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Factors Related to Primary Six Pupils' Achievement Goal Orientations and Their Implications for Teaching

A. Lourdusamy

INTRODUCTION

The question of motivation has long perplexed educators. Educational psychologists have attributed motivational issue as one of the key areas of concern in the field of education. Motivation has been found to have a major influence on learning and achievement in all domains. This is evident in the relatively greater emphasis placed currently on the effort theories rather than on the ability theories about educational achievement. Norwich (1997: 19) has reported the role of motivation input in achievement as follows:

Motivational inputs into learning processes and outcomes are often seen to be of particular interest in raising standards, as it is often assumed that unlike ability factors, they are often open to being altered and controlled.

The motivational characteristics of an individual are moulded through one's lifelong experiences in school, home, the workplace, and through the media. For a growing child his first experiences are in the home and in the neighbourhood milieu. However, both the home and the neighbourhood are greatly influenced by the socio-economic, cultural and religious group into which one has become a member. In many countries there is a tendency to focus on the school as the institution where attitudes are to be developed, even though it is known that the home and the neighbourhood environment influences are strong. The influences of the home are now slowly being recognized. For example, there are now attempts in the United Kingdom to introduce home-school contacts to involve parents in their children's schooling with the hope that it will bring about some influence on motivation to learn (Norwich, 1997).

Stevenson and Stigler (1992) have found a relationship between culture and motivation of learners. One of their main conclusions is that families in the US tend to be less successful in exerting influence on their children's academic success compared to Asian parents. They suggest that this may be due to the cultural difference in parental goals.

They contend that for Asian parents, doing well at school is the single most important goal, whereas parents in the US seek to balance academic goals with other goals such as social skills, self-esteem and extra-curricular activities. The emphasis of Asian parents is on the effort and persistence governed by assumptions about the malleability of human behaviour and perfectibility of humankind. On the other hand US parents tend to explain differential achievement in terms of innate ability. Hence there is some validity in assuming that one's cultural milieu has an influence on one's motivational tendencies.

Students' motivation to learn is directly related to their desire to participate in the learning process. But it also concerns the reasons or goals that underline their involvement in academic activity. Although students may be equally motivated to perform a task, the sources of their motivation may differ. Dweck (1986) postulated two types of achievement goals: a learning goal and a performance goal. In the learning goal orientation, individuals are inclined to be concerned with increasing their competence, whereas in the performance goal orientation they are inclined to be concerned with gaining favorable judgement about their competence.

Hayamizu, Ito and Yoshizaki (1989) developed a questionnaire to assess the achievement goals identified by Dweck. With the use of factor analysis they identified three achievement goal orientations among Japanese High School students: one learning goal and two performance goal orientations. The learning goal orientation (LGO) closely resembled the learning goal postulated by Dweck. However, with respect to the performance goal, two orientations were identified. One of the performance orientations is the tendency for the student to learn in order to gain approval and avoid rejection from teachers, parents and peers (AGO – approval goal orientation), and the second is the tendency for students to learn because they want to get good grades and advance (PGO – performance goal orientation).

Hayamizu and Weiner (1991) further examined the postulate of Dweck using American university students. They found that the American students too have the same three kinds of achievement goals orientations as found in the Japanese High School sample (Hayamizu et al., 1986). The correlation among the three achievement goal tendencies were found to be $r = .10$ between LGO and AGO; $r = .05$ between LGO and PGO and $r = .44$ between AGO and PGO. The two performance goal orientations were moderately interrelated but unrelated to the learning goal tendency. The results of the Japanese and the American studies indicate the existence of different achievement goal orientations among students.

The purpose of this study was to examine the relationship between achievement goal orientations of pupils and their personal and demographic variables (academic stream, gender, ethnicity, religion and socio-economic status of family), and draw implications from the findings for teaching.

METHODOLOGY

Characteristics of the sample

The sample consisted of sixth grade students in two schools in Singapore (N=652). Their ages ranged from 11 years to 14 years and 7 months. The average age of the sample was 11 years and 10 months. Table 1 summarizes the characteristics of the sample. One school is situated in a middle class area and the other is situated in a quite poor neighbourhood with 65% of the fathers being unskilled/semi-skilled workers or not working, and 82% of mothers being housewives or unskilled workers.

Table 1. Characteristics of the sample

Characteristics	Sub-groups	Number (%)
Gender	Male	331 (50.8%)
	Female	321 (49.2%)
Ethnicity	Chinese	441 (67.6%)
	Malay	162 (24.8%)
	Indian	25 (3.8%)
	Others	24 (3.7%)
Ability	EM1	109 (16.7%)
	EM2	393 (60.3%)
	EM3	150 (23.0%)
Religion	Free Thinkers	107 (16.4%)
	Buddhism	236 (36.2%)
	Taoism	48 (7.4%)
	Christianity	60 (9.2%)
	Islam	188 (28.8%)
	Hinduism/Sikhism	13 (2.0%)

INSTRUMENTATION

A two-part questionnaire was devised for the study. Part A gathered personal and demographic data of the respondents and Part B elicited students' achievement goal orientations.

Achievement goal orientations scale

The 20-item questionnaire designed by Hayamizu and Weiner (1991) was modified to a 21-item questionnaire to examine students' achievement goal orientations. The instrument is a self-responding scale. The items are of the general format: 'I study because I like knowing new things'. The subjects were required to respond to every statement by choosing one of five alternatives: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always.

The Cronbach alpha reliability coefficients reported by Hayamizu and Weiner (1991) for the three sub-scales were .89, .78, and .71 respectively.

Data Analysis

The data collected was analyzed using the SPSS: PC Window System. T-test analysis and one-way analysis of variance are used to examine the differences in orientations when the respondents are grouped according to academic ability, gender, ethnicity, religion and socio-economic class. Where comparison of mean scores was made, the level of significance was set at the 5 per cent level. Scheffe and Dunnett's C test were used for post-hoc analysis. The probability was set at $p < 0.05$ level.

RESULTS AND DISCUSSION

The scales

For this sample the Cronbach alpha reliability coefficients of LGO, AGO and PGO were .75, .73 and .72 respectively. The slightly lower reliability coefficients may be due to the lower language skills of the primary pupils compared to the undergraduates in the Hayamizu & Weiner study.

Also in their study, Hayamizu and Weiner found the two performance goal tendencies to be interrelated but unrelated to learning goal tendency. But this is not borne out in the present study. The coefficients of correlation between the achievement goals were $r = .13$

between LGO and PGO; $r = .44$ between LGO and PGO; and $r = .38$ between AGO and PGO. In the case of the Singapore Primary School sample, the goal concerned with increasing their knowledge and competence (LGO) is related to wanting to get good grades (PGO). This may be due to sample age.

RELATIONSHIP BETWEEN ACHIEVEMENT GOAL ORIENTATIONS AND SAMPLE CHARACTERISTICS

Academic stream and achievement goal orientations

Students are divided into three streams in primary schools based on their performance in English, Mathematics and Mother Tongue at Primary Four level. The streams are labelled EM1, EM2 and EM3. The relationship between academic stream and achievement goal orientations was examined using one-way analysis of variance. The results are shown in Table 2.

Table 2. Academic stream and achievement goal orientations

Achievement Goal orientation	Stream	Mean (SD)	F-value	Sig. (2-tailed)
Learning goal orientation (LGO)	EM1	3.55 (.71)	4.57	.011
	EM2	3.50 (.72)		
	EM3	3.31 (.73)		
Approval goal orientation (AGO)	EM1	2.64 (.73)	1.11	NS
	EM2	2.74 (.79)		
	EM3	2.66 (.87)		
Performance goal orientation (PGO)	EM1	4.22 (.60)	9.16	.000
	EM2	4.26 (.62)		
	EM3	3.98 (.81)		

All streams have reported higher learning and performance goal orientation and less approval goal orientation. Comparison of the three streams reveals that the goal orientations differed according to the achievement levels. The EM3 were less inclined to learning and performance goals than the EM1 and EM2 stream. The post-hoc Scheffe test revealed that EM3 students are significantly different from EM1 and EM2 students at the 0.05 level. There was no difference between the groups with respect to approval goal orientation.

The reported high learning and performance goal orientation by all the groups is not surprising in a meritocratic education system as in Singapore. One has to do well in school to progress in the system where competition is high. This result supports the view of student teachers who think students in Singapore are highly performance goal oriented (Lourdusamy, 1999).

Gender and achievement goal orientations

The difference in achievement goal orientations of males (N = 331) and females (N = 321) students was examined by comparing the mean scores of male and female students on the three achievement goal orientation scales. Table 3 shows the result of this analysis.

Table 3. Gender and achievement goal orientations

Achievement goal orientations	Gender	Mean (SD)	t-value	Sig. (2-tailed)
Learning goal orientation (LGO)	Male	3.38 (.76)	3.20	.001
	Female	3.56 (.66)		
Approval goal orientation (AGO)	Male	2.80 (.83)	2.75	.006
	Female	2.62 (.76)		
Performance goal orientation (PGO)	Male	4.10 (.78)	3.16	.002
	Female	4.27 (.60)		

The females are more focused on learning and performance in their achievement goal orientation than the males. This may be due to ways in which boys and girls are treated in Asian societies. The boys have more freedom than girls. So the girls tend to direct their energy more towards academic work and are thus more positively motivated in their studies than boys. This is borne out by girls out-performing boys in all major public examinations.

The reverse seems to be true with respect to AGO. The boys seem to study more for approval than the girls. The difference is significant at the 1-per cent level. The diverse interest of the boys as a result of the greater freedom that they enjoy in society may be the cause of such orientation. Their lesser academic inclination may have forced them to perceive their academic work as a means for approval in order to keep themselves away from trouble.

Ethnicity and achievement goal orientations

In this analysis only the orientations of Chinese (N=441), Malays (N=162) and Indians (N=25) were compared. The results of the one-way analysis of variance are shown in Table 4.

Table 4. Ethnicity and achievement goal orientations

Achievement goal orientation	Ethnicity	Mean (SD)	5% confid. interval of the difference		F value
			lower	upper	
Learning goal orientation (LGO)	Chinese	3.46 (.75)	3.39	3.52	.69
	Malay	3.45 (.68)	3.34	3.55	
	Indian	3.58 (.61)	3.33	3.83	
Approval goal orientation (AGO)	Chinese	2.61 (.79)	2.53	2.68	10.10***
	Malay	2.93 (.75)	2.82	3.05	
	Indian	2.64 (.94)	2.25	3.03	
Performance goal orientation (PGO)	Chinese	4.08 (.72)	4.01	4.15	15.15***
	Malay	4.38 (.65)	4.28	4.48	
	Indian	4.56 (.43)	4.40	4.76	

*** $p < .001$

Significant differences are found between the groups with respect to AGO and PGO. Since the groups differed markedly in size, the Lavene test of homogeneity of variance was applied. The AGO group variances were not significantly different but the PGO group variances were significantly different. The Scheffe and Dunnett's C test were used respectively for the post-hoc analysis.

Scheffe's test revealed a significant difference only between the Chinese and Malay students in AGO at the 5 % level. The confidence intervals of means of the Malay and Chinese group confirm this. Malay students are more likely to seek approval and avoid rejection than Chinese students. This may be a cultural difference between the Malay and Chinese community. The Malay community on the whole has much tighter control over their children compared to Chinese parents. Hence, Malay children are less likely to displease their parents and elders. This may be the reason why Malay students perceive themselves as having AGO.

The Dunnett's C test revealed that the Chinese students are significantly different from Malay and Indian students in PGO at the 5% level. This is supported by the confidence intervals of means. Malays

and Indians have higher achievement motivation orientations than the Chinese students in the sample. This is an unexpected finding, as Chinese students are considered to have high performance motivation.

Religious background and achievement goal orientations

Buddhists (N=236) were the biggest group followed by Muslims (N=188) and Free- Thinkers (N=107). There were also small numbers of students coming from Christian (N=60), Taoist (N=48) and Hindu (N=13) family backgrounds. The Hindu group was left out in the analysis, as the sample size was small. One-way analysis of variance revealed that the mean scores of the groups related to LGO, AGO and PGO were significantly different at the .001 level. The results are tabulated in Table 5.

Table 5. Religious background and achievement goal orientations

Achievement goal orientation	Religion	Mean (SD)	5% confid. Interval of the difference		F value
			lower	upper	
Learning goal orientation (LGO)	Taoism	3.46 (.65)	3.29	3.65	4.56***
	Buddhism	3.55 (.70)	3.46	3.64	
	Christianity	3.55 (.74)	3.36	3.74	
	Free Thinker	3.20 (.85)	3.04	3.37	
	Islam	3.47 (.66)	3.37	3.57	
Approval goal orientation (AGO)	Taoism	2.54 (.85)	2.30	2.79	6.92***
	Buddhism	2.67 (.80)	2.56	2.77	
	Christianity	2.41 (.64)	2.25	2.58	
	Free Thinker	2.63 (.82)	2.47	2.78	
	Islam	2.95 (.76)	2.82	3.04	
Performance goal orientation (PGO)	Taoism	4.10 (.59)	3.93	4.27	8.37***
	Buddhism	4.17 (.63)	4.09	4.25	
	Christianity	4.01 (.71)	3.83	4.20	
	Free Thinker	3.95 (.90)	3.77	4.12	
	Islam	4.38 (.63)	4.30	4.48	

***p< .001

The Lavene test of homogeneity of variance across the groups revealed that they are significantly different. Dunnett's C test was used in the post-hoc analysis. The post-hoc analysis showed that mean scores of students with a free thinker's background are significantly different from the mean scores of students with Buddhist or Islamic background in LGO at the 5% level. The confidence intervals of means support this.

Free thinkers are less inclined towards learning goal orientation than the Buddhist and Muslim students. There is no difference between the free thinkers, Christians and Taoists.

With respect to AGO and PGO, Dunnett's C tests revealed that students coming from Islamic backgrounds are significantly different from students coming with other religious backgrounds at the 5% level. This result is quite similar to the ethnicity factor. This may be due to the Malay-Muslim community now giving greater emphasis to academic achievement. The students may thus have adopted a higher performance goal orientation with the aim of getting the approval of the community.

Family socio-economic status and achievement goal orientations

For this analysis the socio-economic index was computed using information on father's occupation, mother's occupation and type of housing. Based on the socio-economic index computed the students were categorized into low (N=251), middle (N=293) and high (N=108) income groups. One-way analysis of variance was carried out to see whether a significant difference existed between the mean scores of groups in their achievement goal orientations. The results of the analysis are shown in Table 6.

Table 6. Family socioeconomic status and achievement goal orientations

Achievement Goal orientation	SES	Mean (SD)	F-value	Sig. (2-tailed)
Learning goal orientation (LGO)	Low	3.33 (.75)	4.96	.007
	Middle	3.48 (.77)		
	High	3.57 (.63)		
Approval goal orientation (AGO)	Low	2.58 (.89)	.18	NS
	Middle	2.56 (.81)		
	High	2.52 (.76)		
Performance goal orientation (PGO)	Low	3.90 (.70)	1.86	NS
	Middle	4.09 (.68)		
	High	4.02 (.58)		

Significant differences exist between groups only in the learning goal orientation. Post-hoc Scheffe's tests revealed that the mean scores of the

high and middle-income groups are significantly different from the low-income group at the 5% level. The low-income group has reported a lower learning goal orientation than the high and middle-income groups. Maybe low-income students believe that PGO and AGO are more relevant to their situation than LGO, which is a kind of high ideal orientation.

FINDINGS AND IMPLICATION

The achievement goal orientations of students in the different academic streams indicate that they are more inclined to performance and learning goal orientation. This may be due to the highly competitive environment in Singapore. The Singapore education system has been widely recognized for having produced high standards of achievement among learners at all levels. This may have conditioned the students to study to perform well in examinations. But it is now recognized that the present formula for success is unlikely to prepare the young for the new circumstances and new problems they will face in the future. If teachers continue to teach solely for examination purposes, there is a likelihood that other major goals of education like the development of core cognitive skills and the habit of learning will not receive enough attention. It is important that a happy balance is struck between passing examinations and developing skills and habits for lifelong learning. There are already a number of new initiatives implemented in schools, like IT in teaching and learning, critical and creative thinking programmes and new assessment procedures to bring about a change in the learning environment in the schools. Their success will depend upon the school leadership.

A high performance goal orientation may result in a mindset that studies at surface level just to pass examinations. Development of a deep level learning orientation that can result in knowledge useful for lifelong learning and problem solving may be hampered. The school should discourage practices which bring about surface level learning like excessive use of drill and practice approaches. Instead, students should be encouraged to seek information, think and reflect, and analyze, synthesize and evaluate information. Students should be given more responsibility progressively towards their learning. Hargreaves (1984) has identified commitment to learning — that is initiative, perseverance and confronting failure positively — as one of the key desirable goals of schooling.

Another important ingredient for student intellectual growth is a learning environment that is conducive. The students in all three

streams have reported a low concern for seeking approval. This indicates that the two schools where the study was conducted are providing a safe, emotionally conducive environment for learning. Students who are anxious, angry or depressed have difficulty concentrating on learning. They do not take in information efficiently or deal with it well because their attention is drawn towards their own preoccupations, interfering with the attempt to focus on the lesson or the task at hand. On the other hand if teachers can marshal students' feelings of enthusiasm, zeal and confidence they can enhance learning and achievement. Students learn at their best when they have something they care about and they can get pleasure from being engaged in it, free from excessive anxiety and fear (Goleman, 1995).

Examining the relationship between the achievement goal orientations and personal variables revealed that learning goal orientation was related to students' academic ability, gender, religious background and socio-economic status of their family. Academically able female students, coming from families of middle or high socio-economic status, and who are Buddhist or Muslim, have reported the highest learning goal orientation.

Gender, ethnicity and the religious background of the student were related to approval goal orientation. Male Malay-Muslim students were more inclined to study for approval or have an external locus of control for learning. The performance goal orientation was related to academic ability, gender, ethnicity and religion. Academically able female students, who are Malay-Muslim or Indian, have reported a higher performance goal orientation than the others.

Though it is known that home background and socio-economic factors are important in influencing learning, focus is still on the school as the institution where changes can be introduced. The background factors are outside the control of the schools. One way in which the school can help is by having greater dialogue with the parents about the different programmes which the school has designed to help the students, and by getting parents actively involved in the education of their children. The Ministry of Education, Singapore, has launched a school-home partnership in learning. Perhaps this initiative may have some influence on the children's motivation for learning.

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