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Influence of Polytechnic Students's Self-Concept on Their Academic Achievement in Gujarat Region

Education

KEYWORDS : Self-concept; Effort in Learning; Students Academic Achievement

Manishaben Prahladbhai Vyas

Lecturer in Education, B.J.Gadhavi B.Ed. College,Radhanpur

ABSTRACT

Teachers, parents, and indeed all interested parties especially industrialist & government have to consider the various aspects of self-concept constructs of students since they influence the development of positive self-concept among students when dealing or interacting with them. Also, they must help, monitor and supervise students to have private time table for learning and to monitor them in their day-to- day learning since such effort boost students' academic achievement significantly.

INTRODUCTION

In Gujarat, India, There is a consistent demand from fast growing Gujarat industry that student excel in academic works. In view of this, various attempts are being made by students, parents, teacher, academicians, industrialists and governments to give off their best. Lot of effort has been made but it appears some students continue to perform below average in educational institutions in Gujarat. It is a source of worry to many interested parties especially parents whose wards find themselves in this situation and the government of Gujarat who spends a large proportion of the nation's resource on education.

Researchers have been motivated to examine polytechnic students' perception on self-concept and the direct or indirect influence of self-concept on students' academic achievement. The conclusion of this study will add to the support students' need which will help in developing their self-concept positively.

The information that will be gathered out of the findings of this study will go a long way to enrich their knowledge about the self-concept thereby helping them build a strong base upon which effective counselling services could be rendered to their students.

REVIEW OF RELATED LITERATURE

Rogers (1947) who introduced an entire system of helping build around the importance of the self.

According to Manning et al. (2006) academic self-concept has two levels : first level deals with the general academic self-concept of how good one is in all subjects, the other has to do with a set of specific content related to self-concept that describes how good one is in mathematics, science, social studies and English language.

According to Olivia (1985), Self-concept will depend on a student's own academic ability and the ability level of other students within the same class. When a student perceives himself as the best in class he tends to hold a positive self-concept of himself / herself

According to Cooley (2000), students must have a positive academic self-concept.

According to Gerardi (2009)'s study academic self-concept was the best predictor of academic success as measured by Grade Point Average (GPA) in minority and low socioeconomic status college students.

Speight's et al., found that there is no significant relationship between self-concept and GPA, but it is for the students perceived self-concept positively.

According to Sarasvat (1982) students' self-concept influences their academic achievement; however, the level of effort exerted by students in learning to a large extent contributes significantly to students' self-concept in boosting their academic achievement.

So, industrialist, teachers, parents, indeed all interested parties have duty to consider various factors that can influence the development of positive self-concept among youth when dealing or interacting with them. Also, they must care, help and observe students to exert some level of effort in learning since such effort boost students' academic achievement.

RESEAERCH DESIGN

The dependent variable is polytechnic students' academic achievement while self-concept related to [1]mathematical [2]educational [3] expression [4]problem solving [5]physical appearance & ability [6]peer relations [7]relations with parent[8] social relationship[9] morality, honest & reliability [10] self-esteem constitute the independent variables. Effort applied by students in learning serves as mediating variable. The research design is shown in Figure 1.

The study agrees that these constructs that form students self-concept do influence their academic achievement positively. The explanation of the individual variables has been well dealt with in the literature. The study hypothesised that students self-concept influence students' academic achievement significantly.

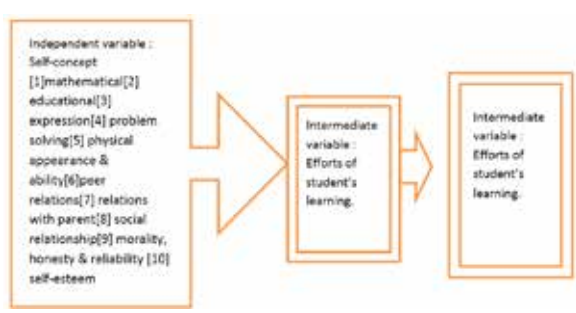

Figure .1 Construct of self-concept

The Figure 1 shows the relationships among the independent variables, the intermediate variable and dependent variable.

Dependent variable : Student's academic achevement

The general argument is that, if student's self-concept related to mathematical, educational, expression, problem solving, physical appearance & ability, peer relations, rela-

tions with parent, social relationship, morality, honest & reliability and self-esteem are viewed positively or are in good shape, they will get achievement well academically as expected.

However, this effect is not direct as it seems. It can be seen as complex effect because the fact that the constructs are perceived positively does not mean they will perform significantly in terms of academic.

The students must first do some level of effort in learning what they have been taught in the polytechnic which will strengthen their ability to understand and apply what they have been taught appropriately. In the long run, their academic achievement will increase significantly.

Therefore, student's self-concept constructs of religion, physical, social, economic, esteem and educational orientation do not directly predict their academic achievement but rather it predict students' academic achievement indirectly through the level of effort applied by students in learning.

In this context two hypotheses are formed.

H1 : Polytechnic students do not perceive their self-concept positively.

H2 : Polytechnic student's self-concept does not influence their academic achievement directly.

SAMPLE AND SAMPLING TECHNIQUES

The population for the study comprised all Polytechnic students from the 5 polytechnics in the Gujarat state. The total number of students in the area was 750 made up of 195 girls and 555 boys using simple random sampling.

INSTRUMENT

A five-point rating scale standardized by author comprising 10 main sections with 3 positive items and 3 negative items in each with 60 items was instrument. The possible maximum obtainable score for each section was 30 with possible minimum obtainable score for each respondent being six. The model for interpreting the grades was the higher the score the more desirable the trait and vice versa.

With regard to the academic achievement of students, the students' average scores of three consecutive semester examination for 2012/13 academic year were used.

The rating scale was tested for its internal consistency using reliability coefficient of 0.97. This according to Malhotra and Birks (2007) is positive, high and satisfactory.

DATA COLLECTION PROCEDURE

The rating scale was administered personally by the teachers of the respective polytechnic with written permission of respective principal. The study recorded 100 percent return rate of the rating scale.

In obtaining data on the respondent's academic achievement, the researcher obtained their examination scores from Universities official Web site that was used for the study.

RESULTS AND DISCUSSION

The first objective of the study was to find out whether students perceived self-concept positively or negatively. The hypothesis formulated to test this assumed perception was that:

H1: Polytechnic Students do perceive their self-concept positively.

Students self-concept constructs considered were [1] mathematical[2] educational[3] expression[4] problem solving[5] physical appearance & ability[6]peer relations[7] relations with parent[8] social relationship[9] morality, honest & reliability [10] self-esteem . Six items each were used to produce data on these self-concept which were later pooled together to form each of the sub self-concept for descriptive analysis using mean, median, standard deviation and skewness with the help of the Excel and visual-basic interface However, the items were measured with five-point Likert scale type as indicated earlier. The results are presented in Table 1.

Based on the five-point Likert scale type used, the average response score used in categorising the data into positive and negative was a mean score of 3.0. That is (1 + 2 + 3 + 4 + 5) / 5 = 3.0. Similarly, using the median score, any value greater than 2.5 was deemed to be perceived as positive while any score equal to 2.5 or less than 2.5 was deemed to be perceived as negative.

With regard to the standard deviations, it is clear that the elements used for the study are homogeneous group who understand the concept under study almost at the same level. This is so because the various standard deviations are closer to each other (Pallant, 2001).

Table 1: Students view on self-concept

Constructs of Self-concept	Mean	Median	Std. Dev.	Skewness
Mathematical	4.13	4.28	0.42	-1.09
Educational	3.79	3.86	0.44	-0.52
Expression	2.7	2.8	0.39	-0.82
Problem solving	4.11	4.38	0.58	-1.45
Physical appearance and ability	4.19	4.01	0.37	1.47
Peer relations	3.7	3.72	0.44	-0.15
Relations with parent	3.74	3.95	0.48	-1.36
Social relationship	3.95	4	0.64	-0.25
Morality, honesty & reliability	3.53	3.64	0.54	-0.6
Self esteem	3.17	3.03	0.5	0.84
Students self-concept	3.701			

As contained in Table 1, students perceived all the self-concept positively (Mean = 3.701). The Table shows further that the most perceived self-concept construct of students was physical appearance and ability self-concept (Mean = 4.19, SD = 0.37), followed by mathematical (Mean = 4.13, SD = 0.42) and problem solving (Mean = 3.79, SD = 0.44) self-concept.

The findings mean that students have positive perception about themselves. Therefore, the study rejects the hypothesis that Polytechnic Students do not perceive their self-concept positively.

This shows that the self-concept students which indicates who they are and how they sustain in the world is positive.

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The findings is in line with the submission of Machargo (1991) who perceives self-concept as a set of perceptions or reference points that the subject has about himself, a set of characteristics, attributes, qualities and deficiencies, capacities and limits, values and relationships that the subject knows to be descriptive of himself and which he perceives as data concerning his identity.

The second objective of the research was to find out whether polytechnic students self-concept influence their academic achievement directly or indirectly. The measurement and computation of the individual variables have been explained earlier. The hypothesis formulated to test this assumed influence was that:

H2: Polytechnic Students self-concept influences their academic achievement directly.

This hypothesis is tested using two models
In First model various self-concept considered, that are; mathematical, educational, expression, problem solving, physical appearance & ability, peer relations, relations with parent, social relationship, morality, honest & reliability and self-esteem were used as the independent variables while students' academic achievement in engineering subjects was used as dependent variable. The results are presented in Table 2.

In second model the level of effort applied by students in learning was used as a mediating variable. The study reasoned that for students' self-concept to predict significantly their academic achievement, the students must first apply some level of effort in their day-to-day learning activities which will help them to absorb the content of what they have been taught. This in a long run will strengthen their self-concept which will lead to a significant increase in their academic achievement. The results are presented in Table 3.

Table 2: Direct Influence of students' self-concept on their academic achievement

Sr	Variables	Beta value	Standard error	Static value	Critical value	0.01 level Significance
1	Mathematical	1.87	0.17	11.32	1.76	Significant
2	Educational	1.64	0.16	10.3	1.76	Significant
3	Expression	0.76	0.19	4.06	1.76	Significant
4	Problem solving	1.57	0.15	10.13	1.76	Significant
5	Physical appearance and ability	0.12	0.22	0.56	1.76	non-significant
6	Peer relations	0.15	0.19	0.77	1.76	non-significant
7	Relations with parent	0.69	0.18	3.82	1.76	Significant
8	Social relationship	0.26	0.15	1.75	1.76	non-significant
9	Morality, honesty & reliability	1.11	0.18	6.15	1.76	Significant
10	Self esteem	2.05	0.15	13.41	1.76	Significant
R^2 adjusted = 0.44						

In the first model, the ten selected self-concept of students were entered as independent variables with students' academic achievement in the school operating as dependent variable. The results as shown in Table 2 indicate that the standardised beta co-efficient for Physical appearance and ability, Peer relations and social relationship self-concept were not statistically significant. However, in order of importance, self-esteem, mathematical, educational, problem solving, morality, expression, and relation with parent self-concept constructs were statistically significant with regard to their contributions to student's self-concept.

This means that self-esteem, mathematical, educational and problem-solving self-concept is the only statistically significant self-concept of students that contribute to their academic achievement. In addition, the unique proportional contribution in terms of R2 adjusted of the student's self-concept to students' academic achievement is 0.44 This means that student's self-concept constructs are able to predict or explain only 44 percent of the variance in students' academic achievement in the polytechnic. It therefore means that besides these self-concept constructs identified, other factors not yet in the model have a chance of contributing or predicting about 56 percentages to students' academic achievement in the polytechnic. The result suggests that students' self-concept constructs alone do not contribute significantly to their academic achievement in the polytechnic and that they do so when other variables are considered.

Table 3: Indirect Influence of students' self-concept on their academic achievement

Sr	Variables	Beta value	Standard error	Static value	Critical value	Significance
1	Mathematical	1.84	0.14	13.51	1.76	Significant
2	Educational	1.62	0.13	13.93	1.76	Significant
3	Expression	0.58	0.16	3.58	1.76	Significant
4	Problem solving	1.55	0.13	14.4	1.76	Significant
5	Physical appearance and ability	0.19	0.18	1.06	1.76	non-significant
6	Peer relations	0.26	0.15	1.73	1.76	non-significant
7	Relations with parent	0.42	0.14	2.91	1.76	Significant
8	Social relationship	0.61	0.38	1.62	1.76	non-significant
9	Morality, honesty & reliability	0.67	0.14	4.63	1.76	Significant

10	Self esteem	1.61	0.12	13.09	1.76	Significant
11 Effort in learning 1.87 0.4 4.72 1.76 Significant						
R^2 adjusted = 0.88						

In the second model, the mediating variable which was effort applied by student in learning was arrived into the model. The thought here is that student's self-concept constructs in themselves do not predict directly students' academic achievement in the school significantly, and that they do so indirectly through the effort applied by the students in learning what they have been taught. When effort exerted by students in learning was entered into the model, the beta co-efficient of the self-concept related to mathematical, educational, problem solving, self-esteem, relation with parent and morality shrank while that of physical appearance & ability, peer relation and social relation self-concept expanded.

The resultant shrinkage in the beta co-efficient mean that student's self-concept do not directly influence their academic achievement to the school. They do so only when the students are able to apply some level of effort in learning. However, it is important to observe that the unique proportional contribution of students' self-concept constructs and their effort in learning was .88 in form of an adjusted R2. This means that students' self-concept constructs and students' effort in learning were able to predict or explain about 88 percentage of the variance in students' academic achievement in the polytechnic. It therefore means that besides these main variables identified, other variables not yet in the model have a chance of predicting about only 12 percentages to students' academic achievement in the polytechnic.

The significant increase with regard to the unique proportional contribution of the independent variables and the mediating variable on students' academic achievement in the polytechnic mean that when students are able to apply some level of effort in their day-to-day learning activities, they will be able to absorb what they have been taught which in the long time will increase their academic achievement. Therefore, the study rejects the hypothesis that Polytechnic Students self-concept influences their academic achievement directly, since the influence is indirect through effort applied by students in learning.

CONCLUSIONS

The study has found that teachers, parents, and indeed all interested parties especially industrialist & government have to consider these self-concept constructs of students since they influence the development of positive self-concept among students when dealing or interacting with them. Also, they must help, monitor and supervise students to have private time table for learning and to monitor them in their day-to-day learning since such effort boost students' academic achievement significantly.

ABSTRACT

This study investigated the influence of student's self-concept on their academic achievement. A total of 750 randomly selected from polytechnics under Technological University completed rating scale. The average scores of the three consecutive semester examination of students in different courses were used to measure their academic achievement. The rating scale used for the study was a five-point scale.

Both descriptive and inferential statistics were used to analyse the data. It was found out that students self-concept is perceived positively by students; however, this self-concept does not directly predict students' academic achievement. It does so only when students are able to apply some level of effort in learning what they have been taught during their studies. The study has found that teachers, parents, and indeed all interested parties especially industrialist & government have to consider these self-concept constructs of students since they influence the development of positive self-concept among students when dealing or interacting with them. Also, they must help, monitor and supervise students to have private time table for learning and to monitor them in their day-to-day learning since such effort boost students' academic achievement significantly

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