



**A Study of Assessing Pre service Science Teacher Educators'  
Scientific Literacy Level & Their Believes about Nature of Science  
and STS Approach**

**ABSTRACT**

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# **A Study of Assessing Pre service Science Teacher Educators' Scientific Literacy Level & Their Believes about Nature of Science and STS Approach**

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Abstract: Today is the age of science and technology. Each and every facet of our lives is influenced by fruits of science and technology. The world of twenty first century is marked by the impact of science and technology (S & T). Pure and applied scientific research can be seen as a key to the technological progress. The relationship between science and technology is truly symbiotic as both influenced each other. Scientific and technological progress has brought unbelievable comfort to our lives but it also has created many new socio scientific problems. (Mbajiorgu, N.M, 2001). As Acker rightly point out "... a huge literature about the curriculum, the pedagogy, the organization and the students but next to nothing about the people who are teacher educators". A great deal of research is focused on exploring students, science teachers conceptions of nature of science and their beliefs about STS approach and their scientific literacy level but very few studies were focused on pre service science teacher educators. Therefore, this study is a step revealing Pre service Science teacher educators' scientific literacy level and believes about NOS and STS **approach**.

**Research Question of the Study:** Despite the persistent reforms in Science Education in India why our students got 72nd position out of 73 countries which participated in Scientific Literacy test conducted by Program for International Student Assessment (PISA) in 2009?

The main objectives of the present study were as follows

1. To assess believes of Pre Service Science Teacher Educators about Nature of Science.
- 1.1. To assess believes of pre service science teacher educators about Scientific method.
- 1.2. To assess believes of pre service science teacher educators about Empirical NOS
- 1.3. To assess believes of pre service science teacher educators about Tentative NOS
- 1.4. To assess believes of pre service science teacher educators about Nature of and distinction between scientific theories and laws
- 1.5. To assess the believes of pre service science teacher educators about Inferential NOS
- 1.6. To assess believes of pre service science teacher educators

about Theory laden NOS 1.7. To assess believes of pre service science teacher educators about Social and Cultural NOS 1.8. To assess believes of pre service science teacher educators about Creative and Imaginative NOS 2. To assess believes of Pre Service Science Teacher Educators about teaching science with STS Approach. 2.1 To assess believes of pre service science teacher educators about concept of science and technology. 2.2 To assess believes of pre service science teacher educators about Interactive relationship between science, technology, and society. 2.3 To assess believes of pre service science teacher educators about STS learning. 2.4 To assess believes of pre service science teacher educators about teacher role in STS Approach of teaching Science 2.5 To assess believes of pre service science teacher educators about role of the students in STS Approach of teaching Science. 2.6 To assess believes of pre service science teacher educators about constraints in using STS approach 3. To assess the Scientific Literacy level of Pre Service Science Teacher Educators. 3.1. To assess the scientific literacy level of Pre service science teacher educators in factual literacy domain. 3.2. To assess the scientific literacy level of Pre service science teacher educators in conceptual literacy domain. 3.3. To assess the scientific literacy level of Pre service science teacher educators in I.C.T literacy domain. 3.4 To assess scientific literacy level of pre service science teacher educators in NOS Domain 3.5. To assess scientific literacy level of pre service science teacher educators in basic understanding of research domain 3.6. To assess scientific literacy level of pre service science teacher educators in STS domain

Sample of this study consisted of 50 pre service science teacher Educators. Simple Random Sampling method was used to select the participants. The findings had showed that most of the Pre service science teacher educators in this study had diverse believes about various aspects of nature of science. 77% of pre service science teacher educators had not acquired uniform view of science, i.e. they have eclectic believes regarding the definition of science. 13% of pre service science teacher educators defined science as a way of investigating or knowing. The findings had implications for teacher education programs as pre service science teacher educators have the responsibility for preparing future science teachers.