Is motivation a predictor of foreign language learning?

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This article reports an investigation into the factors that facilitate language learning. The first strand examines whether motivation is a predictor of as is widely accepted. In order to confirm this, Grade 10 students' motivation level was measured using two questions. Language gains were also measured and compared with the motivation level. The other strand aims to discover, by observing classes using Communicative Orientation of Language Teaching (COLT) what other factors facilitate learning outcomes. Statistical analyses of the relationship between the two variables, motivational level and language gains indicate that motivation was not a predictor for the Grade 10 students in the study. Nor were many of the language class features included in the COLT. The most powerful predictors of language gains were found in more implicit teachers' beliefs about their students' capacities and their expectations of their students' achievement.

Motivation, measuring motivation, language learning outcome, teacher' expectation, self-fulfilling prophecy

INTRODUCTION

This study aimed to investigate two aspects of foreign language learning outcomes; (a) whether motivation is a predictor of learning as is commonly believed and (b) what other factors contribute to learning. A selective literature review of second language acquisition and motivation theories provides a background to the study.

Factors in Second Language Acquisition Theories

Theories of what causes language acquisition have been inconclusive to date (Ellis, 1994). However, some of the main factors that are believed to facilitate second language acquisition have been identified. They are: (a) a sufficient amount of comprehensible target language input (Krashen, 1982, 1985); (b) opportunities for negotiating meaning (Day, 1984; Ellis, 1991); (c) opportunities to produce output in meaningful communication (Swain, 1985); (d) opportunities to sensitise the learners to gaps in linguistic knowledge (Nicholls, 1983; Sharwood-Smith, 1986); and (e) a low affective filter to let in the input (Krashen, 1985).

Krashen (1982, 1985) proposes comprehensible input be *i*+1, that is, the input must contain linguistic elements that are a little beyond the learner's current level of proficiency while the Learnability Hypothesis (Pienemann and Johnston, 1985, 1986, 1988) suggests that the sequence of some of the language features that an individual learns is previously determined. That is, teaching something to a particular learner who is not ready for it may be counterproductive, thereby, leading to avoidance or loss of confidence, which in turn increases the affective filter. Of these language acquisition theories, the notion of a low affective filter is the only factor that is related to attitude and motivation.

Motivational Factors that Influence Learning

The importance of high motivation, which all educators wish to create in their students, has been closely linked with the need for achievement. Murray (1938, p. 164) described its expression as the manifestation of one of 20 basic human needs, namely achievement.

> To make intense prolonged and repeated efforts to accomplish something difficult. To work with singleness of purpose towards a high and distant goal. To have the determination to win. To try to do everything well. To be stimulated to excel by the presence of others, to enjoy competition. To exert will power, to overcome boredom and fatigue.

The need for achievement has been spelt out in detail by Atkinson (1964), McClelland, Atkinson, Clark and Lowell (1953), and McClelland (1987) who see it as the result of intrapersonal dynamics such as libido, drive, tension and need as well as inhibitors, for example defence mechanisms, barriers in the environment and fear of failing. Franken (1982) has added to the understanding of 'high' motivation and achievement by claiming that the learner needs to overcome inhibitors by what is termed habituation, that is, to learn to ignore or adapt to disruptive stimuli. This is done by exposing students to these inhibitors in small doses, (stimuli, though, should never be too great), rewarding the correct responses subsequently but not each time or too often.

To reward the correct responses, Nicholls (1983) and Maehr (1983) both suggest the satisfaction of task-completion as the most ideal reinforcement out of three possible goals, namely, ego goals, task goals and extrinsic rewards. These scholars claim that if learners perceive given tasks as worthy of their effort, within the reach of their successful completion, the locus of control being within the learners themselves, the reward being intrinsic, (within the tasks themselves), then learners will choose to persevere rather than avoid the tasks.

In defining human motivation from both intrapersonal and environmental perspectives, Maslow (1970) argues that the driving force that causes people to work towards a goal is actually the potency of hierarchy of needs. When lower order needs in the hierarchy (eg. food, water, shelter, security, safety, social affiliation, approval, and self-esteem) are satisfied, higher-order needs appear, and, since it has the greater potency at the time, this higher-order need causes the individual to attempt to satisfy it. The highest level of need (which echoes the behaviours described earlier by Murray of a motivated individual) is a desire to reach one's potential. According to this theory, in order to activate this highest-order need, educators must try to ensure that all the lower-level needs of the students are satisfied.

Concerning initial motivation, Carroll (1963) and Oppenheim (1992) have added another dimension by drawing attention to the role of attitudes. They suggest that attitudes are only very rarely the products of a balanced conclusion. As a rule, attitudes are acquired or modified by absorbing or reacting to the attitude of other people. Once acquired, due to the strong tendency for consistency, humans avoid modifying the initial frame of perception. According to Robinson and Nocon (1996) many language teachers falsely assume that their students come to their language lessons with a positive attitude towards the language and its culture, just because they are studying the language. Unfortunately, learning a foreign language can produce a negative attitude in some students (Nocon, 1991). In her research, students tended to separate or compartmentalise, their attitudes about language as a subject matter from their attitudes about the speakers of that language.

For formal instruction settings, Rosenthal and Jacobson (1968, p. 179) powerfully argue for the effect of a type of motivation on learning called 'self-fulfilling prophecy' based on numerous empirical cases and concluded that "teachers may not only get more when they expect more; they

may also come to expect more when they get more." These authors believe that somehow if a teacher 'knows' that a particular student will improve, then the teacher's behaviours will have predictable effects on pupil motivation.

> On the basis of other experiments on interpersonal self-fulfilling prophecies, we can only speculate as to how teachers brought about intellectual competence simply by expecting it ...[W]e may say that by what she said, by how and when she said it, by her facial expression, postures, and perhaps by her touch, the teacher may have communicated to the children … that she expected improved intellectual performance. Such communications … may have helped the child learn by changing his self-concept, his expectation of his own behaviour, and his motivation, as well as his cognitive style and skills. It is self-evident that further research is needed to narrow down the range of possible mechanisms whereby a teacher's expectations become translated into a pupil's intellectual growth. (Rosenthal and Jacobson, 1968, p. 180)

Hargreaves (1975) and Matza (1969) have cautioned against what they regard as a simplistic interpretation of the self-fulfilling prophecy and labelling in general. They point out that some individuals, especially adolescents can and do ignore the teacher's 'labelling'. The respect the individual student has for the teacher, the degree to which the act of labelling is explicit and made public and the frequency of the act of labelling all will influence whether the student accepts the prediction and acts accordingly.

An obvious aspect of motivation level relates to the difficulty level of the goals as perceived by the learner. Locke and Latham (1990, pp. 21, 26) claim:

> Extensive research… has established that, within reasonable limits, the more challenging the goal, the better the resulting performance…People try harder to attain the hard goal. They exert more effort… In short, people become motivated in proportion to the level of challenge with which they are faced…. Even goals that cannot be fully reached will lead to high effort levels, provided that partial success can be achieved and is rewarded.

Locke and Latham's (1990) comments have not, however, recognised that motivational levels can be adversely affected by the gap between targets and learner's perception of his own ability. Most Australian learners, for example, would be daunted by the appearance of a full page of Chinese characters compared with a page of German where at least the orthography is the same as their own. The 'gap' tests the competence of every language teacher to present the learner with achievable and graded targets on the path to fluency.

In summary the following three conditions are necessary to increase learning outcomes. First, students' lower-order needs are satisfied and second, teachers believe in learner's capabilities and expect them to achieve those capabilities. Third, the quality of instruction needs consideration. According to Carroll (1963), the quality of instruction was one of several important aspects in the mastery of any knowledge or skill. He drew attention to the fact that time on task as well as the individual's degree of persistence or perseverance were other key features. Others have added to his theories by pointing out the following four factors. They are: (a) the importance of pursuing the learner's own interest (Wilson, 1975); (b) a ready acceptance of comprehensible input (Krashen, 1982); (c) learning by doing (Maehr, 1983); and (d) learners' perception of their own capacities and want of self actualisation (Maslow, 1970).

METHOD

Sixty-one Grade 10 students (14-16 years old) and four teachers in the study were drawn from four schools (Schools A and C are public, B and D are private) in South Australia. The classes

varied in size from 5 to 24. In order to minimise the effect of teacher experience, only experienced (8 to 12 years old) teachers with considerable proficiency in the language were chosen (see Table 1).

Table 1. Schools investigated

School	Grade 8-12 Enrolment	Public/ Private	Teacher	Co-Ed	Grade 10 classes (N)
A	1500	public	non-native	co-ed	24
B	400	private	non-native	boys	17
C	1660	public	native	co-ed	12
D	500	private	non-native	co-ed	5

Data in this study consist of (a) pre- and post-tests (pre-test and post-test were identical), (b) two measures of motivation filled in by students and (c) records of classroom interactions collected by means of classroom observations (four times per class) using *COLT* observation scheme Part A (Allen, Frohlich and Spada, 1984) as well as field notes on features that were not prescribed in *COLT*, that is, ethnographic in nature. The observed classes were also audio taped for later analyses with the permission of the teachers. The rationale for using *COLT* was to facilitate data collection on features which were believed to enhance communicative language learning based on second language acquisition theories.

Language Pre- and Post-Tests

Language gains were measured by comparing the results of pre- and post-tests that were created by the writer based on the textbooks the students were using, namely, *Kimono* Level 2 and 3 (Burnham 1992) and a South Australian locally compiled textbook. These tests required students to translate ten English sentences into Japanese using as many *Kanji* characters as they could. The knowledge tested consisted of lexical, orthographic (including *Kanji*), morpho-syntactic, as well as mood and aspects which students would have learnt before the commencement of the study as well as what they would have learnt during the three months of investigation.

Two Measures of Motivation

McClelland (1987) and Oppenheim (1992) have pointed out the unreliability of motivation and attitude measures based on self-report. In the light of this, rather than asking students explicitly about their motivational level, two questions were formulated. One of these invited students to rank in their personally preferred order all the subjects (excluding Physical Education) that they were currently studying. The subject rank was calculated as a proportion as the following:

$$\text{Subject rank} = \frac{Rank}{N+1}$$

Where N was number of subjects studied. N + 1 was used in the denominator to ensure that 5/5 and 8/8 were not given the same strength of preference.

The other question was to indicate, on a pie chart, the proportion of their spare time students would like to spend on each of the subjects if all subjects were equal in their difficulty level (this is called projected spare time for short). The amount of time indicated by students was converted into a percentage for calculation purposes.

It is to be noted that time available for the investigation, access to classes and demands on teacher's workload all contributed to the limitations of the study. For example, some relevant data possibly affecting motivation and language learning outcomes could not be collected and the duration of the study was only three months. The findings of this study must, therefore, be interpreted with these limitations in mind.

RESULTS

Similarities and Differences in Classroom Interactions

A majority of the features prescribed in *COLT* Part A were remarkably similar across all four schools. They were: (a) the dominance of teacher-class interactions, (b) same task for every individual student, (c) more form-focused tasks than meaning-focused tasks, (d) use of narrow topic controlled by teacher or textbook, rather than by learners, (e) use of minimal texts created for second language learners, (f) students' modality being mainly listening, (g) limited amount of comprehensible input, and (h) no negotiation of meaning taking place in the target language.

These two latter findings were verified by the amount of comprehensible input and output calculated by going over the audio taped classroom interactions totalling the number of sentences addressed to and produced by students. Pienemann and Johnston's (1985, 1986, 1988) Learnability Hypothesis did not seem to be an issue for the teachers in this study. By following the pages in a published textbook, all four teachers let the textbook dictate the order of the content of their lessons.

Informal note taking revealed that factors proposed by current motivation theories were also similar in all four schools. They included: (a) teacher's endeavour to keep the affective filter low, (i.e. pleasant, non-threatening learning environment), (b) lower order of needs in hierarchy (Maslow, 1970) being met by providing with such an environment as quiet, clean, pleasant rooms and furniture.

The differences recorded in class interactions, captured by means of unstructured class observations had two distinct features; (a) the amount of time spent (Carroll, 1963) on task, and (b) implicit teachers' expectations of students' performance. The teachers in Schools B and D (both private) did not tolerate fidgeting or idleness, expecting their students to be actively on task at all times in class while the teachers of Schools A and C waited longer for their students to get ready for a task and did not reprimand those students who were off task so long as they did not behave in a disruptive manner. This resulted in the public school students being on task five minutes per lesson shorter than the private school students.

The second prominent, albeit implicit, difference was found in the level of expectation demanded by the teacher of their students. The teacher of School B, where the greatest language gains were recorded, often made statements like; "*I want you to learn all these vocabulary and the te-forms of these verbs by next Monday for your test.*" Or when a student failed to give a right response, "*Obviously you are not studying enough because you should have learnt this well by now*". These statements, compared to "*it will be useful to learn the te-forms because you can then talk about what you are doing at the moment using this form*" (made by the School A teacher), clearly indicate that School B teacher believed in the ability of her students and demanded her students to meet her expectations.

Similar messages were given to the students by the School D teacher. These teachers' belief in their students' ability and the expectation of a high level of achievement from their students were also manifested in the way they rewarded students' correct responses. Private school students experienced satisfaction of task completion (Maehr, 1983; Nicholls, 1983) when their teacher simply indicated that the response was correct with no further rewards. These teachers conveyed to their students that there was nothing special about receiving right answers from their students. On the other hand, the public school students were praised publicly and in a more elaborate manner for every correct response. Furthermore, the private school teachers called on an individual student to answer questions while the state school teachers asked for volunteers to answer except for occasions where the expected answer was one or two words and simple. This, again, may reflect on the teachers' belief in their students' ability.

Descriptive Date Collected and Calculated

Quantitative data are reported below with their relevant calculations followed by the statistical examination of the linguistic gains made and their relationship with motivation level (see Tables 2, 3, and 4).

Table 2. Language gains and motivational levels by school

School	Language Gains						Motivation	
	Kanji		Grammar		SubjPre		PST	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
A (n=24)	-0.6	2.4	5.3	12.0	0.50	0.20	10.8	10.9
B (n=17)	6.9	3.6	9.2	8.3	0.61	0.25	12.4	7.6
C (n=5)	-0.4	2.9	6.2	11.96	0.25	0.12	15.0	4.15
D (n=8)	3.4	4.4	2.6	11.03	0.45	0.26	15.6	4.86

n= sample size; SD= standard deviation; Sub Pre= subject preference (smaller the number, the higher the preference); PST= projected spare time spent for Japanese (in %)

Table 3. Grammar score gains by school and subject rank

	Df	Sum of Sq	Mean Sq	F-Value	Pr (F)
School	3	477.25	159.08	1.34	0.26
Subject rank	1	111.25	111.25	0.96	0.33
Residuals	43	44966.17	115.49		

Table 4. *Kanji* score gains by school and subject rank

	Df	Sum of Sq	Mean Sq	F Value	Pr (F)
School	3	555.94	185.31	15.89	0.0000004
Subject rank	1	6.65	6.65	0.57	0.45
Residuals	43	501.33	11.66		

Language Gains

Table 3 shows that there are no significant differences in mean grammar gains between schools whereas *Kanji* mean gains in Table 4 indicate the exact opposite, namely significant difference between schools. In order to establish the significance, however, these mean gains are tested against a null hypothesis of zero gains. Because this analysis makes multiple comparisons, the conservative significance level of 0.01 as the cut off is drawn (see Table 5).

Table 5. Mean gains and P-values (in parentheses)

	School				
	A	B	C	D	MSE
Grammar	5.3	9.2	6.0	2.6	120.2
Mean Gains	(0.011)	(0.001)	(0.113)	(0.253)	
Kanji Gains	-0.6	6.9	-0.4	3.4	10.8
Mean Gains	(0.812)	(0.000)	(0.607)	(0.003)	
Sample Size	24	17	5	8	

Table 5 infers that:

(1) There is evidence of a significant mean grammar gains for School B only (P-value < 0.01), and

(2) There is evidence of significant mean *Kanji* gains for Schools B and D (P-value < 0.01).

Smaller sample sizes for Schools C and D reduce the power to detect mean gains in these schools. Although not reaching statistical significance level, it is noted that there is appreciable grammar

gains in School A. The difference between Schools B and D in *Kanj*i gains was found to be significant (t =2.1, *P* < 0.05).

In summary, School B is the only school with significant gains in both grammar and *Kanji* while School D showed gains in *Kanji* only. The *Kanji* gains between School B and D are significantly different, with School B experiencing greater gains. Schools A and C showed no statistically significant gains either for grammar or *Kanji*. School A recorded a gain for grammar which marginally failed to reach statistical significance.

Motivation Level

Two measures, namely subject rank and projected spare time, were used to assess the level of motivation. While there is evidence for a non-zero relationship between these two measures (r=0.46), for none of the four schools was the correlation coefficient for the two measures statistically significant (P<0.01).

As shown in Table 2, School C students indicated their clear preference of Japanese over other subjects followed by Schools D and A. The School B students, on the other hand, indicated that they preferred Japanese least. The School C students who indicated definite preference for Japanese were not as willing as the School D students to spend their spare time on Japanese. School B students who did not prefer Japanese compared to School A students were willing to spend more of their spare time on Japanese. These discrepancies underlined that these two measures were not measuring the same thing. It was decided unwise, therefore, to aggregate them as a single variable. They were treated separately as independent measures of motivation.

Relationship between Motivation and Language Gains

As a cursory look at Table 2 suggests, the relationship between motivation and language gains is only moderate. That is, subject rank as a measure of motivation, there seems to be no firm evidence of a link with gains in grammar (F= 1.38, p=0.26); the same is for *Kanji* (F= 0.57, p= 0.45). With regard to projected spare time, an even weaker relationship exists (F=0.35, p= 0.56) even when *Kanji* and grammar score are merged.

The greatest progress was achieved by the group of students who favoured Japanese least and showed very little willingness to spend free time on it. School C students preferred Japanese to other subjects but the School B students were quite the opposite. The students of Schools A and D distributed their subject preference fairly evenly. Yet it was the students of School B who made the greatest progress (with two qualifying remarks that School B started from a much lower score and School D started from the highest score yet managed to reach statistical significance in *Kanji* gains while Schools A and C did not). That School B students passed the students of Schools A and C in *Kanji* is strong evidence for this school's greater progress yet School B students favoured Japanese least. At least for this sample of students, motivation measured as subject preference or as projected spare time, does not explain gains in grammar and *Kanji*. Therefore, the expected relationship between motivation and academic gains has not been confirmed.

DISCUSSION AND CONCLUSION

This study has been concerned with factors that may affect language learning with a special focus on motivation. In the light of what the current literature suggests as factors for language learning, the findings of this study paint a grim picture. It has been a while since Communicative Language Teaching Method (Spada and Frohlich, 1995) has been advocated. The class observations in this study based on *COLT* found that despite (or possibly because of) their considerable experience, this method was not incorporated into classroom activities by the teachers who took part. From the learners' perspective, this meant they were not given those aforementioned opportunities that

were believed to improve language acquisition. This raises the issue of teacher education as well as the content of commercial textbooks. It is of interest to stakeholders to ensure that teaching methods that have been found to enhance learning outcomes be put into practice so that learners could reap the greatest possible benefit from the time and energy they put into their study. We must also acknowledge difficulty of task as equally important. For Australians learning *Kanji*, with its demands on memorising pictographs, is far harder than learning, say, French. This has serious implications for the relative importance and application of language teaching methods.

The study found that motivation and academic gains were not significantly correlated. This may be due to the complex mixture of factors described by different motivational theories and language learning processes. Some of the possible explanations are: (a) even when a vaguely positive attitude has been formed in an individual, tasks in which students engage and the process that these tasks are being completed in class may lack one or more of the optimal conditions specified by motivation theories (Carroll, 1963; Krashen, 1982; Maehhr, 1983; Wilson 1875), or (b) learning a foreign language itself may have led to a negative attitude towards the language and culture yet some students remain enthusiastic with the study of the language itself as an academic subject (Nocon, 1991) or possibly, (c) within individual students themselves these factors conflict with some unsatisfied lower needs experienced at a certain time or day, resulting in erratic responses as an expression of their discomfort (Oppenheim 1992). Unfortunately this study does not shed light on these complex issues.

The fact that motivation does not seem to be significantly related to gains for this group of students cannot be regarded as a definitive statement nor minimise the potential for motivation making a difference. Some of the students may have been spending much more time on Japanese (in absolute terms) than was indicated by their responses to the question compared to those students who gave a relatively high percentage for projected spare time, not to mention the quality of time students spend on task in class or at home. Although private school classes were on task five minutes more than public school classes per lesson, this does not include an assessment of quality or the depth that students are engaged with the task. Since some time is required to get back to the thread of thought, those students who were off task frequently may have been on task for shorter periods than measured in this study.

With regards to projected spare time, those students whose teacher demanded a lot of them may not have much of it left since they would need to devote quite a substantial amount of time to meet their teacher's (or their own) expectations. This is quite plausible for private school students who were just about to sit for their end-of-year examinations when this investigation was concluding, unlike public school students who did not have such examinations. Neither can we say whether differences in motivation, as measured in this study, would not have been associated with progress if the study had continued for more than three months.

The teachers in this study who expected more of their students received more in spite of the low motivation level of their students possibly as the effect of self-fulfilling prophecy (Rosenthal and Jacobson, 1968; Vroom, 1964). These teachers seemed to be setting challenging enough goals to motivate students (Locke and Latham 1990). The opposite was also the case with teachers who did not receive much because they did not expect much in spite of a higher motivation level shown by their students. These findings, together with motivation and second language acquisition theories indicate that teachers can improve learning outcome of their students when the following condition are met. First, teachers believe in students' capabilities, set a challenging goal and expect their students to reach that goal. Second, lower level needs of students are met and third, joy of task completion as intrinsic motivation should be considered as a reward rather than extrinsic rewards. For learning outcomes of a second language, it is to be hoped that research findings be applied in classrooms so that learners can ultimately benefit from research.

One of the problems highlighted in this study is the measurement of motivation which is particularly complex in the context of school learning because it takes place in a social milieu with countless factors influencing individual's behaviour at any particular moment. It is vital to consolidate the basic notions such as defining in more detail the concept of motivation and finding valid and reliable ways of measuring this construct.

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