

A growing body of research on immersion education has shown that immersion students consistently meet or exceed academic expectations in the following areas:

1. **Second language skills:** Immersion students by far outperform students in traditional foreign/second language classes. Although students usually do not become functionally proficient in the immersion language and are able to communicate according to their age and grade level.

2. **First language skills:** in the early years of first language instruction, there may be a lag in first language reading and writing skills. By the end of the elementary school, however, immersion students do as well or better than students in first language-only classes.

3. **Cultural sensitivity:** Immersion students are more aware of and show positive attitudes towards other cultures.

The above discussion can be a relief for the parents who are concerned about their children's lag in content learning through immersion education. It can terminate any concern in this regard.

Conclusion

There is a close relationship between linguistic competence in second language (medium of instruction) and learning the contents. The higher the level of linguistic competence in target language, the better mastery on subject matters would be obtained. Especially, at the higher levels, and in the mastery of complicated contents, this relation gets even closer. One of the greatest threats to the program is the improper meaning delivery which may lead to the students' drop out from the program. So it is important for the instructors to have a balance between the content and the level of the students' linguistic competence. If content is delivered above their head in terms of linguistic proficiency, no intake occurs.

Strategies and Recommendations to Make Content Comprehensible in L2

One of the main problems in immersion program especially at the elementary and primary levels is the delivery of content in the target language to the learners. So the immersion teachers can apply some or all of the following strategies and recommendations to cope with the problem.

❖ using gestures, visual displays, and interactive activities
❖ using simplified, high-frequency vocabulary and sentence patterns

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- ❖ speaking slowly to reinforce meaning
- ❖ modeling new useful vocabulary and phrases
- ❖ repeating language during routine activities (e.g., greetings, weather/ calendar/ birthday activities)
- ❖ engaging the students in physical activity as they learn so that they easily associate new language with what they are doing
- ❖ allowing the students to ask or answer questions in L1 at the early stages

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Shaban Barimani, M.A., Ph.D. Candidate in EFL
Department of English and Literature
Islamic Azad University
Sari Branch
Iran
sh_barimani45@yahoo.com

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