

Importance of Teacher Cognition in Social Science Teaching

Dr. Madhumita Baidya

Assistant Professor, Department of Education, Sidho-Kanho-Birsha University, Purulia

Ananya Baidya

Research Scholar, Department of Education, Sidho-Kanho-Birsha University, Purulia

Abstract

The study of teacher cognition is an important part of social science teaching. Teacher cognition represents a teacher's self-reflections regarding his or her knowledge about subject-matter, potentialities, and weaknesses about the teaching procedures. The influence of teacher cognition in teaching social sciences cannot be ignored. Teacher cognition plays a vital role in learning new tasks for better imparting of subject knowledge to the students and thereby bringing about effective learning outcomes in the classroom. In social science teaching, cognition means a body of assumptions, principles, beliefs, and values that teachers hold about the pedagogy, curriculum, classroom, and students. Therefore, cognitive knowledge is required for effective teaching and learning environments which is related to the quality of subject teaching performance. This paper concentrates on mainly the concept of teacher cognition about what teachers think, perform, and know, its importance in social science teaching and concludes by presenting the appropriate ways of enhancing teacher cognition in social science teaching.

Keywords: Teacher cognition, Social Science teaching, Importance, Ways of enhancing teacher cognition, Significance of ICT in teacher cognition, Major weaknesses hindering teacher cognition.

Date of Submission: 03-10-2023

Date of Acceptance: 15-10-2023

I. Introduction

The main purpose of social science teaching is to help the students acquiring some specific skills that especially deal with the skills of interacting with others, resolving conflicts, governing desirable attitudes for themselves. Hence, social science teachers need to be acquainted with professional knowledge, content knowledge, proper teaching skills, thinking ability, good working memory, analytical ability, practical experiences for developing teaching competencies and better cognition. Teacher cognition especially in social science teaching provide necessary competencies and confidence to the teachers by which teachers can enable the students to draw linkages between the past and the present to understand the changing pattern of the society. Social science teaching is helpful for students in making better inferences regarding the real world around. Hence, the social science teachers are required to apply several teaching methods such as simulation, inquiry method, discussion and project method, problem-solving method, field-trips for proper conception of the subject. For this reason, teacher cognition in social science teaching can be said to be an important factor for developing and improving desirable teaching competencies. According to **Freeman and Johnson (1998)**, knowledge base reconceptualization is needed where educational components along with the aspects of cultural and socio-political context can be brought as an interesting focus. Need for cognition strongly predicts the tendency to seek optional education programs which allow for enriched, deep learning (**Meier et al., 2014**). Recent data shows that the need for teacher cognition is positively related to the effectiveness of continuous education, predicting the effects of professional training for medical physicians (**Hassan et al., 2015**). High need for cognition is related to engagement in deep learning strategies, critical analysis, and content structuring while low need for cognition relates to using low effort strategies such as memorizing and rehearsing (**Evans et al., 2003; Cazan and Indreica, 2014**).

Objectives

1. To study the concept of teacher cognition and social science.
2. To study the importance of teacher cognition in social science teaching.
3. To explore the ways of enhancing teacher cognition for better teaching performances.
4. To study the significance of ICT in enhancing teacher cognition.
5. To discuss about the major weaknesses of the teachers that hinder their cognition in social science teaching.

II. Methodology

Secondary data from various literary sources comprising research papers, research articles, news, websites are used for this present paper to discuss the importance of teacher cognition in social science teaching, various ways of enhancing teacher cognition for improved conceptualization and teaching procedures so that teachers can adopt effective feedback mechanisms and develop proper remedial measures for the students to promote congenial teaching learning environment.

Concept of Teacher Cognition

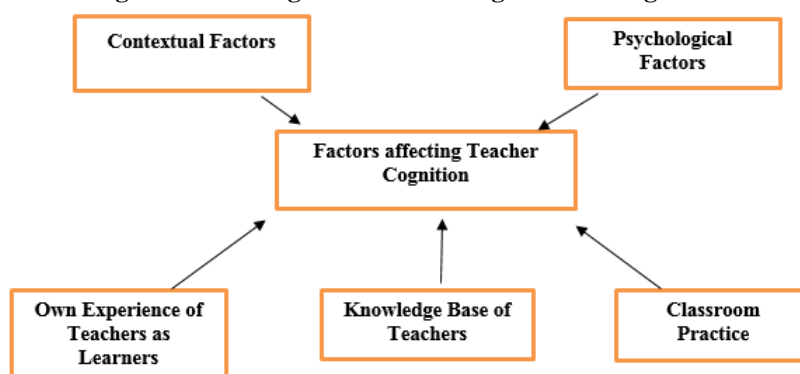
In accordance with **Raths and Katz (1985)**, **teacher cognition** is defined as pre- or in- service teachers' self-reflections, beliefs and knowledge about teaching, students, and content; and awareness of problem-solving strategies endemic to classroom teaching.

According to **Borg (2003)**, teacher cognition is defined as "the unobservable cognitive dimension of teaching-what teachers know, believe and think".

Hence, teacher cognition is required for the teachers to create any innovative and personal new strategies for facilitating the acquisition of vocabulary which is much needed for teaching and understanding social science pedagogy. Teacher cognition diagnoses the pedagogical problems, expands knowledge base of the teachers. Therefore, prospective teachers are required to adopt and follow more practical aspects of teaching skills than that of theoretical aspects in order to enrich teacher cognition in social science teaching.

Teacher cognition helps teachers to understand how children can process any information and then learn. It also assists educators to evolve better and effective methods of teaching. Cognitive skills of a teacher involve some basic functions like thinking, processing any information, judging, learning, paying attention to any subject and concentrating on that subject or matter, remembering tasks, and making meaningful decisions.

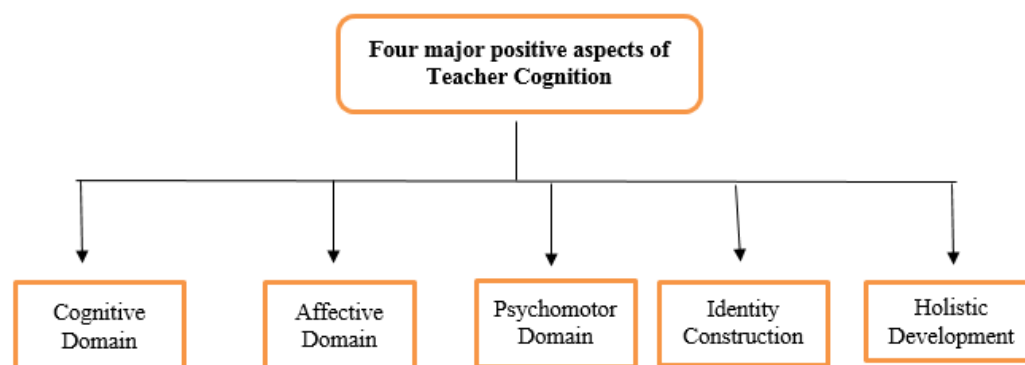
Figure 1: Showing Factors Affecting Teacher Cognition



There are **several important factors** affecting teacher cognition. These are discussed below:

1. **Contextual factors** influencing teacher cognition involves institution environment, institution management, collaborative relationships, different socio-cultural aspects, special needs, achievement levels of the teachers. All these encourage teachers to adopt appropriate teaching strategies for better learning experiences. The most important contextual factors influencing teacher cognition includes their academic background, experiences of teaching and their learning experiences.
2. **Psychological factors** such as motivation and attitude of the teachers towards teaching and for students, their emotions, sense of self-regulation and confidence, perception regarding their own potentialities and other capabilities, professional orientation, communication skills affect teacher cognition greatly.
3. **Own Experience of the teacher as a learner** enable teachers for reflective teaching. It helps them to increase their own observation skills, teaching skills, competencies, risks taking attitude, maintain balance and developing creative environment for students.
4. **Knowledge base of the teachers** mainly encompasses three important aspects. These are the first is content knowledge, second one is pedagogical content knowledge and third one is curricular knowledge. All these aspects form a very vital part of the teaching-learning environment and help teachers to improve their propositional and strategic knowledge.
5. **Classroom practice** includes the various actions and strategies deployed by the teachers during teaching-learning process in classroom. Such as classroom management and leadership skills, teaching skills, students' engagement skills, skills for proper utilization of instructional time, teaching and learning materials affect teacher cognition to a huge extent.

Figure 2: Showing Four major positive aspects of Teacher Cognition in Social Science Teaching



Following are the **Four major positive aspects** of Teacher Cognition in Social Science teaching. These are as follows:

1. **Development of Cognitive domain:** Helps to understand students' learning, investigating the foundations of teaching, instructing in meta skills, synthesis, recollection, comprehension, and evaluation process. Cognitive domain helps in the better development of knowledge and intellectual abilities and thus influences teacher cognition in social science teaching.
2. **Development of Affective Domain:** Development of core values, attitudes, motivation, positive feeling, sense of different stereotypes takes place. The qualities, characters, behaviour, and conscience of the teachers are governed by this domain. Hence, this domain greatly influences teacher cognition for teaching social sciences to the students.
3. **Development of Psychomotor Domain:** It involves the development of various skills that are required to perform any tasks efficiently. Thus, it helps teachers to establish proper coordination and integration in various teaching-learning methods by using different motor skills for better learning outcome of the students. The proficiency of the teachers, readiness for any activity, their performance adequacy, adjustment and adaptation skills are highly governed by the development of this domain.
4. **Improvement in Identity Construction:** This enables teachers for engagement and cognitive investment, powerful imagination, empathy, classroom management, language proficiency and self-efficacy in pedagogical content. It is an important aspect for the teachers to establish proper relationships with the students for better interaction.
5. **Holistic Development:** which facilitates teachers in developing awareness, overall knowledge of any subject, positive attitude and skills, meaningful experience, desirable action, basic concern about education, providing proper guidance and counselling, managing relationships effectively.

Concept of Social Science

The main purpose of teaching social science to the students is to impart them necessary knowledge and skills for becoming good citizens. Social sciences are the **group of academic disciplines** that focusses on studies to examine human behaviour, human interaction with others in the society. It is relatively an emerging field of study encompassing varied innovations and scientific trends for research. It is an **independent and unified** subject where the main contents are drawn from the various disciplines such as **geography, history, philosophy, political science, anthropology, psychology, economics, sociology**.

Bining and Bining defined Social Science as "the subject that relate to the origin, organization, and development of human society, especially to man in his association with other men." **Social science** deals with the scientific study of man and society. It mainly emphasizes upon the socio-cultural aspects of human behaviour. It is an academic discipline encompasses the studies of human interrelationships that are strongly associated with the wellbeing of the society.

Teaching of social sciences cover a diverse range and concerns of the human society. Social science teaching enables students' understanding about the various aspects of their society. The teaching of social science also helps to gain better insight regarding the foundation of more well-organized and inclusive institutions. Knowledge about social science is very much essential for an individual to become an informed person in diverse fields. It increases socio-cultural awareness, politics, economical changes, environmental issues, citizenship affairs etc. It helps to develop better spatial consciousness, critical thinking skills, congenial relationships with others, analyzing capacities, building more logical arguments and reasoning skills, cross-curricular understanding, civil qualities and morality of the individuals, problem solving skills, process of socialization and civilization.

Importance of Teacher Cognition in Social Science Teaching

The study of importance of teacher cognition in social science teaching is an essential part of teacher education and influences the learning aspects of the teachers. The importance of teacher cognition in social science teaching are discussed below.

- 1. Control:** Teacher cognition enable teachers to control students' learning and their thinking process. Teacher cognition in social science teaching **controls** intelligence of the teachers, their academic self-concept, mastery over subject, pedagogical knowledge, decision-making and overall performance goals. All these skills are very much essential for teaching social science to the students that stimulate them to advance their thinking process, reasoning aptitude, attention and remembering capabilities.
- 2. Investigate:** Teacher cognition **investigates** the thinking capability of the teachers, the belief systems about how teachers can learn to adopt appropriate teaching methods by examining their self-awareness, potentialities, and reflections on their activities. Appropriate teacher cognition is necessary to explore innovative and relevant teaching styles, individual differences of the learners, in depth understanding of the instructional practices, strengths and weakness of the learners in any academic discipline.
- 3. Encourage:** It **encourages** teachers to teach according to their need and interest of the students and thereby emphasizing individual differences among the students for promoting better learning outcomes and providing differentiated learning strategies. Teacher cognition encourage teachers to develop an effective, more functional, communicative, and skillful curriculum at different stages of education to bring about better learning outcomes of the students.
- 4. Enhance:** It helps teachers to **increase** working memory ability for improving their subject's knowledge-base, to sharpen their vocabulary and reasoning ability for providing good justifications regarding any critical issue related to the subject. Teacher cognition also help teachers to enhance their professional knowledge and experiences, comprehensive understanding of new subject matter effectively.
- 5. Improve:** Teacher cognition is necessary to develop for social science teaching in order to **improve** teaching aptitude and to trigger the analytical ability of the teachers so that they may be capable of conveying the content of the subject to the students more efficiently and easily.
- 6. Adopt:** It enables the teachers to **adopt** right teaching methods and techniques, style of delivering instructions, preparations of lesson plans, proper management process, leadership quality, improved organization, and supervision. Thus, helps to develop good values and beliefs, proper attitude towards teaching profession, students, and teaching procedures.
- 7. Influence:** It **influences** also learning of the teachers and behavioral aspect significantly during teacher education. Hence, it provides favorable condition for gaining ideas regarding the ways of structuring and restructuring information properly in order to make it easily accessible to the students. Formation of proper knowledge, strong beliefs and perceptions are possible as a result of better cognitive development. This enables the teachers to understand and investigate the foundations of teaching as well as students' learning appropriately.
- 8. Develop:** Social Science teaching **develop** awareness about various contemporary issues and other major world affairs. The social and emotional skills of the individuals also get developed through the teaching and learning process of various areas related to social science. Teacher cognition in social science teaching develops social and emotional skills of the teachers, awareness about any current affairs that influence upon the society and economy to a huge extent.
- 9. Understand:** Proper teacher cognition in social science teaching enable teachers to **understand** the individual learning capacities of the students. thereby, this facilitates them to adopt relevant teaching practices that better suited their capabilities and interests.
- 10. Reinforcement:** Teacher cognition is very much significant because it helps teachers to provide timely necessary feedback and positive **reinforcement** like praise and rewards to the students in order to encourage them in both curricular and co-curricular activities. Such positive reinforcement also encourages students to bring desirable academic performances in the long run.

Ways of Enhancing Teacher Cognition in Social Science Teaching

Teacher cognition should be increased in social science teaching in order to attain specific objectives of teaching activities for improving professional competencies. The following **four aspects** are required to enhance teacher cognition in social science teaching. These include:

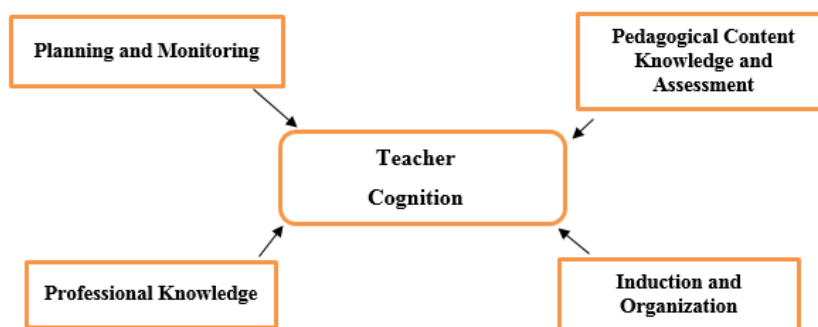
- 1. Planning and Monitoring:** It is very important aspects that regulate the cognition of the teachers in social science teaching. In order to attain the expected educational goals, proper planning of the programmes and their effective monitoring at various levels are required. Planning and monitoring by the teachers are essential to develop teaching strategies, allocating educational resources for implementation of educational goals.
- 2. Pedagogical Content Knowledge and Assessment** help teachers to relate their pedagogical knowledge with their existing knowledge about specific subject matter. Hence, such knowledge facilitates teachers to identify

their major gaps and thereby overcome those weaknesses through effective means. Pedagogical content knowledge is also required for proper evaluation and assessment process of the students. such knowledge help teachers to assess the students' performance thoroughly and successfully.

3. **Professional Knowledge** such as problem-solving, time management, leadership, communication, and other interpersonal skills enable teachers to practice teaching in an effective way. Professional knowledge is a prerequisite condition that affects the cognition of the teachers in social science teaching. It enables teachers to become more confident as well as competent in their teaching profession.

4. **Induction and Organization** help the teachers to adjust effectively in their working environment, enhance their satisfaction of teaching, remove various sorts of anxieties and stress, and thereby improve their teaching performance. Suitable induction programmes and proper organization may improve the cognition of the teachers in social science teaching. Hence, teachers must be given opportunities to participate in the relevant induction programmes so that they may execute their teaching performances very efficiently.

Figure 3: Showing Four Major Aspects for enhancing Teacher Cognition



• The other **several ways** of enhancing teacher cognition in social science teaching are such as-

1. **Reflecting on one's own teaching** and thereby trying to identify the weaknesses and other positive aspects related to teaching methods. It improves the teacher's belief and experiences regarding the existing teaching and learning process, their content, curriculum, classroom practice, discourses, evaluation process.

2. **Mentoring by experienced colleagues** of the teachers and using innovative teaching aids also help teachers to improve their cognition in social science teaching. Hence, encouraging teachers to participate in acquiring techniques for lecturing must be given special emphasis.

3. **Developing feelings** of improved self-efficacy, competence, confidence, and autonomy are very important to enhance the social and emotional skills of the teachers. Such skills influence the teaching of social science to a huge extent. For improving teacher cognition, increasing control over job related challenges by the teachers are needed.

4. Following **deep learning strategies** and **critical analysis** enable teachers to connect all the learners from diverse background, provide students with individual guidance and thereby expand their educational attainments. Such strategies also develop the leadership capabilities, organizing and practicing teamwork skills, introducing collaborative learning and utilizing optimum technology skills of the teachers that tend to enrich the learning process of the students.

5. **Increasing the intentions of using technology** in social science teaching, training and refreshers courses for upgrading the knowledge and experiences may enhance the teacher cognition in social science teaching. Increased use of technology in education may enhance the efficiency and effectiveness of both the teaching-learning process. Proper knowledge of using technology and other teaching-learning materials help the teachers to perceive its usefulness in social science teaching.

6. Developing capacity for **content structuring** for effective delivery of instructions may also enhance teacher cognition in social science teaching. The knowledge of content-based approach is very much needed for the teachers teaching social sciences in order to structure an effective curriculum framework relevant to the needs and demands of the contemporary world.

7. **Gaining professional experiences**, personal knowledge and practicability enable the teachers to master over any discipline and thus, improve their cognition for teaching process. Such knowledge and experiences help the teachers to adopt student-centric approach and to establish fruitful learning environment.

8. **Channelizing motivation** in creativity, radiating positive feeling, communicating with others freely are another significant way that may enhance teacher cognition in social science teaching. It facilitates teachers to help learners to connect properly to their desired goals by arousing their intrinsic motivation for learning.

9. **Using visualizations** for explaining thinking, organizing concepts, summarizing, deliberating, and manipulating for improving learning techniques of the students. this technique not only motivates students to learn but also encourage teachers to establish collaborative learning environment where students may better understand the subject of learning and may acquire useful life skills.

10. **Following a set of curricula** and feeling free to develop and organize own courses for teaching students also improves the cognition of teachers in social science teaching. Such skills help the teachers to plan and monitor the whole learning programmes, their relevant activities and academic content, classroom practice in an efficient way.

Significance of ICT in Enhancing Teacher Cognition

Researchers in the field of education are becoming aware about the crucial role of the mental lives of teachers (Walberg,1977) in their choice of instructions and thereby put a distinction between what the teachers can do, know and believe (Borg, 2009). Gradually the researchers perceive teaching as a richer mental aspect rather than as proactive behavior or as interactive one (Freeman and Johnson,1998; Elbaz, 1983; Lampert, 1985). Recent studies and various researches conducted on teacher education proved that the use of ICT in teaching process **has a significant influence in enhancing teacher cognition** that can lead to **better teaching techniques** and **improved learning of the students**. The major significances are discussed below:

- The use of ICT prepares teachers to become competent as well as confident in using basic skills and knowledge in order to facilitate effective learning opportunities for the students. It can improve the knowledge base of the teachers and also helps in accessing good quality information related to the subject of teaching.
- ICT is regarded to be an innovative method of teaching that prepares teachers in establishing good classroom management techniques for more active students' collaboration. Acquisition of ICT- based knowledge and skills helps teachers in imparting better-quality education. The ease of utilization of technology in education is affected by the general level of self-efficacy, intensity of compiler anxiety and playfulness, level of external support (Venkatesh, 2000). Therefore, in teaching context, the use of new and innovative technology requires an important change in the teacher's behaviour.
- Similarly, pedagogical competence on the part of the teacher is necessary for using ICT. Hence, the significance of ICT in teaching cannot be ignored since it improves academic self-concept and intelligence, enhance mastery of the subject, and also trigger teaching performance goals.
- In the study of teacher cognition, teachers' responses expose rationales behind what they decide, disclose their embedded thoughts and pedagogical knowledge that can be reviewed and judged for applying as an approach of universal acceptance. Therefore, teacher cognition is vital in gaining ideas regarding the ways of structuring and restructuring information properly in order to make the information more meaningful and easily accessible to the students.

Major Weaknesses of the Teachers that Hinder their Cognition in Social Science Teaching

It can be observed that major weaknesses of the teachers hinder their cognitive ability in teaching. These shortcomings can be considered as a serious concern in the field of teacher education. Thus, it is necessary to discuss those weaknesses of the social science teachers such as –

1. **Unable to understand** various aspects of students also hinder proper cognition of the teachers in social science teaching. These include the different learning abilities of the students, their interest and inherent capacities, strengths and weaknesses, educational background, psychological tenets etc.

2. Secondly, **difficult in developing interest and motivation** among the students by the teachers. Due to lack of proper cognition, the teachers fail to develop enough interest and motivation of the students in learning process.

3. Thirdly, **difficult in knowing and understanding** students well. Such factors also hamper cognitive development of the teachers for teaching social science. It is necessary for the teachers to understand the individual differences of the students and their unique learning capacities.

4. Fourthly, **unable to upgrade personal skills and knowledge**. Development of appropriate teacher cognition in social science teaching also get hindered due to the lack of contemporary knowledge and adequate skills of the teachers necessary for solving certain emerging issues effectively.

5. Fifthly, **lack of confidence and competence** in teaching among the teachers are another major factor that hinder proper development of suitable cognition of the teachers for teaching social science. Most often, teachers develop poor confidence about their abilities, possess low self-esteem, think and judge negatively about themselves. All these factors are responsible for poor cognition of the teachers in social science teaching.

6. Sixthly, **incapable of introducing innovative teaching practices** and using of technology while delivering their instructions. It is the general weakness of most of the teachers. Due to such inefficiencies their cognition gets poorly developed.

7. Seventhly, **unable to identify own strengths and weaknesses** in teaching is another major constraint that hamper suitable development of teacher cognition in social science teaching. It is essential for the teachers to

understand own capabilities, skills, potentialities and other talents as well as their own negatives traits so that they may adopt appropriate measures to improve their strengths according to the need of the hour.

8. Eighthly, lack of appropriate and correct attitude, improper behaviour towards students and teaching profession hinders proper development of teacher cognition. As a result, these influence the way of thinking and perception of the teachers greatly. Since, attitude influences an individuals' action, hence, it is essential to acquire desirable attitude and behaviour by the teachers to bring positive learning outcomes.

9. Ninthly, lack of motivation in creative thinking, innovative ideas with respect to teaching activities and thereby putting less effort in upgrading own teaching skills are also responsible for poor cognition of the teachers for teaching social science. Unfavorable working conditions, improper teaching-learning atmosphere, inadequate educational resources and other facilities adversely affect the motivation of the teachers in teaching process.

10. Finally, incapable of updating own knowledge about both theoretical and practical aspects of the subject of teaching as well as having less interest and aptitude in training programmes that may upgrade various teaching skills. In order to improve and update knowledge and skills, the teachers are needed to attend different professional courses and access various learning resources that are relevant to the contemporary world. These facilitate teachers to develop suitable cognition for social science teaching and helps them in developing their own growth in various avenues to a great extent.

III. Conclusions

It can be concluded by saying that teacher cognition is essential in social science teaching for bridging the gap between content-base or skill to be learned. Hence, it enablesteachers to adopt appropriate teaching strategies that assist the students in learning the subjecteasily. Social science teachers may be helped to increase their motivation in teaching, developing their understanding and abilities to nurture enthusiasm for teaching. Teacher cognition enables the social science teachers to make proper planning and organize the teaching activities which can help them to prevent unnecessary repetitions, unplanned gaps resulting in monotonous learning environment. Lack of teacher cognition may hamper adequate implementation of teaching methods and proper planning, reduce the richness and quality of the delivered instructions. Thus, it can be said that teacher cognition is vital in promoting teaching competencies which improve the knowledge-base, skills, and right attitude of the social science teachers towards teaching.

References

- [1]. Beach, S. A. (1994). Teachers' theories and classroom practice: Beliefs, knowledge, or context. *Reading Psychology*, 15(3), 189-196.
- [2]. Berry, R. (1997). Teachers' awareness of learners' knowledge: The case of metalinguistic terminology. *Language Awareness*, 6(2), 136-146.
- [3]. Borg, S. (1997). Unifying concepts in the study of teachers' cognitive structures. Unpublished manuscript.
- [4]. Borg, S. (1998b). Teachers' pedagogical systems and grammar teaching: A qualitative study. *TESOL Quarterly*, 32(1), 9-38.
- [5]. Borg, S. (2009). Introducing language teacher cognition. <http://www.education.leeds.ac.uk/people/staff/academic/borg>
- [6]. Burns, A. (1992). Teacher beliefs and their influence on classroom practice. *Prospect*, 7(3), 56-66.
- [7]. Carlgren, I., & Lindblad, S. (1991). On teachers' practical reasoning and professional knowledge: Considering Conceptions of Context in Teachers' Thinking. *Teaching and Teacher Education*, 7(5), 507-516.
- [8]. Cole, A. L., & Knowles, J. G. (2000). *Researching Teaching: Exploring teacher development through reflective inquiry*. Boston: Allyn & Bacon.
- [9]. Crandall, J. A. (1998). Collaborate and cooperate: Teacher education for integrating language and content instruction. *English Teaching Forum*, 36(1), 2-9.
- [10]. Gupta, R. (2004). Old habits die hard: Literacy practices of pre-service teachers. *Journal of Education for Teaching*, 30(1), 67-78.
- [11]. Johnson, K. E. (1992a). Learning to teach: Instructional actions and decisions of preservice ESL teachers. *TESOL Quarterly*, 26(3), 507-535.
- [12]. Ozturk, M. (2021). Teacher cognition: A powerful phenomenon developing and governing habits of teaching. *Turkish Journal of Education*, 10(2), 178-194.
- [13]. Passi, B.K. (eds) (1976). *Becoming better Teacher*, Ahmedabad, Sahityamudranalaya.
- [14]. Sahoo, P.K. et al (eds) (2010). *Professionalism in Teacher Education*, New Delhi, concept.
- [15]. Shavelson, R. J., & Stern, P. (1981). Research on teachers' pedagogical thoughts, judgements, decisions, and behaviour. *Review of Educational Research*, 51(4), 455-498.
- [16]. Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-23.
- [17]. Woods, D. (1996). *Teacher cognition in language teaching: Beliefs, decision-making, and classroom practice*, Cambridge (England); New York: Cambridge University Press.
- [18]. Retrieved from-
- [19]. www.researchgate.net/publication/311483238_Need_for_cognition_in_children_and_aadolescents_Behavioral_correlates_and_relations_to_academic_achievement_and_potential
- [20]. www.researchgate.net/publication/247733550_A_Q_study_of_music_teachers'_attitudes_towards_the_significance_of_individual_differences_for_teaching_and_learning_in_music
- [21]. docplayer.net/21093215-Introducing-language-teacher-cognition.html
- [22]. www.researchgate.net/publication/310512518_Teacher_cognition
- [23]. <https://journals.sagepub.com/doi/10.3102/00346543060003419>
- [24]. https://eprints.whiterose.ac.uk/1652/1/borgs1_Language_Teaching_36-2.pdf
- [25].