CHAPTER – II
REVIEW OF RELATED LITERATURE
AND RESEARCHES

Review of previous researches and literature explore multifaceted, complex nature of phenomenon under investigation. It enables researcher to comprehend aspects, sub aspect of problems on various level and also develop skills, attitude to manipulate the problem.

This chapter is second in sequence of report writing but the process of review of related researches and literature begins with the development of problem, goes on parallel with each stage of research and after the completion too. It is aimed to understanding methodology of previous studies, gaps, errors in the field, needs and essentialities of the field, avoid duplication and plagiarism. (Best, J. W., 2009).

2.1 Resources for Review

There are various sources to access the related literature and information of previous studies. They are mainly categorised as online and offline sources.

2.1.1 Online Resources

Related articles are accessed from internet, among them some are directly related to social intelligence and remaining are related to pedagogical content knowledge covering aspects like classroom social skills, interpersonal skills, creativity, positive deviance, personality traits etc. Most of the articles are based research studies.

2.1.2 Offline Resources

Printed form of journals, souvenir, proceedings, books, encyclopaedia etc. are used for the purpose of gaining information regarding the problem of present study.

For this particular study researcher has employed following sources of information.
Table No. 2.1

Resources for Review of Related Literature and Researches

<table>
<thead>
<tr>
<th>Sources</th>
<th>Particulars</th>
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<tbody>
<tr>
<td><strong>Online Resources</strong></td>
<td><a href="http://www.ERIC.gov.com">www.ERIC.gov.com</a>.</td>
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<td></td>
<td><a href="http://www.aiaer.net.ek">www.aiaer.net.ek</a></td>
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<td></td>
<td><a href="http://www.nic.ac.in">www.nic.ac.in</a>.</td>
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<tr>
<td><strong>Offline Resources</strong></td>
<td>Balasaheb Khardekar Library, Shivaji University, Kolhapur</td>
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<td></td>
<td>Library of Bombay Institute of Social Science, Mumbai</td>
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<td>Library of SNDT College, Pune</td>
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<td>Library of Gyan Prabodhini, Pune</td>
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<td>Library of Swami Ramanand Tirth Marathwada University, Nanded</td>
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In all, researches at doctoral level and articles in research journals are taken into special consideration regarding the problem, objectives and variables involved in this study. Among these researches and literature the works of Indian authors as well as authors from abroad are included.

The chapter is structured with component as follows:

**Review of Related Literature and Researches**

- **Related Literature**
  - Abroad
  - Indian
    - Social Intelligence
    - Pedagogical Content Knowledge

- **Related Researches**
  - Abroad
  - Indian
    - Social Intelligence
    - Pedagogical Content Knowledge

*Fig. No. 2.1 : Structure of Review of Related Literature and Researches*
2.2 Review of Related Literature

Review of related literature categorised into 2 parts namely Review of Related Literature in Abroad and Review of Related Literature in India.

2.2.1 Review of Related Literature in Abroad

Review of Related Literature in Abroad structured under the two major areas involved in this research namely Social Intelligence and Pedagogical Content Knowledge.

2.2.1.1 Literature Related with Social Intelligence in Abroad

Social intelligence related 4 articles are taken into consideration for this study. The major variables/aspects in this area are as follows:

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Author</th>
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</thead>
<tbody>
<tr>
<td>Teacher empathy and emotional need of the student</td>
<td>Mehnert (1978)</td>
</tr>
</tbody>
</table>

The above said studied are abstracted to put scenario of social intelligence related phenomenon as following.

Mehnert (1978) highlights the current teacher education programme neglect –

a) the teachers awareness of the emotional reactions of the students.

b) the teachers empathy to respond to these emotions and the ability to organise the teaching strategies which consider the emotional needs of the students.

Myrow (1978) describes the objectives of the transactional analysis and personal development program in the following manner. The program was designed to help teachers, increase their understanding of the process of human development, understand how they influence their interactions with others and help them become more facile in dealing with students and colleagues.

Salopek, Jennifer (2004) highlights and quadrants which determine social style namely, Analytical, Driving, Expressive and Amiable. Amiable person is relationship oriented and looks for personal motives in the actions of others. He explained that business leaders rank emotional intelligence competencies as more important than traditional leadership attributes to leadership success. Social intelligence attributes are viewed as essential to successful
leadership, especially the complex capabilities of vision, relationship building and people development.

Albrecht, Karl (2004) focuses on concept of social intelligence. He also explains social intelligence as a part of personality. He also gives six primary dimension of intelligence namely abstract, social, practical, emotional, aesthetic and kinaesthetic. He focuses on the emotional intelligence is different from social intelligence. He gives social intelligence profile for analyzing social intelligence through 3 different facets namely social skills, self insight and interaction style.

2.2.1.2 Literature Related with Pedagogical Content Knowledge in Abroad

Literature related with pedagogical content knowledge in abroad is taken into consideration for this study. The major variables/aspects in this area are as follows:

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Author</th>
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<tbody>
<tr>
<td>Defensive teaching</td>
<td>McNeil (1986),</td>
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<tr>
<td>Textbook analysis</td>
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The above said studied are abstracted to put scenario of pedagogical content knowledge are as follows.

McNeil (1986) has pointed several types of defensive teaching and teachers uses following strategies when they doubt student interest or abilities to understand the topic –

1. Fragmentation : Reduction of any topic to fragments. No one is called upon to synthesize or give a picture of interrelationship.
2. Omission : Omit difficult or complicated issues from discussion.
3. Defensive simplification : Teachers win the student compliance on a lesson by promising that it will not be difficult and will not go into any depth.

Shulman, L. (1987) described teachers practical knowledge wisdom as highly contextualized or situational knowledge acquired through experience. Shulman models of pedagogical reasoning includes the critical interpretation and transformation of content and materials in response to the needs of learners. In this model,
the teachers knowledge base is dynamic and grows through reflect and new comprehension of subject matter, students and teaching.

McLaughlin and Talbert (1993) has emphasised on teaching for understanding. It requires change not only in what is taught but also in how it is taught. Teaching for understanding requires teachers to have comprehensive and in depth knowledge of subject matter, competence in representation and manipulation of this knowledge in instructional activities and skill in managing classroom processes in a way that enables active student learning. Teachers also must understand how their students think as well as what they know. This more complex approach to teaching requires that teachers combine deep knowledge of subject matter and wide repertoire of teaching strategies with intimate knowledge of students, growth, experience and development.

Rovegno, Inez (1994) in his article titled 'Teaching within a curricular zone of safety: School culture and situated nature of student teachers pedagogical content knowledge.' described PCK, one of the seven categories of teachers knowledge base, as that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding. He focuses on teaching requires a substantial, wide range of knowledge base, but that teacher must know their subject matter in ways that surpass what other subject area experts would need to know teachers must also possess pedagogical content knowledge.

William, R. V. and James G. M. (2001) highlights pedagogical content knowledge taxonomies that offer a relatively comprehensive categorization scheme for future studies of pedagogical content knowledge development of teacher in teacher education and discuss their implication for science education.

Ratcliffe, Mary (2004) has highlights need of pedagogical content knowledge for teaching concept of the nature of science. There may be links between engaging students effectively and specific teaching approaches rather than just teachers understanding of the subject. Pedagogical content knowledge needed to teach established science concepts. He focused on mapping of teachers content representation to pedagogical and professional experience repertoires help unpack the teachers pedagogical reasoning, that is the thinking and reasoning of science teacher in teaching a specific aspect of the science content.

Balli, D. L. and Thames, M. H. (2008) has discussed next steps needed to develop a useful theory of content knowledge for teaching. They focuses on two empirically discernable sub domain within pedagogical content knowledge (knowledge of content and students, knowledge of content and teaching) and an important sub domain of pure content knowledge unique to the work of teaching, specialised
content knowledge which is distinct from the common content knowledge needed by teachers and non teachers alike.

2.2.2 Review of Related Literature in India

Review of Related Literature in India categorised under the areas of Social Intelligence and Pedagogical Content Knowledge.

2.2.2.1 Literature Related with Social Intelligence in India

Literature related with social intelligence in the context of India has been found over the period of 30 years. Some studies are not directly related to social intelligence, these are focused to issues of confidence, personality traits, social-moral values etc. but in recent period the term 'Social Intelligence' is directly involved in the literature. Following variables/aspects are emphasised in these studies.

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Author</th>
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<tbody>
<tr>
<td>Obligation of teacher</td>
<td>Prasad, Himadri and Prasad Dharmendra (2005)</td>
</tr>
<tr>
<td>Emotional development through education</td>
<td>Pathwardhan, V. (2009)</td>
</tr>
</tbody>
</table>

The above said studied are abstracted to put scenario of social intelligence related phenomenon as following.

**Ghanchi, D. A. (2005)** has focused on a multi mantra model of teacher education for the 21st century. It focuses on teacher and teacher educator should equip the students in respect of the following competencies, skills, attitudes, values and commitments.

1. Communication skills.
2. Learning skills.
3. Social skills, particularly team work, negotiation, social engineering, multicutturality etc.
4. Coping skills for personal, social and global disasters.
5. Developing appropriate values and character traits.
7. Qualities of humaneness, compassion and stake into the destiny of human race.

**Prasad, Himadri and Prasad, Dharmendra (2005)** has highlights teachers professional obligation towards students, society, parents, profession and higher authorities.

Obligation of teachers towards students involves following areas
1. Sincerity in teaching
2. Motivating the students
3. Providing emotional stability
4. Psychological handling of students feelings
5. Help the students in taking decision.

It is expected that teacher of today will go beyond limit for the betterment of child. School is the outcome of the need of the society. It aims at helping the younger generation in improving. Following are the obligations of teachers towards the community:
1. Providing good citizens.
2. Making a student responsible towards rights and duties.
3. To follow social norms.
4. Setting up of ethical standards.
5. Development of religious tolerance.
6. Integration of national feeling.
7. Balancing the community relationship.

**Vachhrajani, Bhadrayu (2005)** has highlights some innovations for professional development of teachers. He focused on systematic and organized orientation programme for the large number of teachers of the college and university level. It is also accepted that a teacher must not be confined only to transmitting information, she/he must also orient students to meet the challenges of life, to not merely became a trained professional, but also a better citizen.

**Kazi, B. S. (2006)** has introduced some of the tests used for measurement of Emotional Intelligence. It is a measurement of the various qualities and competencies of EQ.
1. EQ Map – Measurement of various qualities and competencies of EQ.
2. Four Corner Stone Model (Cooper, 1996) – Emotional Literacy, Fitness, Depth and Emotional Alchemy are used in this model.
3. Multi Factor Emotional Intelligence Scale (John Mayer and Peter Salovey) – This model is combined the measurement of sensitivity, memory, processing and learning.

4. Emotional Competency Inventory (ECI).

5. Emotional Intelligence Inventory – Determines extent of emotional intelligence acquired by an individual.

Ram, Baldev (2006) has highlights an urgent need of empowering teachers in the various fields in order to ensure that the nation to face future changes, empowering teachers with values, equipping teachers with changing knowledge and skills.

He also encircles need to strengthen the programme of value education in schools, teacher education programme should apprise teachers about the challenging but satisfying task of value education and develop their competencies as well as commitment towards imparting the same.

Sankpal, S. and Gulvani, M. (July 2009) has highlights new era of intelligence called as social intelligence. They gives 2 facets of social intelligences namely social awareness and social facilitation. Social awareness encircles primal, empathy, atonement, emphatic accuracy and social cognition.

Second facets includes synchrony, self presentation, influence and concern.

It is possible to enhance social intelligence among pupils through various learning experiences. For that one of the important criteria is teacher should be a socially intelligent.

Apte, M. (2009) has rekindled on relation between democratic values and social awareness among youth. She has focuses on how social awareness is vital for inculcation of democratic values among youth. Some of the programme useful for inculcation of social awareness among youth. They are as follows:

1. Introduction of social problem.
2. To understand thoughts of peer group.
3. To behave equally with all peoples of different caste.
4. To give respect to another's decision.

Pathwardhan, V. (2009) in her article entitled, 'Emotional Development through Education' refocused on emotional development takes place especially in the age group of school going children. But present education stay away from emotional development and enriched to only cognition development of pupils. Emotional development is feasible through classroom teaching of language and history subject. She has explained experience, balance of emotion and maturity as a 3 important aspects of emotional development.
Nair, Biji (2008) has explained characteristic of effective teacher. He also focused on teachers responsibilities and qualities of good teacher. Characteristic of effective teacher have –

1. He should have moral prestige and intellectual depth.
2. He should have a sense of humour.
3. He should be confident and at ease when teaching.
4. He has good relations with the pupils and he manages class well.

Teaching is therefore, more a facilitating, motivating and promoting process. It is helping students to acquire knowledge, skill, ideals, attitude, interest and appreciation, leading to changed behaviour and growth of a person with a balanced personality.

Shinde, S. (2009) has highlights how person with social awareness is valuable for society. Person having social awareness does not create barrier for socially productive planning. Person takes care about social health, transmission of knowledge, duties and responsibilities for nation. In this way person with social awareness become motive and centre of reinforcement for another peoples.

2.2.2.2 Literature Related with Pedagogical Content Knowledge in India

Literature related to Pedagogical Content Knowledge and package development covering following variables/aspects.

Table No. 2.5

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Author</th>
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Jagtap, H. N. (1986) in his article entitled, ‘New Trend in Teacher Education: Content cum Methodology’ refocused on inclusion of concept of content cum methodology in teacher training programme. Along with various teaching skills and teaching methods teacher trainee should be aware with pedagogical knowledge this is possible only through content cum methodology. Through CCM teacher trainee able to analyze the content, select the appropriate teaching method and select proper knowledge representations.
He also explained concept and objectives of content cum methodology also focuses on various components of content cum methodology.

Bhalvankar, A. G. (1996) has suggested new research areas related to content cum methodology. He also explains how the content knowledge is vital for effective teaching.

It is possible to analyze the content in accordance with cognitive, affective and psychomotor domain. It means clear and deep cognitive structure will helpful for effective teaching. Teacher should point out effect of his beliefs and values on teaching.

Saungoh, S. M. (2005) in his article entitled as 'Quality issues in Teacher Education' discussed some of the issues which needs to be considered in teacher education. One of them is lack of subject knowledge. The B. Ed. programme does not totally emphasize the knowledge of the basic subject. There is no provision to increase and strengthen the knowledge of particular subjects of the student-teacher. The whole teaching practice remains indifferent with regard to the subject knowledge of the student-teacher.

Another is crisis of values and morality. There is persistent erosion of values in the society. In the present day context certain values need to be redefined and reinstalled. It is through education and as of necessity through teacher education programmes that the task of inculcating values can be substantially accomplished.

Zayapragassarazan, Z. (2005) has focused on 'Emerging Challenges in Teacher Education.' Quality education should result in students acquiring necessary competencies as an outcome of their education. Today's students requires cognitive competencies like communicating effectively, meta-cognitive competencies such as self evaluation, social competencies such as leading discussions and conversations, co-operating, and working in group.

He also focuses on factors that make the present teacher training programme ineffective. They are as follows –

1. Curriculum reforms and pedagogical reforms are not coping with the rate of advancement of knowledge, besides varied packages of curriculum followed by different affiliated universities.

2. The curriculum transacted in teacher education institution fallled to be translated in actual situations. The dynamics of the school and society are not reflected in teacher training and thus the teaches produced are rendered incable of coping with changing times.

3. Lack of committed and dedicated teacher educators.
Kshetri, Bhawana (2008) has described teacher empowerment as investing teachers with the right to participate in the determination of school goals. He explains the role of content knowledge and pedagogical content knowledge for empowering a teacher. Teacher can not be said to have acquired mastery of a content knowledge until he/she has developed an insight into the process by which such mastery is gained. PCK represents blending of content and methodology into an understanding of how particular topics, problems or issues are organized.

2.3 Review of Related Researches

Review of Related Researches involves researches conducted in Abroad and India.

2.3.1 Review of Related Researches in Abroad

Reviews of Related Researches in Abroad are divided into two parts, namely Researches Related with Social Intelligence and Researches Related with Pedagogical Content Knowledge in Abroad.

2.3.1.1 Researches Related with Social Intelligence in Abroad

Social Intelligence related 10 studies in abroad are taken into consideration for this study. The major variables/aspects in this area are as follows:

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal skills, emotional intelligence, social intelligence</td>
<td>Aspy, Roebuck (1979), Aspy, Roebuck (1982), Denisa Fedakova (2004),</td>
</tr>
<tr>
<td>Personality components and competency towards teaching, creativity with social</td>
<td>Lsverne, M. R. (1985), Jurcova, Marta (1999), Tomas, Kovac (1999), Jozef,</td>
</tr>
<tr>
<td>and abstract intelligence</td>
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</table>

The above said studied are abstracted to put scenario of pedagogical content knowledge are as follows.

Aspy, Roebuck (1979) has highlights that students of teacher with higher level (interpersonal) skills generated significantly fewer disruptive incidents and significantly less serve problems. The strength of the relationship indicated that about one third of all disruptive behaviour in classrooms can be accounted for by the variance in teacher levels of interpersonal skills.
Aspy, Roebuck (1982) has suggested from survey of the available research on the effectiveness of teacher education programs that teachers can learn to enhance their levels of interpersonal functioning when enrolled in training programs lasting approximately 18 hours.

Lsverne, M. R. (1985) has compared some of the personality components of creative student teachers in relation to their competence towards teaching. Purposed to compare high, medium and low creative student teachers on 3 dimensions of creative in terms of certain personality components, sex, teaching competency and achievement levels. He conducted survey method using Torrence Test of Creative Thinking, Multivariate Personality Inventory and Teacher Effectiveness Scale on 210 sampling of B. Ed. Students from four educational institution in Lucknow. On this he has been explored that ‘F’ ratios for the effect of total creativity were significant for empathy and self confidence. Personality factors distinguishing the total creativity group from the medium total creativity group were self confidence.

Jurcova, Marta and Stundnova, Lubica (1999) has studied creativity and social competency of adolescents, purposed to find out relationship between social skills and personality characteristics in high and low original adolescents. He found that personality independence, dominance and self confidence as well as higher creative cognitive abilities all take part in social skills of highly original subjects.

Tomas, Kovac (1999) at Research Institute of Child Psychology and Pathopsychology compared Humour and Creativity in intrapsychological bonds. Through factor analysis it has been concluded that humour and pro-social behaviour these 2 phenomenon influence each other in a positive way.

Denisa Fedakova and Iveta Ielenova (2004) in the report of Institute of Social Science, Slovak Academy of Science reported similar scores in exhibiting emotionally intelligent behaviour. Empathy subscale score significantly and positively correlated with score of social information processing scale.

Frantisek Baumgartner and Miroslav Frankovsky at Institute of Social Science, Slovak Academy (2004) has focused to find out possibilities of a situational approach to social intelligence research. It has been concluded about the first results based on the SIPS Questionnaire. The method comes out from the situational approach to a study of social intelligence. Factor analysis of SIPS found that 4 factors namely verbal communication, informing other, retaliatory tendencies and cognitive processing. It has been concluded that the psychometric characteristics of the method are quite satisfactory.
Jozef, Vyrost and Miroslava Kyselova (2006) at Institute of Social Science, Slovak Academy of Science has looked at personality correlates of social intelligence. They tested the hypothesis that there are inter-connection between social intelligence, wisdom, values and interpersonal personality traits.

Zuzana, M. and Michal K. (2006) has studied correlation of social and abstract intelligence. He verified through correlation analysis that there is significant relation between measurement of social and abstract intelligence mainly in the social awareness dimensions.

Adeyemo D. (2008) has measured influence of emotional intelligence, gender and age on the self efficacy of distance learners. He conducted survey on 150 males and 170 females from university of Ibadan Distance Learning Centre by emotional intelligence questionnaire and Academic Self Efficacy Scale. The results showed that emotional intelligence, gender age were vital factors in academic self efficacy of distance learners.

On this he has concluded that there is significant relationship between emotional maturity and academic achievement of postgraduate students.

2.3.1.2 Researches Related with Pedagogical Content Knowledge in Abroad

The researches related to Pedagogical Content Knowledge and package development conducted covering following variables/aspects.

Table No. 2.7

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Researcher</th>
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</thead>
<tbody>
<tr>
<td>Affective education programme</td>
<td>Brown (1975)</td>
</tr>
<tr>
<td>Science teacher knowledge about teaching models</td>
<td>Ineke, Henze and Jan, Driel (2007)</td>
</tr>
</tbody>
</table>

Brown (1975) reported on the evaluation of Affective Education Program. He states that students with an affectively trained team improved significantly over a comparison group in reading as measured by silent reading comprehension test, that in a four month period students in the affective group were absent from school nearly half as often and tardy less than one third as comparison group student
said that parents were enthusiastic about the effects of the program on their children.

Gudmundsdottir (1987) studied PCK of two secondary English teachers purposed to how these teachers characterised their knowledge about their discipline and how they restructured that knowledge for the purpose of teaching it. He conducted descriptive study using classroom observation. In support of this 3 interviews were conducted. On this he investigated that there is no any indication that the teachers were taught to organise their content knowledge in that way. Instead they invented those model themselves.

Ennis Mueller and Zhu, Walkwitz (1992) has focuses on research employing design such as concept mapping and stimulated recall interviews suggest that knowledge concepts and structure become more advanced as individuals gain training and experience and are influenced by both teacher educators.

Reinhardt (1993) has critically analysed 10 randomly selected lesson. He found that teachers explanation were about different kinds of content and explanation of event and structure were often blocked

25% of teachers explanations blocked
22% event theme combinations
20% about themes
4% structure
5% metasystems.

Lee, P. (1995) has provides an example of case study, on this he has been found that limited knowledge of science combined with values for control and discipline makes the teacher depend on textbook and avoid discussion and other whole activities.

Lipping, Mas (1999) describes the knowledge package that are the part of the knowledge of the 72 Chinese elementary teachers whom she interviewed.

This knowledge package consisted of –

a) Key ideas that 'Weigh More' than other ideas in the package.

b) Sequence for developing the ideas.

c) 'Concept Knots' that link crucially related ideas.

a particularly generative form of and structured of PCK, key in her notion of mathematical knowledge for teaching is a kind of culturally situated and curricular structuring of the content that readies it for teaching by identifying central ideas and their conception. The idea of PCK substantially improves our understanding of the knowledge required for teaching. The concept implies that not only must teachers know content deeply, know it conceptually and know the
conceptions among ideas, but also must know the representation for and the common student difficulties with particular ideas. That concept makes clear that knowledge of mathematics for teaching encompasses more than what is taught and learned in conventional mathematics course.

Ineke, Henze and Jan, Driel (2007) has studied science teachers knowledge about teaching models and modelling in the context of a new syllabus on public understanding of science aimed at identifying patterns in the content and the structure of science teachers knowledge. They investigated 3 domains of teachers knowledge. Teachers pedagogical knowledge, subject matter knowledge and general pedagogical knowledge. A semi structured interview and a questionnaire were used. From the analysis of the data, two types of teacher knowledge emerged. One of the type was more integrated and more extended in terms of PCK. Teachers who represented this type of knowledge had developed PCK that connected the various programme domains of the new science subjects. In both types PCK was found to be consistent with general pedagogical knowledge. In both types, however subject matter knowledge was similar and not directly related to the other knowledge domains.

2.3.2 Review of Related Researches in India

Review of related researches in India structured under two major areas namely Social Intelligence and Pedagogical Content Knowledge.

2.3.2.1 Researches Related with Social Intelligence in India

The eighteen studies related to social intelligence in the context of India has been found over the period of 30 years. In early period the studies are not directly related to social intelligence, these are focused to issues of confidence, personality traits, social-moral values etc. but in recent period the term ‘Social Intelligence’ is directly involved in the studies. Following variables/aspects are emphasised in these studies.

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Researcher</th>
</tr>
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</table>
The above said studies are abstracted to put scenario of social intelligence related phenomenon as following.

**Basavanna, M. (1971)** has studied self confidence as an attribute of self concept. He employed inventory on 300 college students with high moderate and low level of self confidence. On this he has been concluded that persons with high self confidence were capable of taking fairly higher risk in predicting the outcome of their performance in an intellectual activity than those who lacked self confidence.

**Siddiqui, M. M. (1976)** has studied social psychological study of student behaviour with special reference to indiscipline. Purposed to study the emotional maturity, social maturity, submission and social factors like educational attainment, which affected students behaviour in general and indiscipline. He conducted survey method using 265 indiscipline student and 341 disciplined student. On this he had been concluded that the disciplined students felt more secure and were less aggressive than indiscipline ones. The disciplined students were emotionally and socially more mature than the indisciplined students.

**Sharma, S. (1978)** has studied relationship between social class and some personality characteristics among college female students. Purposed to see the relationship between self concept of Academic Ability, Importance attached to academic achievement, cooperativeness. He conducted survey method using socio-economic scale on 300 art student of undergraduate by random sampling method. In support of this he used personal data schedule. On this he has been concluded that there was no significant relationship between cooperativeness and SES (Social Economic Status) of parents.

**Bhatnagar, J. N. (1979)** has studied purposed to investigate the values, aspiration and personality traits of adolescents and to compare the values, aspirations, personality traits of adolescents who were student leaders, social conformist and delinquents. He conducted survey of 200 student leader, 200 conformists and 200 delinquents from 15 higher secondary schools of Rajasthan. On this he has been concluded that student leaders and conformists gave highest preference to power value followed by hedonistic and economic values whereas religious, aesthetic, social and knowledge values ranked lowest.

**Roy, D. K. (1980)** has studied some factors and processes involved in the development of values, purposed to examine the extent to which different factors contributed to the development of values and processes in which they worked from stage to stage in the growth and development of adolescent. He conducted experimental method on Equal number of boys and girls of Grade VII, IX and XI from the families of different socio economic strata in the district of 24 parganas of West Bengal using situation based questionnaire, social intelligence test, picture, projection test and average ratings by teachers. On this
he has been concluded that the standard of adolescent values (tolerance, cooperation, obedience, religious devotion, honesty) was lower than expected and development of value system was positively related to the process of socialization. Cooperation and honesty had significant negative correlation with SES (Social Economic Status). Social intelligence has significance relation with devotion.

Dhar, R. (1981) has analysed emergence of the sense of humour in children and its educational implications purposed to know the various stimuli which could make young children laugh and to know the effect of age, sex, intelligence and socio cultural factors on the sense of humour. He conducted survey on 3320 students was selected out of 35 institution. On this he has been concluded that intelligence had a marked positive relationship with sense of humour, culture had a positive but low relationship with the sense of humour. Science group students seemed to have mere sense of humour than art group students. The sense of humour gradually emerged as a direct function of increase in age, high intelligence, better academic achievement and humours temperament.

Zamen, G. S. (1982) has studied social, religious and moral values of students of class XI and their relationship with moral character trait and personality adjustment purposed to find out the religious, moral and social values of XI student and their relationship with character trait and personality adjustment. He conducted survey method using value scale and character trait questionnaire of 560 students in Allahabad district. On this he has been concluded that among both urban and rural sample social values were the weakest.

Social values influence the personality trait like helpfulness, truthfulness, geniality and kind heartedness appeared to be positively influenced by values.

Patani, U. (1983) has studied values held among college girls purposed to find out the relationship between values and achievement, motivation among college girls and to develop and standardize a test of values for college girls in India. He conducted normative survey method using Mukherjee's Sentence Completion Test on 1002 college girls from 8 colleges of Rajasthan. On this he has been concluded that science students were found higher on social values.

Bhardwaj, K. S. (1984) has studied humour in the Indian classroom purposed to analyse theoretically the meaning and nature of humour as a socio psychological element in a group situation, to identify the various purposes for which the potential of humour is employed in the classroom as a social group and to analyse the content, humorous material, stories, poems, dramas, essays in the prescribed textbook of Hindi and English of secondary classes. He conducted experimental using interaction recording tool, on 300 student sand 300 teachers. On this he has been concluded that a classroom session beginning with humour helped the teacher
considerable in removing tensions, in overcoming depressions and in controlling anger and aggression, teachers were well aware of the positive role that humour performed in their classroom and humour was found to be serve as a technique of control and as a means to educational creativeness.

Singh, R. D. (1984) has studied impact of social attitude on the personal characteristics of students of the undergraduate level purposed to study the social attitude of undergraduate level students and to study the personality characteristics of the students also to compare the personality characteristics of boys and girls with high and low social attitude. He conducted survey using social attitude scale, socio-economic status scale and P. F. Questionnaire on 297 boys and 121 girls from undergraduate level of 8 affiliated colleges of Gorakhpur University. On this he has been concluded that boys with high and low social attitude were self confident and self reliant.

Boys and girls with a better social attitude had high morality, high sense of duty and high responsibility. Boys and girls with a better social attitude had the characteristics of self control, alertness, awareness more than those with low social attitude.

Dembla, P. (1990) has studied relation of SES with competition and cooperation. He conducted survey on 300 girl students. On this he has been concluded that highly cooperative children were found to be warm hearted, conscientious, obedient more affected by feelings, excitable, enthusiastic, tender minded and SES showed a negative relationship with both cooperation and competition.

Singaravelu, S. (1990) has studied emotional maturity purposed to study the emotional maturity as a significant predictor of academic success of postgraduate student purposed to find out relationship between emotional maturity and academic achievement postgraduate students.

He conducted survey using emotional maturity scale by Singh, Yashvir and Bhagava, Mahesh and semester marks on 256 postgraduate students from the union territory of Pondicherry.

On this he has been concluded that there is significant relationship between emotional maturity and academic achievement of post graduate student.

Kumar, K. (1996) at Guru Nanak Dev University has studied decentricity and social intelligence purposed to determine the causative relationship between decentricity and social intelligence. The tools used were social intelligence test by Moss, Hunt, Omwake and Woodward. Role taking test to measure decentricity by Peffer and Sucholitt, Culture fair intelligence test on 500 subjects from the sample of first phase were retained in the 2nd phase, which was carried out after a gap of 2 years. On this he has been concluded that social
intelligence positively correlates with decentricity and as far as casual relational concerns, social intelligence is cause of decentricity.

Nanda, R. T. (1997) has examined the relationship between education and human values and analysed how education promotes the positives of human values. He conducted survey method by using questionnaire to 12 principal of senior secondary school run by Shri Ram Krishan Paramhansa, Sri Aurobindo, Shri J. Krishnamurti, Swami Dayanand Saraswati. On this she has been concluded that Education in human values should be included as an implement in all subjects and not to be taught as a separate compulsory or optional subject in the school curriculum by a separate specialized teacher.

Varma, M. (2002) at Devi Ahilya University has studied job satisfaction of teachers in relation to job stressors, role commitment, vocational maturity and social intelligence purposed to compare the adjusted mean job satisfaction score of male with female teachers by taking job stressors, role commitment, vocational maturity and social intelligence. To study the influence of types of school, job stressors, role commitment, vocational maturity and social intelligence and their intonation on job satisfaction of teacher separately.

For the purpose of survey the sample was drawn from the randomly selected 115 schools of Indore district. For assessing job satisfaction Kumar and Mutha's teacher job satisfaction questionnaire and to assess social intelligence, social intelligence scale developed by Chaddha, N. K. and Ganeshan, Usha was used. On this he has been concluded that the female teachers were found to be significantly job satisfied than male teachers when job stressors, role commitment, vocational maturity and social intelligence were considered as covariate separately. There was significant influence of interaction between sex and vocational maturity on job satisfaction of teachers. Vocational maturity influenced more to the job satisfaction of female teachers in comparison o male teachers.

Kajal, A. S. (2002) at M. D. University has critically studied investigation of construct independence from personality and social intelligence purposed to investigate the relationship between emotional intelligence and social intelligence. To examine the relationship between social intelligence and big 5 personality factors. To investigate the relationship between social intelligence and temperamental traits.

Sample consisted of 286 (162 male and 124 female) subject in the age range of 19.5 to 23.5 years. The subjects were drawn randomly from various undergraduate and postgraduate colleges.

Emotional intelligence scale developed by Salovey and Mayor and Social Intelligence Scale, NEO – Five Factory Inventory and Structure of Temperament Questionnaire were used.
On this he has been concluded that –

1. Some of the measures of Emotional Intelligence showed significant association with measures of social intelligence.

2. Some of the measures of Emotional Intelligence were found to correlate significantly with big five personality factors.

3. The measures of social intelligence demonstrated significant relationship with some of the measures of personality.

**Agrawal, R. (2003)** at Bundelkhand University has studied social intelligence and teacher effectiveness purposed to study and compare the social intelligence of the teacher in relation to their sex, age, educational qualification and to study the relationship between social intelligence and teacher effectiveness. He used comparative descriptive method using social intelligence scale by N. K. Chaddha and Usha Ganeshan and teacher effectiveness scale by Pramod Kumar and D. N. Mutha on 557 teachers of secondary school of Banda district. On this he has been concluded that –

1. Female teachers were found to have more social intelligence than male teachers in respect of sensitivity, tactfulness, sense of humour, memory dimensions of social intelligence as well as in respect of global social intelligence.

2. Teachers of age group (26-30) were found high in patience, sensitivity, tactfulness, sense of humour dimensions social intelligence in comparison to the teachers of other age group.

3. The discipline wise difference does not exist in relation to social intelligence.

4. The graduate teachers were found highly sensitive, while the trained graduate teachers were high in recognition of social environment, dimensions of social intelligence in comparison to other teachers.

5. The teachers upto 25 years of age were found high in academic and emotional dimension of teacher effectiveness.

6. Patience dimension of social intelligence were found significantly correlated with academic, moral, personality and composite teacher effectiveness and the composite social intelligence is found significantly correlated with academic, professional and personality dimensions of teacher effectiveness and composite teacher effectiveness.
Done, Ujawala (2006) has developed Emotional Intelligence Development Programme purposed to find out present status of Emotional Intelligence of Higher Secondary School students and to find out effectiveness of Emotional Intelligence Development Programme. She conducted survey method and 11 higher secondary schools having 1577 student selected randomly. Emotional Intelligence Scale and Social Intelligence Scale by Chadha, N. K. and Ganeshan, Usha used for assessing emotional intelligence. On this, she has been concluded that Emotional Intelligence Development Programme proved effective for science, commerce and art student.

Annaraja, P. and Joseph N. (2007) has studied interpersonal relationship and stress coping abilities of teacher trainees purposed to find out level of interpersonal relationship of teachers trainees with respect to sex, qualification, locality of native place, religion and optional subjects. They conducted survey by using interpersonal relationship scale by C. A. Hill (1987) and stress coping ability scale by investigators on 86 teacher trainees selected from Kumily and Nedumkandom colleges by stratified random sampling. On this he has been concluded that there is no significance difference in male and female teacher trainees in their interpersonal relationship and stress coping ability. There is significant difference among the teacher trainees of various optional subjects and their interpersonal interrelationship. It is found that teacher trainees from natural science possess high interpersonal skill when compared to mathematics, physical science and Malayalam.

2.3.3.2 Researches Related with Pedagogical Content Knowledge in India

The researches related to Pedagogical Content Knowledge and package development conduced covering following variables/aspects.

**Table No. 2.9**

**Aspects and Researcher of Research related with Pedagogical Content Knowledge in India**

<table>
<thead>
<tr>
<th>Variables/Aspects</th>
<th>Researcher</th>
</tr>
</thead>
</table>
Joshi, M. G. (1972) has critically studied General Science textbook purposed to examine whether the content of the textbook was suitable to age and understanding level of pupils, along with suitability of the explanations and illustrations provided in the textbook. The study was carried out adopting the technique of content analysis.

On this he has been concluded that the weightage given to the objectives of developing scientific skills and appreciation of science needed to be increased and weightage for the knowledge objective reduced proportionately.

Kher, S. V. (1972) has critically studied history textbook purposed to find out how far it helped in achieving the objectives of teaching History as mentioned in the prescribed syllabus and extent to which the textbook was helpful in creating an awareness of difference in values of the past and present. He conducted survey using questionnaire of 150 schools in Dhulia district. In support of this interviews of 150 teachers, 40 parents and 25 subject expert. On this he has been concluded that the textbook was helpful in creating the awareness of social heritage and developing patriotism and emotional integration among the pupils.

Rao P. T. (1987) has analytically studied classroom teaching of effective service teacher purposed to identify effective science teacher on the basis of selected criteria and to analyse the teacher behaviour of selected effective science teachers with respect to their content processing behaviour, interactive behaviour and teaching skill behaviour.

He conducted survey method using criterion Achievement Test with verbal and non verbal components of teaching skill. In support of this Hough and Duncan's observation system for instruction analysis on 215 secondary school teacher, 54 secondary schools and 17 effective teachers. On this he has been concluded that among the content processes employed by the effective science teaches to process the components of content, irrespective of the topics and subject, analysis and assumption content processes were found in common with all the teacher.

Singh Umesh (1995) has studied material relating to video instructional package for teaching environmental awareness. He conducted field analysis used in 3 schools of Gujarat, UP and Rajasthan. The study was reported that students enjoyed working through video package.

Basavayya, Patanik (1997) has developed a training package in Mathematics for primary teacher educators based on the difficulties of students and problems of teachers. It covered the objectives, guidelines for trainers, schedule for organising 5 days programme.
Raghavan (1997) has developed a training package for teachers based on the identification of teaching learning difficulties in Mathematics in class I of Tamil Nadu schools. The study was aimed at identifying the hard spots in Mathematics for Class I students. So that intervention could be planned to overcome the deficiencies. It was found that training programme could reduce hard spots substantially as could be seen from the noticeable improvement in the performance of the students.

Das, S. K. (1996) has critically studied secondary school textbooks purposed to examine the scope of value education prevalent in school education system of secondary level. Analytical approach procedure has been used as major technique. On this he has been concluded that all subjects taken together represented 166 values except parent teacher relationship. Postural care, social value forgiving spiritual value. Some values like service to others, cooperation, helpfulness have been over emphasized. There has been no direct indication of values in the textbook of secondary schools.

Amlraj A. (1999) has critically studied physics content of science textbook of classes VI to VII purposed to find out how far physics content promote value. The study reported that the values promoted were intellectual values (creativity), personal values (alertness, cleanliness). However, textbook does not promote social values like cooperation, punctuality.

Patil, S. K. (2006) at Shivaji University, Kolhapur studied development of social competencies for fourth year B. A. B. Ed. Student teachers purposed to develop a package for promoting social competencies and finding out the use of social competency package in developing the 18 competencies among student teacher she conducted experimental method on 131 student teacher sample using social competency scale, social profile of student teacher and social competency package. On this he has been investigated that response of student teacher towards social sensitivity showed significant increase in average score from 12.37 to 19.61 and concluded that social competency package proved useful for B. A. B. Ed. Student teachers to increase awareness about social competency.

Paranjape, V. G. (1999) has studied development of an instructional system for mathematics through content cum methodology approach purposed to analyse the traditional approach of teaching mathematics, to plan instructional system for teaching of mathematics through C. C. M. approach, to design and construct an instructional system for teaching of mathematics through C. C. M. approach, to test the effectiveness of a constructed instructional system for teaching of mathematics and to compare the effectiveness of C. C. M. approach with the traditional approach.
Researcher selected two Colleges of Education affiliated to Shivaji University, Kolhapur out of 160 pupil teachers were called for experiment. He used G. T. C. Scale to obtain information about the teaching competencies of pupil teachers, on this he has been concluded that present setting of teaching of mathematics is unsatisfactory for better learning of the students.

The C. C. M. approach of teaching mathematics is not followed properly in College of Education and schools.

The conventional instructional system and the developed instructional system differ in their effectiveness of performance of the pupil-teachers.

Sankpal, R. U. (2008) has developed package for promoting interpersonal competencies among student-teachers purposed to identify the interpersonal competencies essential for student-teachers to become successful in their profession and life, to analyse the B. Ed. syllabus of Shivaji University, Kolhapur for identifying and selecting activities in the practical component through which the identified interpersonal competencies can be promoted in student-teachers and to prepare the (IPC-ST) package for promoting identified interpersonal competencies among student-teachers. Survey method was used and sample was randomly selected 13 Colleges of Education with 560 student-teachers and 48 teacher-educators. She used Interpersonal Competency Inventory for student teachers and Rating Scale for teacher-educator.

On this she has been concluded that all the practical components from B. Ed. syllabus are useful for promoting interpersonal competencies, and IPC-ST package is useful for promoting the all 23 sub interpersonal competencies among B. Ed. student-teachers.

The review of researches and literature related to social intelligence and pedagogical content knowledge corresponding to limited context of present study is helpful to understand the background of problem and its manipulation with objectives of study. Here, the summary of related researches literature is extended with discussion regarding aspects of present study.

2.4 Summary and Discussion of Related Researches and Literature

Social intelligence in educational researches is an emerging field and has great concern with aims and objectives of education. Its vitality is not only in regardance of social psychology but has key role in many aspects of human life. The variables involved in these studies are summarised as –
### Table No. 2.10
**Summary of Review of Related Literature and Researches**

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Source</th>
<th>Variables under investigation</th>
<th>Relations/Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siddiqui, M. M.</td>
<td>III Survey</td>
<td>Indisciplined Behaviour</td>
<td>Discipline has positive correlation with social intelligence.</td>
</tr>
<tr>
<td>Basavanna, M.</td>
<td>III Survey</td>
<td>Self Confidence</td>
<td>Positive correlation with social intelligence.</td>
</tr>
<tr>
<td>Bhatnagar, J. N.</td>
<td>III Survey</td>
<td>Values, Aspiration and Personality Traits</td>
<td>Social Values ranked lowest.</td>
</tr>
<tr>
<td>Dhar, R. (1981)</td>
<td>IV Survey</td>
<td>Sense of humour and education</td>
<td>Science students have more sense of humour.</td>
</tr>
<tr>
<td>Bhardwaj, K. S.</td>
<td>IV Survey Vol. I</td>
<td>Humour</td>
<td>Content analysis of textbooks of Hindi and English</td>
</tr>
<tr>
<td>Liping, Mas (1999)</td>
<td>Handbook of Research on Teaching</td>
<td>Knowledge Package for Mathematics</td>
<td>Teachers’ pedagogical content knowledge influences teaching competencies.</td>
</tr>
<tr>
<td>Zamen, G. S. (1982)</td>
<td>IV Survey of Research in Education</td>
<td>Social, Religions, Moral Values and Moral Character traits and personality adjustment</td>
<td>Established positive correlation among the variables. Correlation varies due to urban or rural context.</td>
</tr>
<tr>
<td>Agra University</td>
<td>IV Survey</td>
<td>Creativity, Intelligence, Adjustment and Value Pattern</td>
<td>Correlational study.</td>
</tr>
</tbody>
</table>

.....contd. on next page
The term 'Social Intelligence' was introduced by Thorndike (1920) but for many decade it was lead much forward. But since a long period direct or indirect of social intelligence is in the interest of researches in the field of education, sociology and psychology.

The studies in Indian context are majorly correlational studies. There description on the basis of survey method has explored strong positive correlation with personality traits (Sharma, S., 1978). The gender impacts some dimensions of social intelligence but there is no significant differences among male and female entities regarding over all social intelligence. Locality also has significant impact on social intelligence.

Studies in social intelligence are parallel to emotional intelligence, many of similarities in dimensions, measurement technique, mode of analysis has been found. Both of the studies have similar correlates like sex, locality, educational qualification, personality

The studies of Adey, Mo, D. (2003), Singurvells (1990) focused social intelligence as correlate of academic success, empathy, creativity and personality.

The Shudia psychologia has covered following aspects –

i) Social intelligence and other intelligence

ii) Social intelligence and personality

iii) Behavioural, situational approach and social intelligence

iv) Students cognitive styles and social intelligence.

These studies have concluded that there is significant correlation between social intelligence and other intelligence, it differs due to age and gender and positively affect personality development.


The positive correlation between scholastic achievement and social intelligence has been found but studies with the view of developing social intelligence through teaching practices, curriculum has not conducted.

In Indian and abroad context various studies regarding curriculum, textbooks, teaching strategies, methods, models are found approach of connecting emotional or social intelligence with there is not seen. Present study has shared that task.


Gupta, B. J. (1979), Mathew, R. (1980), Dighal, K. C. (1985) conducted studies on teaching practices and observed that most of teachers prefer to use lecture method, effectiveness of teaching regarding subjects and students characteristics are not considered seriously.

Considering the previous studies and related literature it can be noted that –

1. Social intelligence has to be established as a significant parameter of pupils development.
2. Social intelligence and scholastic development has to be connected through regular teaching.
3. Teaching practices and textbook content must be enriched with social concern.
4. Pedagogical content knowledge may be a good mean for enhancement of social intelligence.
5. Empirical studies regarding social intelligence and pedagogical content knowledge are essential.
6. Social intelligence and Pedagogical Content Knowledge (PCK) must be considered for teacher training in pre-service as well as in service stages.

These observations, conclusions on reviewing related researches and literature has given contribution to present study in following concern.

2.4.1 Contribution of Related Literature and Related Researches to Present Study

The contribution of related literature and related researches to present study is as follows:

1. Development of Problem, Objectives and Hypotheses

On the backdrop of problems and objectives covered in previous studies, their limitations, the objectives of present study emerged. They connect the pedagogical content knowledge, teacher education programme to promote social intelligence among the secondary school pupils.

The previous studies shows that the development of personality, social intelligence, emotional maturity, communication skills have special concern with adolescence stage. Therefore, researcher has preferred the target group of secondary school pupils.

The problem and objectives as they defined are unique and identical in comparison of previous studies. This study has its value of originality.
2. Selection of Variables

Previous researches show the manipulation of various correlates like personality traits, scholastic achievement, SES (Social Economic Status) but no specific causal relationship is established by them. Therefore, this study has preferred pedagogical content knowledge package as treatment variable for manipulation and social intelligence as a product associated with scholastic achievement.

3. Research Methodology

Most of the studies are descriptive survey studies. Very few studies are conducted with true experimental approach. Done Ujwala (2006), Patil, S. K. (2006) and Sankpal, R. U. (2008) have developed training packages or programme and manipulated them with experimental approach to establish their effectiveness. Present study has adopted the approach of experiment on the basis of these studies.

4. Sample Size

There is much variation in size of sample from 86 to 3320. Most of the studies are survey researches. Therefore, they require sample in large size with demographic view and appropriate technique of selection. Here, the researcher in present study selected sample through specific testing. It is an experimental study. Therefore, the sample in small group is sizeable for study.

5. Tools of Data Collection

Scaling is most preferred technique as seem in previous studies. Various standard tools are preferred by researches. Indian studies have employed Chaddha, N. K. and Ganeshan, Usha (1986) Scale of Social Intelligence (SIS) for purpose of measurement of social intelligence. Due to its successful application researcher has adopted technique of scaling for measuring the effect of training package.

6. Experimental Designing

The previous researches have adopted one group pre-post designs but it is difficult to avoid impact of extraneous variables on experimentation. To remove the issues in claiming the experiment as a true experiment, researcher has applied. The Pre-test – Post-test Equivalent Group Design.

7. Package Development


8. Period of Training

Training period is diversified in previous studies. It is from minimum 5 days to 45 days not exceeding working three hours in a day. Time budgeting in the previous studies has supported present study for deciding time schedule.
9. **Data Analysis**

Descriptive as well as inferential statistical techniques have been employed by researcher for testing validity. The similar techniques have been adopted in this study.

10. **Conclusions**

The conclusions of previous studies have provided a frame of reference to interpret and compare the outcomes of present study.

2.5 **Summary of Contribution of Reviews and its Applications to Present Study**

The contribution made by previous researches and related literature and its applications to present study can be summarised as follows –

<table>
<thead>
<tr>
<th>Step of Research</th>
<th>Inputs from the related researches and literature</th>
<th>Applications to present study</th>
</tr>
</thead>
</table>
| **Selection of Variables**| 1. various variables are correlated to gender, achievement, personality trait, teaching effectiveness, teacher behaviour, job satisfaction etc.  
2. lack of connecting social intelligence with classroom process, teacher training and curriculum has been observed. | 1. Pedagogical content knowledge package is functioning as an independent variable.  
2. Social intelligence and scholastic achievement are dependent variable for this study. |
| **Research Methodology**   | 1. Most of the studies are descriptive studies exploring correlations with various variables.  
2. Very few researches has conducted survey, very few case study and experiment. | 1. More emphasis is given on quantitative aspect with experimental study.                    |
| **Tools of Data Collection**| 1. Most of the studies have been applied various standard or researchers made scales for measurement of SI.  
2. Studies in Indian context has preferred SIS by Chaddha and Ganeshan due to its successful. | 1. Researcher has employed  
a) GTC – Passi & Lalithamma  
b) SIS – Chaddha, N. K. & Ganeshan, Usha  
c) Behavioural Performance Indicators’ Scale  
d) Questionnaires  
e) Checklist |
Thus, in this second chapter researcher has presented the review has taken from related literature and researches with respect to pedagogical content knowledge and social intelligence.

In the next chapter researcher has thoroughly discussed the strategy of development of pedagogical content knowledge package.