



CORRELATES OF SELF REGULATION, TEACHER'S VALUE AND TEACHER EFFECTIVENESS OF CHEMISTRY HIGHER SECONDARY TEACHERS

Education

Mr. R. Thirunavukkarasu Ph.D., Scholar, N.K.T. National College of Education for Women, Triplicane, Chennai – 600 005.

Mrs. Dr. N. Kalai Arasi Associate Professor of Computer Education, Triplicane, Chennai – 600 005.

ABSTRACT

An effective teacher is one who not only can impart the entire educational curriculum allotted to him in the best and the most efficient manner but also ensures the best possible academic performance, high degree of values, self regulation, active involvement in the decision-making process (whenever needs) and an optimal development of all round personality in students. The sample chosen for this study included male and female 60 higher secondary chemistry teachers from different type of schools and locality. The findings revealed that both the male and female chemistry teachers are similar in their self regulation, teacher value and teacher effectiveness. Moreover, there is a significant and positive relationship among the self regulation, teacher value and teacher effectiveness of chemistry higher secondary teachers.

KEYWORDS

INTRODUCTION

The teacher is the top most academic and professional person in the educational pyramid under whose guidance the destiny of our children is placed by the parents and society. The quality of education solely depends upon well adjusted and well satisfied teachers. Teacher is considered to be the most important component of the educational structure in any teaching – learning situation. Teacher effectiveness can be judged through many factors through their competency and their performance in classroom. The act of teaching along with their competency and performance results in effectiveness in the classroom. An effective teacher is one who not only can impart the entire educational curriculum allotted to him in the best and the most efficient manner but also ensures the best possible academic performance, high degree of values, self regulation, active involvement in the decision-making process (whenever needs) and an optimal development of all round personality in students.

THEORETICAL BACKGROUND

Effective teachers cannot reliably be identified based on where they went to school, whether they're licensed, or (after the first few years) how long they have been taught. The best way to assess teachers' effectiveness is to look at their on-the-job performance, including what they do in the classroom and how much progress their students make on achievement tests. Teacher effectiveness is the impact that class room factors, such as teaching methods, teacher expectations, class room organization and the use of class room resources, have on student's performance (Campbell *et al.*, 2004). Students' ratings should be only one of several forms of evaluation used to shed light on teaching effectiveness. Peer review, self-evaluation, teaching portfolios, and student achievement should also be used (Doyle, 1983; Centra, 1993; Seldin, 1999). Research indicates that instructors benefit most from formative evaluation to improve teaching when they have helped to shape the questions posed, when they understand the feedback that is provided, and when assistance and resources for making improvements are available (Gaubatz, 2000). The most accepted criterion for measuring good teaching is the amount of student learning that occurs. There are consistently high correlations between students' ratings of the "amount learned" in the course and their overall ratings of the teacher and the course. Those who learned more gave their teachers higher ratings (Cohen, 1981; Theall and Jennifer, 2001).

According to Delfino, Dettori, and Persico (2010) learning to be self-regulated is crucial for teachers in order to deal with the complexity of the teaching role, which encompasses individual and social aspects. From personal perspective, teachers should equip themselves with self-regulation skills in order to not only follow various goals and tasks, but also sustain and foster their motivation, commitment and effectiveness. From social perspective, self-regulation assists teachers to construct instructional strategies based on students' specific goals,

and "to adjust to the ever more frequent curricular revisions required by the fast pace of technological and cultural change" (Delfino, Dettori, & Persico, 2010, p. 300). To create opportunities for insightful instruction, teachers not only need a solid base of content area knowledge along with classroom management skills, but also have to scrutinize their beliefs, motivation, and self-regulatory factors associated with teaching and learning (Dembo, 2001). Indeed, as Randi (2004) pointed out from social cognitive perspective, effective teachers are self-regulated agents who can activate their beliefs to take appropriate actions leading to successful accomplishment of their professional tasks. Viewing from another perspective, it seems plausible to presume teachers who lack self-regulatory skills will find it difficult or even impossible to construct the self-regulation of their students.

It can be argued that the values which teachers communicate are important influences on teaching quality and effectiveness. Empirical evidence has shown that imparting certain values can direct students' learning goals and increase their achievement motivation (Liem *et al.*, 2008). Past research also suggests that the implicit endorsement of particular values characterizes good teachers (Boon, 2011) and that values education may foster effective engagement in learning (Lovat & Clement, 2008). These studies indicate the link between teachers' classroom values and quality teaching. Whilst the debate surrounding quality teaching is ongoing and complicated by arguments arising from socio-cultural and socioeconomic perspectives and post-modernist views promoting the de-construction of gender specific pedagogy and 'middle-class' curricula (Rowe, 2003), teacher influences upon students' outcomes (literacy skills, general academic achievements, attitudes, behaviours) exert a far stronger effect than influences from their background characteristics (Rowe, 2003). That is, the quality of teaching and learning experience is by far the strongest influences on students' cognitive, affective, and behavioural outcomes (Department of Education, Science and Training, 2013).

PURPOSE OF THE STUDY

The quality of education and performance of students depends on the teachers as reflected in the discharge of their duties. Over time pupils' academic performance in both internal and external examinations had been used to determine the effectiveness of teachers and teaching (Ajao, 2001). Teachers have been known to have important influence on students' academic achievement and they also play a crucial role in educational attainment because the teacher is ultimately responsible for translating educational policies and principles into actions based on practice during interaction with the students (Afe, 2001). Both teaching and learning depend on teachers: no wonder an effective teacher has been conceptualized as one who produces desired results in the course of his duty as a teacher (Uchefuna 2001). In the domain of education, it has been reported that teachers who are more self-regulated and teacher value can better manifest teaching effectiveness.

In other words, teachers' self-regulatory skills and teacher value tend to have a positive role in successful accomplishment of their professional tasks. Hence, the researcher felt its high time to study the teacher effectiveness (student academic achievement), self regulation and value orientation of chemistry higher secondary school teachers.

OPERATIONAL DEFINITION OF THE VARIABLES

Teacher Effectiveness

Teacher effectiveness has been defined as teachers having good academic and professional knowledge with a clear concept of the subject matter, good preparation of the lesson with clear objectives, organized and systematic presentation of the concepts with proper learning materials, ability to communicate his/her knowledge to the students successfully, effective in classroom management, positive attitude towards students and colleagues, shoulder the accountability and ability to understand and motivate students.

Teacher's Value

The value means primarily to prize, to esteem, to appraise, to estimate, it means the act of cherishing something, holding it and the act of passing judgement upon the nature and amounts of values as compared with something else.

Self Regulation

Self-regulation is defined as "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (Zimmerman, 2000, p. 14). In other words Self-regulation strategies refer to awareness, knowledge and control of cognition and include planning, monitoring, and regulating.

FORMULATION OF RESEARCH QUESTIONS

- Is there any significant difference between male and female chemistry teachers in self regulation, value orientation and teacher effectiveness (in terms of Student Academic Achievement)?
- Are there any significant differences between/among government, government aided and self finance schools chemistry teachers in self regulation, value orientation and teacher effectiveness (in terms of Student Academic Achievement)?
- Is there any significant difference between rural and urban chemistry teachers in self regulation, value orientation and teacher effectiveness (in terms of Student Academic Achievement)?
- Is there any significant relationship among self regulation, value orientation and teacher effectiveness (in terms of Student Academic Achievement)?

METHODOLOGY

Normative Survey method was adopted in the present study. Sixty higher secondary chemistry teachers of Tamil Nadu, in the districts namely, Salem, Dharmapuri and Vellore were used as a sample for the study. In today's competitive World effective teachers are required to build competitive students for this 21st century. Hence, a dire necessity is felt to study the teacher effectiveness which is assessed through the students' academic achievement, self regulation, and teacher value of the chemistry teacher's. Therefore, the sample chosen for this study included 60 higher secondary teachers in which (30) male and (30) female selected in such a way that twenty eight chemistry teachers from urban schools and thirty two chemistry teachers from rural higher secondary schools.

Tools used

Teacher effectiveness through academic achievement of students which is obtained by administering achievement tests developed by the investigator for chemistry subject. Tool used for Self regulation is standardized by M. Suresh Kumar (2009) and tool used for teacher value is standardized by Eduard Spranger (27 June 1882 – 17 September 1963).

Table-1
Mean difference between Male and Female higher secondary chemistry teachers in the Variables of Self Regulation, Teacher's Value and Teacher Effectiveness

Variables	Gender	N	Mean	Standard Deviation	t-value	P-value
Self Regulation	Male	30	52.83	4.496	0.828	0.411 NS
	Female	30	51.77	5.437		

Teacher's Value	Male	30	251.53	14.529	0.230	0.819 NS
	Female	30	250.60	16.790		
Teacher Effectiveness Assessed through Student Academic Achievement	Male	30	74.23	5.341	0.281	0.780 NS

NS – Not Significant

It could be inferred from the table that both male and female chemistry teachers do not manifest significant difference in the selected variables of self regulation, teacher value and teacher effectiveness assessed through students' academic achievement. It is therefore concluded that in this study both the male and female chemistry teachers are similar in their self regulation, teacher value and teacher effectiveness assessed through students' academic achievement.

Table-2
Mean difference among Government, Government Aided and Self Finance higher secondary teachers in the Variables of Self Regulation, Teacher's Value and Teacher Effectiveness

Variable	Sources of Variation	Sum of Squares	Df	Mean Square	F - Value	P Value
Self Regulation	Between Groups	96.100	2	48.050	2.007	0.144 NS
	Within Groups	1364.500	57	23.939		
	Total	1460.600	59			
Teacher's Value	Between Groups	40.033	2	20.017	0.080	0.923 NS
	Within Groups	14269.700	57	250.346		
	Total	14309.733	59			
Teacher Effectiveness Assessed through Student Academic Achievement	Between Groups	123.033	2	61.517	1.800	0.175 NS
	Within Groups	1947.950	57	34.175		
	Total	2070.983	59			

NS – Not Significant

It could be inferred from the table that government, government aided and self finance chemistry higher secondary teachers do not manifest significant difference in the selected variables of self regulation, teacher value and teacher effectiveness. It is therefore concluded that in this study that government, government aided and self finance chemistry higher secondary teachers are similar in their self regulation, teacher value and teacher effectiveness

Table-3
Mean difference between Rural and Urban higher secondary chemistry teachers in the Variables of Self Regulation, Teacher's Value and Teacher Effectiveness.

Variables	Locality	N	Mean	Standard Deviation	t-value	P-value
Self Regulation	Rural	32	52.69	4.875	0.642	NS
	Urban	28	51.86	5.140		
Teacher's Value	Rural	32	252.69	15.524	0.860	NS
	Urban	28	249.21	15.704		
Teacher Effectiveness Assessed through Student Academic Achievement	Rural	32	74.75	5.946	1.026	NS
	Urban	28	73.18	5.894		

NS – Not Significant

It could be inferred from the table that both rural and urban chemistry teachers do not manifest significant difference in the selected variables of self regulation, teacher value and teacher effectiveness assessed through students' academic achievement. It is therefore concluded that in this study both the rural and urban chemistry teachers are similar in their self regulation, teacher value and teacher effectiveness assessed through students' academic achievement.

Table–3
Correlation among Self Regulation, Teacher's Value and Teacher Effectiveness of the Chemistry Higher Secondary Teacher's.

Variables	Self Regulation	Value Orientation	Teacher Effectiveness – Student Academic Achievement
Self Regulation	1	0.755**	0.842**
Teacher's Value	X	1	0.719**
Teacher Effectiveness Assessed through Student Academic Achievement	X	X	1

** - significant at 1% level.

It is interesting to note that teacher's self regulation and teacher value are significantly influence teacher effectiveness. The independent variables such as self regulation and value orientation correlate significantly with teacher effectiveness (student academic achievement) positively. It could be interpreted that among the higher secondary teachers the independent variables namely self regulation and teacher value have a significant inter correlation. It is clear from the results that among chemistry teachers higher the self regulation and teacher value higher the teacher effectiveness.

DISCUSSION

In the present study it is reported that both the male and female chemistry teachers are similar in their self regulation, teacher value and teacher effectiveness assessed through student academic achievement. This present finding corroborate with the findings of Pachaiyappan and Ushalaya Raj (2014), were it was found that the male and female school teachers do not differ significantly in their teacher effectiveness; Umeder Malik and Dinesh Kumar Sharma (2013), found in their study it that gender of teachers does not bear any difference with their teaching effectiveness. But the present finding contradicts with the findings of Anju Kalita (2012), which reveals that female teachers are more effective than male teachers in secondary schools; Vivek kohli and Sahah Chand (2012), found that male teachers are more effective than the female teachers. Kumari (1981), studies revealed that Male teachers secured better points in the aesthetic, political and social values than female teachers.

In the present study it is reported that both the urban and rural locality chemistry teachers are similar in their self regulation, teacher value and teacher effectiveness assessed through student academic achievement. This present finding contradict with Kumari (1981), studies revealed that Urban male teachers were more moral than rural male teachers. Urban female teachers preferred economic and social values; rural female teachers were aesthetic, theoretical and religious. Rural female teachers had higher sense of mortality than urban female teachers.

In the present study it is reported that the variables such as self regulation and value orientation correlate significantly with teacher effectiveness (student academic achievement) positively and significantly. This present finding corroborate with the findings of Hefer Bembenutty (2006), and Dhiraj Walia (2012), teachers' self-efficacy beliefs have an indirect effect on their academic performance mediated by their sense of efficacy belief regarding their capability to initiate and complete their homework assignments and their use of self-regulatory learning strategies. This study prove that teachers are the main instruments to inculcate values to the students. Because the children consciously or unconsciously imitate the values, ideas and

habits of teachers, so a study of values of teachers is all the more significant.

EDUCATIONAL IMPLICATIONS

- The school principals should endeavor to make necessary instructional materials available to teachers when needed.
- The staff rooms should also be conducive for teachers to adequately prepare their lessons. This will motivate teachers to do better in their interaction with students.
- The population of students admitted into the schools should be dependent on the available space and facilities. There should be a reasonable match between student population and available resources in the admission process.
- Teachers should bring their teaching to the level of the students' aptitude and make classroom interactions more interesting so as to arouse the interest of the students to academic excellence. This would go a long way in solving the problem of poor academic performance of higher secondary school students and the widely acclaimed fallen standard of education.
- Teachers should attend training, workshops and seminars on personality development. Reading books and articles related to emotional intelligence, self regulation and value education are quite helpful for development of the teacher effectiveness.
- In order to achieve improvement in self-regulation strategies by using diaries, the chemistry teachers should not be only asked to report their learning activities daily but also maintain diaries some additional training program should be arranged for them regarding self-regulation strategies.
- Teachers should be encouraged to embark on regular professional development.
- Teachers should bring their wealth of experience in teaching to the level of the students' aptitude to make classroom interactions more interesting so as to arouse the interest of the students to academic excellence. This would assist in solving the problem of poor academic performance of public higher secondary school student's especially in the subject of chemistry.
- Government should attempt to improve the attitude of students to academic work by providing libraries and laboratories for science practical to enable learning experience of the students become more meaningful and at the same time interesting.
- There is the need to build more classrooms and make more adequate provision for seats especially in urban schools to ease the problem of overcrowded classrooms and poor sitting arrangement that presently make teaching and learning difficult in public secondary schools. This will further improve effective classrooms control for better teaching and learning to take place in the schools.

CONCLUSION

From the present study, the investigator could derive the conclusions that caring teachers who are enthusiastic individual use classroom management skills to share knowledge of subject matter in a manner that links learning objectives to instructional activities using a range of instructional strategies while considering student interests and perceptions. Increasing importance given to value education along with the realization that values are developable, has given impetus to the activities of teachers in and outside the classroom where values can be developed. Therefore the value education given by teachers is a helpful means for bring about a synthesis of physical, intellectual, emotional, aesthetic, moral and spiritual values in a human being. Thus the study highlight that The teacher's who have good self regulation and values can be more effective teachers and help students in improving their academic achievement.

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