

Name of Investigator : Ms. Garima Singh

Name of Supervisor : Prof. Ismat Jahan Siddiqui

Name of Department : IASE, Faculty of Education

Name of Title : A Study of Intelligence, Creativity and Attitudes of Secondary School Teachers in relation to Reflective Thinking of Students

We are in the era of knowledge society. This has necessitated building reflective thinkers in education. Crucial role of teachers has been emphasized by various commissions and committees from time to time. At the secondary school stage, the learners who are at the adolescence period, their cognitive development takes place at a fast pace. If the secondary school students' accelerating cognitive development, problem-solving abilities, reasoning and reflective thinking is properly channelized in the right direction at this level by providing conducive environment in schools and home, it results in better learning outcomes. Reflective thinking is a higher order thinking skill which is developed by advanced way of processing of information, finding solution to the problems, evaluating the situations and events. This makes imperative for an individual to use his intellect so that the reflective thinking is developed. The goal is to improve intelligence, and that can be done only if we improve thinking. (Perkins, 1986). This means that in order to develop reflective thinking of students, first of all, teachers themselves need to be the 'reflective practitioners' and then they use their intelligence in the teaching-learning process in order to promote the reflective thinking of students. Dewey referring to intellectual development as the process of reflective thinking and stressing the importance of attitude says "...it is evident that education, upon its intellectual side, is vitally concerned with cultivating the attitude of reflective thinking, persevering it where it already exists, and changing looser methods of thought into stricter ones whenever possible." Attitude of a person is not static. It keeps on changing depending upon the personality and the kind of situation person faces. A creative teacher provides opportunities for students to explore and manipulate a wide variety of materials, props and ideas. She/he also provides for self-initiated learning. Thus intelligence, creativity and attitude of teachers towards reflective thinking seem to have an effect on the reflective thinking of students in certain aspects but in many of the aspects and in view of the importance of presence of other factors along with intelligence, creativity and attitude determine that only these are not sufficient to effect reflective thinking of students. The study is significant in the light of recent trend of constructivism by NCF on School Education 2005, emphasis on 'Teacher as a Reflective Practitioner' by National Curriculum Framework of Teacher Education 2010, HOTS initiative of CBSE by introducing problem-solving assessment for classes IX and XI in 2013, etc. that pinpoint the relevance of thinkers in the system who can emerge as leaders and trendsetters in the future. Intelligence is defined operationally as a score of Ojha and Choudhary's verbal test of intelligence. Creativity is defined operationally as a score of Mehdi's verbal test of creative thinking. Attitude is defined operationally as an individual's degree of liking or disliking of an item. Reflective thinking is defined operationally as the ability to do habitual action, understanding, reflection and critical reflection. The major objectives of study were to find out relationship between intelligence of secondary school teachers and reflective thinking of students, to determine relationship between creativity of secondary school teachers and reflective thinking of students and to discover the relationship between attitude of secondary school teachers and reflective thinking of students. Three null hypothesis were formulated: there is no significant

difference between intelligence of teachers and reflective thinking of students; there is no significant relationship between creativity of teachers and reflective thinking of students and there is no relationship between attitude of teachers and reflective thinking of students. Survey method falling under descriptive method has been used by investigator. It is also a correlational study. Sample of 500 students and 70 teachers were selected by random sampling method. The study was limited to teachers and students of IX class studying in the private and CBSE schools of South Delhi. Investigator used the following tools: Ojha and Chowdhary's Verbal Intelligence test, Mehdi's Verbal test of Creative thinking, Reflective thinking scale developed by Investigator and Attitude of Teachers towards Reflective Thinking Scale developed by Investigator. Statistical Techniques used to analyse data were mean, standard deviation and product moment correlation.

It was found out that there the existing level of intelligence of secondary school teachers is above average level; creativity scores indicate the condition of normality but for a few exceptions; scores of the Attitude of teachers towards reflective thinking are also seen to be approximating normality; the reflective thinking score of students seems to be at slight variance from normality; the reflective thinking of students is orthogonally related to teachers' intelligence (0.03); reflective thinking of students is negatively correlated with teachers' creativity and teachers' attitude towards reflective thinking; teachers' intelligence is almost independent of attitude or creativity; teachers' creativity and attitude depict low positive correlation.

The creativity could be independent of attitudes and intelligence levels among teachers as has been the case in other studies as well. (Getzels and Jackson, 1962; Wallach and Kogan, 1965; Torrance, 1967, Reid, 1970, Passi and Lalitha, 1975). In general there seems to be almost no relationship between verbal measures of creativity and Intelligence. (Torrance, 1967).

The occurrence of negative relationship between intelligence and attitude among teachers seems to present that highly intelligent teachers may not be interested in teaching learners and would have formed negative perception of students as they might lack patience to come to the ground levels of students and deal appropriately. Highly Intelligent teachers may be conformist in attitude in giving space for students' thinking.

The relationship of reflective thinking levels among students with teachers' intelligence, creativity and attitude shed light on the fact that enhancing reflective thinking among children has perhaps not been the agenda of teachers. May be teaching is enacted at memory or at best understanding levels and teaching at reflective level is a far cry. It calls for serious concerns about teaching-learning in our secondary schools. Similar findings are stated by Wilson, Dunn, Kraft and Lisle (1989); Millar and Tessar (1986a) and Stanovich in 2009.

Thus it can be concluded that teachers' intelligence, creativity and attitude towards reflective thinking are orthogonally related with the reflective thinking of students. It implies that despite of the teachers' intelligence, creativity and their attitude towards reflective thinking, students' reflective thinking is not associated with them. It calls for a change in the teaching-learning process by the teachers in order to enhance reflective thinking. Teachers need to be aware of the reflective thinking process in teaching and their impact on students' reflection. This can be done when the teachers realize that the intelligence, creativity and the positive attitude is like a pearl in an oyster and so has to be brought up by them which would in return, yield better outcomes from the students and develop students' reflective thinking.