Effect of social skills on academic ability of students at elementary level

ABSTRACT

This study was aimed to determine the effect of social skills in academic ability of a student and to find out if student’s academic self-efficacy has some mediational role between social skills and academic ability of a student. Regression and Sobel tests were applied on the retrived data of 230 respondents from elementary students composed of 200 students and 30 teachers from 10 schools. A likert scale self-survey questionnaire with 5 response options of strongly disagree (SD), disagree (DA), Neutral(N), agree(AG) and strongly agree(SA) respectively was distributed and retrieved. SPSS 24 version was used for data computation. The statistics showed that candidate explanatory variable Social Skills SS is contributing significantly towards the outcome variable Academic Ability (AA). The results obtained from regression test supported the hypothesis that social skills do contribute positively towards the student’s academic ability; these results also substantiate the hypothesis that social skills and academic self –efficacy( mediating in this case) have a positive contribution towards the academic ability of the student. The computations made to determine direct and indirect mediational effects showed that SS exerts 71% effect directly, whereas it exerts 29% indirect effect through mediator self-efficacy. Sobel test also suggests a mediational effect of 19.44% which is smaller but statistically significant.

Key words: Social skills, self-control, mastery orientation, academic self- efficacy, persistence, social competency, academic ability, Sobel test.

INTRODUCTION

Social skills

While living in a society, one needs certain skills to lead a life which is successful in nature and practice. One needs to master the language of his immediate social network to be able to communicate with people at home, at work and at social occasions. Same goes to a student at school. He/she needs to develop certain social competencies which assist in enabling the adjustment at school and create tranquility with environment in which he/she lives (Chen et al., 2012; O’Conner et al., 2012; Guzman and Caal, 2014). Smith and Travis (2001) call social skill as the behavior which is not only observable but also helpful in productive social relationships (p.361).

The academic success of a student can be enhanced by incorporating the learning of essential social and emotional skills in class room teaching and learning process. On one hand, there is a need to include learning of these skills in curriculum and teaching instructions, it is also needed that the teachers have the yard stick to measure these skills.

Education is a social process which helps student get mastery of the abilities of interaction with class fellows and instructors. Social competency has the quality of malleability and it can be enhanced, shaped and used to the maximum by making efforts. When students are grouped under a scheme and the level of expectation is set, the social competency adds to the inherent abilities of the learner to be successfully interacting with his peers. Researches have shown that socially competent students find it easy to achieve better results and adjustment with his peers and
environment.

Five key social skills

According to Chein et al. (2013), Delale et al. (2012) and Guzman et al. (2014), there are five proficiencies and skills which are contributory elements in acquiring excellence in school by the students. These social and emotional skills are as follows:

Self-control

Self-control is a skill not only to control but express the emotions with an acceptable behavior, ability to avoid negative response to a negative experience, and having the ability to express calculated satisfaction according to the social norms and ethics (Bandy and Moore, 2010). Blair (2002) has made a comparison between self-control and intelligence as far as its importance in academic excellence is concerned. Self-control assists a student in fulfillment of task on time and acceptable, self-control enhances proficiency of student in communication, ability to resist use of drugs and develop the skills to overcome hardships, hopelessness and desperations in life to come (Michal et al., 1998; Tangey et al., 2004; Duckworth and Seligman, 2005; Moffit et al., 2014).

Persistence

Persistence is the resolve of a person to achieve certain objectives with relentless efforts. According to Peterson and Seligman (2004), it is the aptitude of someone to carryon efforts in the face of difficulties, non-complimentary conditions, impediments and disapproving environment. Whereas, Duckworth et al. (2007) call persistence as passionate and preserved efforts to achieve goals in life. Preference points towards the child’s attitude towards achievement of ends of life. It is prime mover for attaining not only short term better goals but keeps child’s focus on long term aspirations.

Mastery orientation

It is the methodology of a student to learn in a way for the attainment of mastery on his/her overall competencies and abilities. Children with mastery orientation have least delays in doing the task, and have better and practical learning strategies with a wish to attain higher grades that their peers in especially science subjects (Meece and Holt, 1993; Walters, 2004).

According to Deweck and Lagget (1988) those children who possess mastery orientation believes in malleability of intelligence and hence believe in struggle to achieve.

Stipek and Granlinski (1996) have endorsed the view of Dewck and Lagget by saying that it is the reason why these students show better results and successes in life than those students who believe intelligence as an entity. It was also found by Blackwell and Trzesiewski (2007) that the effects of mastery orientation last for years on the efforts to get better results.

Social competency

Social competency is that talent of person by which he/she can make adaptation in a social network constructively (Kransor, 1997; Smith and Hart, 2004). Social competency can be termed as: a) understands the perceptions of other, b) feel easy going in team work for accomplishment of task, c) builds the capacity of conflict resolution and d) has the skills to behave appropriately according to socially accepted norms and ethics. The student who has social competency has constructive interaction with teachers, peers and school management and shape their feelings of connection with the school in such a way which result in increase in academic competence (Smith and hart, 2004; Ladd et al., 2006; Valiente et al., 2007). While calling social competency as a multi-facet and complex set of behavior, Vaughn et al. (1990) describe social skills consisting of acceptable social learning, no mal-adaptation and positivity in relations to fellows. Gresham identifies social competency in view of two factors which are social skills and ability to function adaptively. Researches by Mason and Chuang (2001), O’Donnell et al. (1995) and Durlak, (1998) have suggested that when a student develops social skills, he/she gets equipped with abilities to resist criminal thoughts, can manage fear of failure, avoid use of drugs and control delinquent behavior.

Academic self-efficacy

Self-efficacy means that inbuilt belief by an individual to be able to fulfill a task effectively, whereas academic self-efficacy is the belief of having skills to achieve better results in academics (Zimerman, 1999; Liew et al., 2008). Moreover, having academic self-efficacy belief is thought to be having linkage to thinking styles, emotional behavior, and in the end to his/her successes in academic field (Zimerman, 1999; Liew et al., 2008). Researches made on the subject show that those children with higher academic self-efficacy are able to apply better and more active techniques while learning than their counterparts who have low academic self-efficacy (Zimerman, 1999; Liew et al., 2008).

Academic ability

Academic ability is the quality of a student whereby he/she
can manage his way of studies according to the best possible utility. According to Igum (2007), better and worthy learning practices is a key to attain excellence and mastery by the learner in the classroom. Adding to it, Nneji(2002) says that the habit of studying out of the classroom is an instrument which helps in acquiring mastery in learning as it is a tool to create a meaningful attentiveness. In academic ability, a good student always read the coming lesson at home before it is read in the classroom. Effexis(2004) stresses that management of time creates improvement in life and enhances its quality. Elaborating the point, Sansgiry et al. (2006) say that for better results a student has to adopt certain set of behavior which play an important role in management of time such as managing tests preparations and strictly follow up of the test calendar.

Research questions

1. Whether Social Skills have an effect on student’s learning ability?
2. Whether student’s Academic Self-efficacy has a mediatory role in social skills and student’s learning ability?

Theoretical and conceptual framework

This study is based on the Behaviorist Theory of learning by Burrhus Fredric Skinner. According to Skinner, learning occurs when a behavior is acquired. The behaviorists believe that there is a change in the behavior of a learner, only then the learning outcome could be measured. Skinner says that a positive reinforcement can be more productive in bringing change in behavior.

The researcher investigated the relationship between social skills and its effect on academic ability at elementary level.

Figure 1A shows two way interactions of variable social skills (SS) and Academic Ability(AA). On one hand, it has a direct effect on Academic ability and on the other hand, it has an effect but through mediating variable Academic Self-efficacy(ASE). Proposal adapted from Eisenberg et al. (2010) on the positive relationships between Social Skills, Academic Self-Efficacy and Academic Ability is shown in Figure 1B

METHODOLOGY

Data were collected from 230 respondents on five factors of social skills (SS) namely Self-control(SC), Persistence (PE), Mastery Orientation (MO) and Social Competency (SCOM) whereas, the variable Academic Self-Efficacy(ASE) was used as mediator. The academic ability AA was also ascertained with the help of self-survey questionnaire. All the variables were tested and the reliability of the responses was established from the range of 0.60 to 0.80 Cronbach’s alpha which is shown in the Table 1, all these factors were then used to form variable Social Skills (SS).

The created explanatory variable Social Skills(SS) was used in combination with mediating variable Academic Self-efficacy(ASE) to find out their combined effect on Academic Ability(AA) of a student using Baron and Kenny(1986) and Kenny(2012) models (Figure 2).

The Model of Mediation, adopted from baron and Kenny, (1986), include 4 steps:

Step 1

\[ Y(\text{or AA}) = c_0 + c_1X(\text{SS}) + e_1 \]  

(2.1a)

In step II, we tried to determine the relationship between explanatory factor (X;in our case SS) with the mediator(M; in our case ASE):

\[ M(\text{or ASE}) = a_0 + a_1X(\text{SS}) + e_2 \]  

(2.1b)

In step III, it was tried to find out the effect of mediator (M; in our case ASE) on outcome variable (Y; in our case AA) using explanatory variable (X; SS in our case) as control variable:

\[ Y( \text{or AA}) = c' + c'_1X(\text{or SS}) + bM(\text{or ASE}) + e_3 \]  

(2.1c)

In step IV, it was tried to determine the level of mediation done by variable M(in this case ASE) from total to partial between variable X(in our case SS) and Y (in our case Academic Ability). In above Equation (2.1c), if the value of c' reduces and is significant, it is mediating fully alongside the value of b which is coefficient of variable M (in this case ASE) turning out to be statistically significant. Whereas, in case of partial mediation, the value of coefficient c/ may show reduction in magnitude but remains statistically significant.

Kenny’ Model (2012), has advocated the measurement of total effect c and its breakdown into direct effect c' and indirect effect or meditational effect a*b which is product of a and b using the following formula(Shah et al., 2013):

\[ c = c' + ab \]  

(2.1d)

According to Kenny (2012), to test the statistical significance of product term a*b (which measures mediation effect), one out of the following three methods may be applied:
Table 1: Results of reliability test.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-control</td>
<td>0.82</td>
</tr>
<tr>
<td>Persistency</td>
<td>0.80</td>
</tr>
<tr>
<td>Mastery orientation</td>
<td>0.72</td>
</tr>
<tr>
<td>Academic Self-efficacy</td>
<td>0.76</td>
</tr>
<tr>
<td>Social Competency</td>
<td>0.84</td>
</tr>
<tr>
<td>Academic Ability</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Source: Estimated by researcher.

Results and Discussion

After applying the Baron and Kenny's (1986) and Kenny's

1). a and b should be tested separately
2). Sobel test should be applied
3). Using Bootstrapping

With the help of the values using Equation (3.1d), we can compute direct effect of X (in our case SS) on Y (Academic Ability) and indirect effect, that is, through mediation in percentages using the following formulas:

\[
\text{Direct Effect} = \frac{(c'/c) \times 100}{(2.1e)}
\]

\[
\text{Indirect (through Mediation) Effect} = \frac{(ab/c) \times 100}{(2.1f)}
\]

**RESULTS AND DISCUSSION**

After applying the Baron and Kenny's (1986) and Kenny's...
The estimated model (4.1b) was statistically significant as F=101.365; p< 0.01 and explanatory variable Social skills SS was also found statistically significant as t= 19.756; p, 0.01, indicating that social skills do contribute towards the student’s academic self-efficacy.

The estimated model (4.1c) showed statistical significance as F=101.365; p<0.01 and both of its explanatory variables Social Skills (SS) and Academic Self-Efficacy (ASE) positively and significantly contributed towards the student’s academic ability as their respective t-statistics and significance values were obtained as t=5.988 with p<0.01 and t=3.087; p=0.02. These findings support the hypothesis that social skills and student’s academic self-efficacy does have an effect on academic ability of a student.

While applying Baron and Kenny (1986) and Kenny (2012) of mediation analysis, it was observed that the contribution of SS variable showed a decrease in contribution from c1 = 0.75 in step 1 to c' = 0.53 in step 3. However, this decrease in value of SS at c' did not show significance which suggests that mediation of ASE was partial not full. Variable ASE which is mediator in this case also showed significance at p<0.01, supporting that ASE does mediate and as the SS variable is also significant statistically, ASE is mediating but partially. These findings support the hypothesis that student’s Academic Self-efficacy does mediate though partially in affecting student’s academic ability.

According to Kenny’s model (2012), existing mediation analysis needs to put values of a, b and c' together as shown in model (2.1d) and computing it for total effect c, and after that decomposing the outcome to find out direct effect (c/).
and indirect effects a and b by using formulas given in 2.1(e and f).

In model 3.1(a-c) the values of a,b and c/ are already available for substitution in model 2.1(d-f); however it is pertinent to note that contributory variable SS appears sufficiently significant (not equal to zero) in estimated model 3.1(a and c). In coming Table 2, formulas 2.1(d-f) are used to provide estimation of direct and indirect effect of SS and suggesting that variable Social Skills (SS) has a 71 percent direct effect of variable Academic Ability (AA) and on the other hand meditational or indirect effect of Academic Self-efficacy(ASE) has an estimated relative effect of 29 percent.

To find out significance of mediation by variable Academic Self-efficacy (ASE) in our case, towards the respective total effect of Social Skills (SS), Kenny (2012) suggests one of the following two methods to check statistical significance of this indirect effect 'ab':

i). Separate testing of a and b
ii). Using Sobel Test

Testing a and b separately

Like one way to test $H_0: ab=0$, is to test a=0 and b=0;

Kenny (2012) and researchers like Fritz and MacKinnon (2007) and Fritz, Taylor and MacKinnon (2012) have urged strongly to apply this test in conjunction with other tests like Sobel test.

Hypothesis $H_0: a=0$ has already been checked in step 2; estimated model (3.1b) shows that p-value of a relating to variable SS is .000 which is statistically significant as p <.01.

Hypothesis $H_0: b=0$ has been tested in step 3 in estimated model 3.1b which indicates that p-value of b which relates to mediating variable Academic self-efficacy(ASE) is .000. These statistics show a strong significance of meditational or indirect effect of variable ASE.

Sobel test

To check $H_0: b=0$, Sobel test applies following statistics:

Test: $Z_{ab} = ab/S_{ab}$ (3.1d)

Which follows z-distribution meaning that $ab/s_{ab}$ falls within 1.96± interval for an $ab=0$; if it falls outside the stated interval, that is, 1.96± then Sobel test is applied using following formula:

$$S_{ab} = \sqrt{(a^2 s^2_b + b^2 s^2_a)}$$
In the above equation $s_a$ and $s_b$ are the standard errors of $a$ and $b$ respectively. By using formula 3.1(g & h), Table 3 provides a detailed computation done for sobel test. As the $Zab$ statistics which were computed to find out meditational effect (ab) of Academic Self-efficacy (ASE) on variable Academic Ability(AA), it falls outside the 1.96± interval which suggests that mediation effects of ASE in respect of variable Social Skills SS is significant.

Conclusions

Based on the results obtained from the above tests, the following conclusions are drawn.

i. Explanatory variable Social Skills (SS) was found statistically significantly contributing towards the outcome variable Academic Ability (AA); these results support the acceptance of hypothesis that social Skills have positive effect on academic ability of a student.

ii. Explanatory variable Social skills (SS) was found statistically significantly contributing towards the mediating variable Academic Self-Efficacy (ASE); these results help us to accept hypothesis that social skills have positive effect on student's academic self-efficacy.

iii. Explanatory variable Social Skills(SS) and Mediating Variable Academic self-Efficacy significantly and positively contributed towards student's academic ability; these results help us to accept the hypothesis that social skills and student's academic self-efficacy have positive effect of student's academic ability.

iv. Computation made for direct and indirect effect(meditational) provided estimates of SS with 71% direct effect, while the indirect effect due to mediation of Academic Self-efficacy(ASE) relative to these variable was found to be 29%; Sobel test suggests that 29% meditational effects are statistically significant.

REFERENCES


