

## CHAPTER II

### REVIEW OF The RELATED LITERATURE

## 2. Introduction

Educational reforms in the United States and around the world are setting ambitious goals for student learning and there is a great recognition and importance for Professional development. Professional development has been identified as an integrated part of educational reforms (Gusky, 2000; Hawley and Valli, 1999; Lewis, Parsad, Carey, Barfai, Farris and Smerdon, 1999) and has been included in documents like educational excellence for All Children Act of 1999 (U.S Department of Education 1999) and No child Left Behind (Bush2001).

Many societies are engaging in educational reforms in the changing times in education system. The most significant agents not only of educational reforms but also in the social reforms is the teachers (Reimers, 2003). The current educational reform movement has focused attention on teacher quality. The National Commission on Teaching and America's Future noted that the most important ingredient in educational reform is competent and qualified teachers. One of the key elements for competent and qualified teacher is their professional development. Professional development is strongly tied to teacher competence. Effective professional development is a critical component to promoting teacher quality (Sullivan, 1999). This belief is supported by Riley (1995) "...we must provide teachers with on-going opportunities to be the most informed, the most capable, and the most inspiring classroom leaders possible" (p. 161). The field of professional development has received attention during the past decade due to this double role teacher's play. Many studies have been conducted on professional of teachers to make the process more effective and meaningful.

Research on professional development is scattered throughout the subject area, focus ranging from classroom processes, teachers teaching skills and students learning of basic skills and structures to teachers' personal traits. Subject matter

research delved into student learning, focusing on students' reasoning and problem solving potentials rather than only on basic skills.

To thoroughly address the topic and to understand the respective trends and gaps, methodology used for conduction of the study and the commonalities and differences among the various studies, the literature was reviewed.

Researcher has reviewed relevant studies conducted in the area of Professional Development for teachers both in American and in Indian context and has presented below. Researcher has also presented the studies conducted in other countries. Literature for this review was collected from searches on several databases; Educational Research Abstracts (ERA), ERIC, ProQuest, EBSCO Professional Development, JSTOR Education, Springer Link, Scribed were found to be very useful websites. The review for the American studies were collected from Teachers College of Columbia library resources, New York; University of Pennsylvania library resources, Philadelphia; the Washington University library resources at St.Louis. The review for Indian studies was collected from Smt. Hansa Metha Library resources. The research abstracts (in three volumes (available in the website [www.educationinindia.net](http://www.educationinindia.net)) prepared by the Center for Advanced Study in Education library, The M.S. University of Baroda, Vadodara and Research Abstracts (5<sup>th</sup> and 6<sup>th</sup> survey).

The chapter is dealt under the following headings:

1. Research studies conducted on professional development of teachers in the USA
2. Research studies conducted in other countries on professional development of Teachers
3. Research studies conducted in India

## **2.1 Research Studies Conducted on Professional Development of Teachers in USA**

A review of fifty nine studies conducted in USA for the professional development of teachers related to the present study under four headings (policies, programs, perceptions and evaluation/impact) have been chronologically presented in the following pages.

### **2.1.1 Policies on Professional Development of Teachers**

**Little (1989)** found that most professional development activities tended to be isolated activities decided by the district office. The study focused on the policies and practices of professional development. 30 school districts in California were the probability sample of the study.

The findings of the study indicated that the policies were from central office and that a pattern heavily weighted toward district-level control of professional development and not school based on their individual needs. The programs were short-term or one-time activities, where follow-up was optional, rather than long-term professional development focused on a guiding vision. Most of the sessions were taught by outside experts focused on skill acquisition, and that teachers-as-designer and leaders of professional development activities were lacking. Their professional development programs were largely dissociated from their other policies and not an integral part of the school vision.

**Sylvia (1995)** conducted a study entitled ‘professional Development: Lessons from Research, Districts and teachers’. The focus of the study was to increase the prospects that locally-sponsored staff development will contribute to the professional growth of individual teachers, and that it will enhance the ability of the schools and districts to improve teaching and learning. A sample of 99 teachers was taken for the study. The data for the qualitative study was collected through interviews and questionnaires. The questionnaires included the perception of the teachers on incentives, benefits, content knowledge, time and factors affecting participation.

The results of the study revealed that teachers believe professional development is important. The districts policies helped in the improvement of incentives and the policies and programs focused on the individual’s needs. Efforts at site-based management and shared decision-making made sure that district goals and priorities are linked to effective strategies that encompass the needs, interests and enhancement of students and teachers. The study provided guidelines for the policy makers about the types of opportunities and incentives they can provide which would strengthen the teachers.

**Kyle (2006)** in the study *LEAPs of Faith: How California Districts' Planning Influences Teacher Professional Development*, seen professional development as a major instrument of school improvement. The goal of this study was to assess the general utility of a policy mandate approach for promoting teacher professional development. Utilizing a mixed-methods approach, this study examined California's requirement that all school districts engage in a planning process to implement the professional development requirements of the federal government's No Child Left Behind Act. Through an assessment of 38 district-authored professional development plans and interviews with district-level leaders and classroom teachers in eight case study districts, it was assessed the likelihood that a policy-mandated planning process would effectively promote meaningful, locally-implemented professional development for teachers. This assessment gave specific attention to how district responses to the policy varied by district size and district type (elementary or unified).

Results indicated that professional development activities differed little in the first year the policy was implemented (2003-2004) compared to the year prior to the policy's implementation (2002-2003). When compared to indicators of effective professional development derived from empirical literature, it appeared that there was much room for improvement in the activities offered to teachers by case study districts during both years. This indicated that the policy had minimal impact on the sampled districts in its first year of implementation. However, in general, larger school districts exhibited more capacity for providing effective professional development than smaller districts. More district-level leadership indicators were also exhibited by elementary districts compared to unified districts. The districts differed in the level of detail with which they outlined their professional development plans. Districts were much more likely to implement elements of their plan if they were specifically outlined.

**Allison Ashley, and Christa (2007)** in the study "An analysis of Missouri's current Teacher certification Policy and how it is meeting the needs of beginning teachers to work with students who are at risk", investigated the current teacher certification, the standards placed for Professional Development to meet the needs of students. Data was collected through questionnaires and

interviews with beginning teachers of the middle and high schools. The data collected from beginning teachers and administrators, coupled with the statistics, made it obvious that the gap exists between what the state of Missouri requires for certification and what beginning teachers need to be effective in working with students at risk. The certification policies need modifications to help the beginning teachers.

**Desimone, Laura, Smith, Thomas, Phillips, and Kristie (2007)** conducted a study on “Does Policy Influence Mathematics and Science Teachers' Participation in Professional Development?” The research suggests how the policy environment shapes teachers' choices to participate in either "effective" or "ineffective" professional development. Because No Child Left Behind (NCLB) and related reforms are making new demands on teachers, and professional development is one of the critical mechanisms by which educational system is improved. The study developed a three-level hierarchical linear model (HLM) to predict teachers' level of participation in different types of professional development activities using a national sample of high school mathematics and science teachers from the Schools and Staffing Survey (SASS). Findings revealed that authority, not power, is associated with teachers taking the kind of professional development that improves teaching and learning--activities focused on subject matter content and instructional strategies, as well as active interactions with other teachers around curriculum and instruction. Rigid implementation of policies does not help in teachers' professional development. Similarly, stability (measured by reduced teacher turnover), not the consistency of professional development with other reforms, is associated with taking effective professional development as the most useful opportunity for teacher learning.

**Grossman, Tabitha, Hirsch and Eric (2009)** studied the State policies and professional development. The data was collected from documents from school districts and State Educational Offices. The findings of the study revealed that the professional development decisions have been left to school districts and teachers by the State policies. States require teachers to complete a certain amount of professional development for license renewal but the quality or the relevance of the professional development was not regulated by the States. State

policies focus almost exclusively on the amount of time required and the types of opportunities that can be used for license renewal. States are not looking into data that could help determine whether professional development improves student learning. The study recommended that to enhance the quality of professional development and help ensure the investments made in professional development to improve student learning, governors must articulate to develop new models of professional development. This must be based on what limited research indicates on both the quality and impact of professional development. Specifically, states should: (1) Gather and use student achievement data to assess the effectiveness of professional development; (2) Use teacher evaluations and student learning data to create individualized professional development plans for teachers; (3) Establish research-based state standards to create a vision for high-quality professional development; and (4) Create an incentive-driven professional development initiative for teachers to acquire advanced skills.

**Frank Valerie (2010)** identified collective bargaining language and policies that support high-quality professional development in six states--Minnesota, New Jersey, New York, North Carolina, Ohio, and Texas--along with their national organizations. The three key ideas emerging from this study were: (1) Professional development is only as effective as the expectations set for it; (2) Within their unique contexts contract provisions and policy language about professional development are best considered and (3) Professional development can be dramatically enhanced through state policy and collective bargaining agreements. The following national recommendations emerged from the work of this initiative: (1) All states and districts should adopt and follow strong standards for professional development; (2) States and districts should develop easily understood, research-based, and graduated rating systems for professional development programs; (3) States and districts should provide adequate resources, including time and financial support, to ensure every educator engages in effective professional learning; (4) All states and districts should immediately implement new or expanded professional learning for school leaders, including principals and teacher leaders, to help them facilitate and integrate high-quality professional development into teachers' workdays; (5)

States and districts should require that school leaders' evaluations include how well they implement effective professional learning; and (6) States and districts should work collaboratively to establish parameters or guidance on teachers' role in all decisions related to professional development.

### **2.1.2 Programs for Professional Development of Teachers in USA**

**Desimone, Porter, Garet, Yoon, and Birman (2002)**, constructed their study on the results of Garet et al., (2001) study, that professional development which actively engages teachers in discussions of pedagogy increases the teacher's use of those activities in the classroom. Using a purposefully selected sample of 207 teachers in 30 schools, in 10 districts, in five states, they looked at specific features of professional development and their effect on changing classroom practices. Their longitudinal study surveyed teachers at high poverty schools at three years in a row: 1997, 1998, and 1999 in order to examine "the characteristics of professional development that foster change in teachers' instructional practices" (p. 84). The teachers described all of the components of a single professional development activity they had participated in over the last year. The findings of the study strengthened the earlier study that professional development that focused on a specific teaching practice (pedagogy) increased their use of that practice in their classrooms. When teachers engaged in active learning strategies, as interacting with their colleagues on a regular basis to discuss their work and students' learning, gained a "deeper understanding of how children think and learn". However the quality of the professional development programs does not depend on the duration, or time span, of the professional development activity.

**Frank (2003)** in a study entitled 'Culturally Responsive professional Development through Conceptual Change' analyzed the influence of participants' experiences on their culturally responsive pedagogical development. The study also considered the policy implications for higher education, schools and school districts, and the state. It is a case study which included qualitative inquiry methodologies. Four substitute teachers from three urban school districts participated in a professional development experience—autodidactic cultural diversity development—to learn about culturally responsive pedagogy and implement it in their classrooms. NVIVO, qualitative

research analysis software, was used to facilitate data analysis. The results indicated that participants' upbringing, collegiate experiences, substitute teaching experiences, and the professional development influenced their development as culturally responsive educators. Each participant's case highlights her or his development and the aspects of this experience that promoted the learning and implementation of culturally responsive teaching. Lived-experiences heavily influenced participants' learning, suggesting that efforts should be made to individualize learners' experiences when attempting to teach culturally responsive pedagogy. Data analysis indicated that the professional development program increased three of the participants' awareness of their students' cultures and influenced their implementation of culturally responsive practices in the classroom. The policy implications suggest that teacher preparation programs and school districts consider the pedagogical potential of the study and also substitute teaching experience when providing professional development. The study also recommended that policy makers must consider, regarding the value and applicability of the substitute teaching experience for pre-service teachers and cultural diversity professional development for substitute teachers.

**Duygusonmex (2006)** conducted a study titled "Examining the effects of a DNA fingerprinting workshop on science teachers' professional development and student learning" for secondary school teachers. Professional development program was conducted by the University. The methodology adopted was a quantitative research strategy. Data was also collected through interviews. 17 Teachers who had earlier attended the workshop in 2005 formed the sample of the study. The results indicated that the teachers' motivation to attend the DNA Fingerprinting professional development workshop was mainly influenced by the need to improve content knowledge and skills, and requirements associated with educational policies. Level of content knowledge was found to be a factor contributing to teachers' motivation to implement what was learnt in their workshop. Concerns related to student maturity and classroom management were also identified as factors influencing teachers' implementation behaviour. Evidence showed that the DNA Fingerprinting workshop was successfully implemented by classroom teachers.

**Craig (2007)** examined Professional Development reforms in the study “Act 1999-48 (24 P.S. Sections 12-1205.1 et seq.): An Analysis of Continuing Professional Education Reform in Pennsylvania and Implications for Policy and Practice”. The enactment of Act 1999-48 (24 P.S. §§ 12-1205.1 et seq.), or Act 48, in Pennsylvania signified a transition from optional continuing professional education to mandatory continuing professional education (CPE) for all Pennsylvania certified educators. The study examined 97 teachers from south Western Pennsylvania public school districts, compliance with the Act 48 legislation. This qualitative study examined (1) the extent to which CPE activities of educators in selected school districts in Pennsylvania’s Region 7 aligned with the requirements as set forth in the guidelines and (2) the extent to which the school districts CPE activities met their strategic plan goals. The analysis was based upon the review of documents that identified the school districts strategic plan goals and the CPE activities submitted to PDE for Act 48 credit during the 2005-06 school year. Data revealed that 18% of the school districts aligned fully the credit-bearing CPE activities to their strategic plan goals. To maintain the certification allowed for educators the CPE must be made available. The result of the study revealed that though the functionality of the legislation has been limited, at the very least, it has forced educators to participate in some type of CPE. As a result, all educators, not just newly certified educators, must once again reconsider their own identities as lifelong learners. The study also showed that in order for the initiative to have a more positive impact on the education of educators and students, systemic changes are required at all levels; the state, the school district, and the individual professional educator. Though the districts recommended many professional development activities for the teachers, not all of them complemented the strategic plan goals of the districts.

**Hall (2007)** in a case study on the district wide professional development examined the design, inspiration, implementation and impact of the program. The title of the study was Inspiration, Implementation, and Impact: examining Teacher Professional development in Successful School districts. The data for the qualitative study was derived from semi-structured interviews with districts assistant superintendents of curriculum and Instruction, school principals and

teachers, document review and observations. Research questions for the study included: How was the teacher professional development activities designed and planned? How was the teacher professional development activities carried out in the districts? And what was the impact of the professional development on teacher practice and student achievement? The result showed that the professional development activities were intent and focused. The districts encouraged teacher collaboration. The study provided positive example of how teacher collaboration centred on student learning as professional development has the potential to improve teachers' instruction and increase student learning.

**Gwin (2008)** investigated the implementation of a schedule-embedded professional development in the form of professional learning teams (PLTs) designed to foster improved teacher attitude toward professional development, increased dialogue and collaboration among teachers instructing the same course, and the development of the attributes of successful professional learning communities. This is a qualitative case study. The data was collected used through structured interviews with five department chairs in the school, surveys of the teachers in the school, and the researcher's reflective journal of the study including field notes. The major findings of the study indicate that the implementation of job embedded PLTs positively impacted teacher attitude professional development and increased the dialogue and collaboration among the teachers within the PLTs. The study also found the essential characteristics of successful professional learning communities and effective professional development during the implementation of the study.

**Mario (2008)** examined a job-embedded professional development program of the high school teachers in a study titled "Job embedded professional Development: A study of the perceptions and behavioural changes of Participants in a New England High School". The case study examined the following research questions: Which PD activities contribute to the teachers' perception of effective PD? How do teachers who participated in the job-embedded PD define "effective PD? What are the effects of the program and knowledge, skills and instructional practices? The data of this qualitative study was collected through interviews, participant-observation, and documentation. The results indicated that the PDP was successful in implementing school-wide

initiatives. The teachers reported that the program reinforced their skills in establishing classroom rituals and routines, creating better performance assessments and using assessment to driving instruction. It also revealed that the teachers were not exposed to the effective characteristics of professional development as defined by NSDC. It was useful in building the capacity of teachers to address high school reforms, and improve the achievement of students.

**Stephanie (2009)** examined the professional development processes at two California middle schools in a study entitled “A study of Professional Development in Two Middle Schools with significant increase in Statewide Test Scores”, comprising of a majority of an ethnic/racial minority subgroup as well as a majority of socio-economically disadvantaged students. A qualitative study was conducted by interviewing teachers and administrators, observing professional development meetings and classrooms, and studying school documents to examine how these schools organize and develop their professional development programs. The results showed that the a)The leadership at both sites collaborated with the district office to determine professional development decisions relevant to their individual needs, b) professional development opportunities largely were based on student results from assessment data, c) the design of the professional development activity included collaborative and active engagement strategies, d) the staffs’ perceptions of professional development activities potentially affected the impact of the teacher professional development activity, and e) the school leadership was viewed as important to creating and sustaining an environment of continuous learning through professional development opportunities.

**Nonyelum (2010)** in the study titled “Collaborative Professional Development and Curriculum Enactment: Teacher Reflection to Inquiry based Discussion in High School Science Classroom” incorporated a variety of resources. It includes AAAS criteria, research-based discussion strategies, educative curriculum materials, a common curriculum video artifacts and science education research articles. The teachers were provided with opportunities to engage in an iterative process of reflection and instruction to bring about instructional change; a process of self-examination and experimentation that was fostered in a small

group, collaborative, and sustained professional development program. The tools used for this qualitative study were interviews, professional development workshops, and teacher enactment. The findings showed that the design of professional development can foster a teacher learning community of reflective practice that promotes instructional change in inquiry-based science when resources are used to support and complement each other.

**Teague (2010)** investigated the awareness of the standards set by The National Staff Development Council (NSDC) for teachers in a case study of High Schools' Professional Development program based on the NSDC standards. NSDC has created twelve standards to assist teachers and administrators in creating a comprehensive professional development program. The standards include: Collaboration, Data-Driven, Design, Equity, Evaluation, Family Involvement, Leadership, Learning, Learning Communities, Quality Teaching, Research-Based, and Resources (NSDC, 2001). 143 teachers' perceptions on their school professional development program collected through a survey. The data was analyzed to determine the perceived strengths, weaknesses, and possible constraints of the school professional development program. The result of indicated that school professional development were effective and the teachers were aware of the NSDC standards. The research also suggested the possible methods to improve the program.

### **2.1.3 Perception of Teachers/Principals on Professional development Program**

**Bischoff (2004)** in a qualitative study, Math and Science teachers' perceptions of the impact of professional development has on their teaching practice. An electronic survey of teachers was conducted to gather perceptions regarding the impact professional development had on teaching practice. Surveys and interviews of administrative personnel charged with professional development oversight were also utilized. The research questions were: the extent to which teachers perceive a connection between professional development opportunities and their teaching practices; what do teachers believe to be essential components of an effective PDP? The components which help them to reflect their own teaching practices; in relation to PD; the district's encouragement and support to teachers to become more reflective practitioners? The findings of the

study revealed that there is a need effectively plan, implement, and evaluate professional development program. The research has implications for professional development providers to ensure that effective professional development opportunities were offered to teachers.

**Furman (2005)** investigated teachers' perceptions of professional development experiences and resultant changes in knowledge, skills and practice, in a study titled "Teachers' Perceptions of Professional Development Experiences and changes in Knowledge, Skills and Practices: Implications for Policy and Practice". The research questions explored the structural features, the core features, and the outcomes of teachers' professional activities. Teachers' perceptions of their PD experiences were collected through questionnaire based on Teacher Activity Survey, (US Department of Education, 2000). The findings showed that both traditional and reformed type of PD can enhance the knowledge and skills and change in teaching practices when the design of PD activity includes a focus on content and duration that allows time for feedback opportunities.

**Sorensen (2007)** conducted a study on "Examining A Professional Development Process for Increasing Classroom Implementation of WEdGate". In this research, the effectiveness of an instructional technology professional development program designed to train teachers and administrators how to integrate WEdGate products into the classroom was studied. WEdGate is an internet portal developed by the Wyoming Department of Education to provide support for standards-based planning, instruction, and assessments. This training program utilized components that research indicates are important if successful implementation is to take place: administrative support, managing the training process, and on-going or continuous training. This study included five Wyoming school districts that provided the professional development training and five Wyoming school districts that did not provide the training. A survey was developed to determine the teacher and principal perceptions of the effectiveness of different aspects of the training. The findings of this study indicated that the training did increase the use of the WEdGate by the teachers. This study also revealed that effective implementation process of the professional development programs has greater impact.

**Sefrit (2008)** studied the mentoring/professional development program within the teaching profession to determine the extent and perceived value of the existing formal mentoring program in the Fort Zumwalt school district. The instrument used in this study was a survey designed by the district for the beginning teachers who finished their first year of teaching and the formal mentoring program. The results were analysed statistically by using Likert scores and Chi square test. The findings of the study revealed that: a) beginning teachers have the need and desire for a mentor, professional development plan and induction program; b) the majority of beginning teachers perceived the formal mentoring and professional development program was "very beneficial" to their individual growth as a teacher; and c) the person in the position of mentor made a significant difference in the success of the beginning teacher's first year teaching. As a result of this study's information, the formal mentoring program/ professional development plan for beginning teachers in the Fort Zumwalt School District was perceived to be effective for beginning teachers.

**Spicer (2008)** studied the teacher's perceptions as they relate to professional development, as the school systems face the daunting challenge of meeting state and federal mandates and legislations. In a quantitative research method, the data was collected from 218 Teachers. The research questions were teacher's current perceptions about professional development; the differences in teacher's perceptions of current professional development based on their teaching assignment. The results showed that the Novice teachers experienced the professional development to be high quality than the experienced teachers. The results indicated an inconsistency between teachers who taught various subject.

**Floyd (2009)** conducted a study on, "Fort Zumwalt School District Professional Development Plan: A qualitative study of Current District Perceptions and Proposed Changes". The data was collected from Fort Zumwalt K-12 certified teachers using three instruments: (a) reflection/evaluation sheets, (b) needs assessments, and (c) an electronic questionnaire. The data collected from these sources were analysed to answer the research questions.

Findings from the five research questions demonstrated that teachers in the Fort Zumwalt School District value the professional development opportunities that were attended. The teachers attended workshops to improve their teaching

skills, students' achievement and to advance their career and maintain certification. The scope for other professional development opportunities was limited within the district.

**Jennifer (2009)** conducted a study on, "Fort Zumwalt School District Professional Development Plan: A qualitative study of current secondary teacher perceptions and proposed changes". The objective of the study was to know the following: 1. what types of professional development opportunities are teachers choosing to participate? 2. What motivates teachers to participate in professional development activities? 3. When do teachers prefer to participate in professional development opportunities? 4. To what degree do teachers believe professional development experiences improve their teaching and classroom practices? 5. Do teachers believe that professional development programs are meeting their need to improve their teaching and classroom practices? The results indicated limited professional development participation due to lack of time, variety of topics, and structure or format needed to support ongoing, high quality professional development. The professional development is most effective when embedded in the school day and closely aligned with district goals and teacher needs.

**Robinson (2009)** studied the perceptions of principals regarding the role of professional development and appraisal system in teacher supervision. Historically, many principals understood the purpose of teacher supervision to be the improvement of instruction. A convenience sample of 310 principals from a metropolitan area responded to a questionnaire. The questionnaires covered several topics including principals' beliefs, attitudes, values, and practices regarding teacher supervision within the context of the Professional Development and Appraisal System (PDAS), the Texas state-developed and recommended instrument and protocol for conducting teacher performance appraisal. Analysis of the responses revealed that principals do not hold strong, central beliefs as to the purpose of teacher supervision, the efficacy of the PDAS system, or even who is the best person to conduct teacher supervision. Further, there is widespread inconsistency in the practices of principals in their formal documentation of teacher performance appraisals.

**Rouser (2009)** conducted a study to reveal teachers' perceptions of isolation and the impact that a peer visit protocol may have on teachers' reflective practice. This qualitative study took place in a small school district on the Mid-Atlantic coast of the United States. The case study approach involved ten teachers who participated in a professional development program known as "Roadmap to Results." The tools for the research involved a questionnaire, an artifact analysis, and a focus group interview. Findings indicated that by engaging in peer visits, the high school teachers in this study felt reduced feelings of isolation and an increased sense of community. The teachers also indicated there were higher degrees of support in applying new ideas in their classrooms, and this increased the degree of transfer of what was learned in professional development activities.

**Suski (2009)** in the study titled the "School District Administrators' Perceptions of The Quality of Professional Development in Pennsylvania's Public School Districts" evaluated the perceived quality of professional development programs in Pennsylvania's public school districts. School district administrators responsible for coordinating professional development were asked to respond to a survey to assess the extent to which the characteristics of high quality professional development are present in their districts' professional development programs. Perceptions about the challenges facing professional development coordinators in providing high quality professional development to all staff were also assessed. Information was gathered on the funding sources and number of school days allocated for professional development. A statistical analysis was performed on five areas of high quality professional development which include: program vision and goals, program planning, program design, program resources, and program evaluation. A paired-samples t-test was used to compare the mean scores across all five (5) areas. Program Planning, Program Design, Program Vision and Goals were found to be the strongest aspect of districts' professional development programs. Program Resources was determined to be the weakest area. The study also revealed that the challenges facing professional development coordinators in Pennsylvania's public school districts were lack of sufficient time to engage teachers in professional development activities and a lack of sufficient funding to support professional development needs.

**Elliott (2010)** studied the perceptions of teachers, facilitators and the principals on how they engage themselves in a data driven job-embedded professional development. Analytic induction was used to reveal notions about professional development context, thoughts about use of data and ideas about practice. The findings of the study showed that this form of professional development holds promise for support to a collaborative culture which uses data to guide decisions but had its own challenges. Professional development within many schools, districts has become more closely linked to school or district achievement goals, daily practice and student assessment data. Implementation of data-driven job-embedded professional development as a prominent form of professional development within a school or district should be considered carefully and critically.

**Laurie (2010)** investigated the influence of school culture, school goals, and teacher collaboration on teachers' attitudes toward their Professional Development Plans. Data were also collected on teachers' perceptions of the steps of the PDP process to determine which steps had the greatest influence on teachers' attitudes toward their Professional Development Plans. The sample for this study was 154 prekindergarten through high school teachers. Participants held a range of attitudes from very positive to very negative toward the Professional Development Plan. Significant correlations were found between teachers' attitudes toward the Professional Development Plan (TAPDP) and factors of school culture -Collaborative Leadership, Teacher Collaboration. Another purpose of the research was to determine the extent to which PDPs aligned with school goals and PDPs not aligned with school goals differed on teachers' attitudes toward the Professional Development Plan. The data indicated a very large effect size and highlighted that a very large portion of the variance in TAPDP scores was accounted for by whether a teacher aligned the PDP with a school goal or whether the PDP had little or no alignment with a school goal.

#### **2.1.4. Evaluation and Impact of Professional Development Program**

**Wenglinsky (2000)** examined the relationship between beginning teacher certification, content knowledge, and pedagogy practices on student achievement using data from NAEP. The NAEP had asked the beginning

teachers to report college coursework, content area training and education methodology practices. The study revealed that the students whose teachers received professional development opportunities in content areas scored better on NAEP. Students whose teachers majored or minored in mathematics education and who reported participating in professional development addressing diverse student populations----scored better in the respective subjects. This study examined the importance of not only teacher certification and content knowledge, but suggested a teacher's pedagogy knowledge and practices as a critical factor in student learning.

**Chrystalla (2004)** studied teacher generative growth as a result of participation in a research-based professional development program on the use of technology. Specifically, the study investigated the ways in which teachers integrated and extended the key facets of the program two years after its completion with particular emphasis on a) individual teacher characteristics, b) school contextual factors, and c) key components of professional development. The research focuses on the elements of success in longitudinal technology integration, rather than on the inhibitors to such technology adoption. Therefore, while the investigation draws on case study research of eight teachers, the centre of attention remains on the one exemplary teacher who exhibited the maximum characteristics of long-term professional growth. Results indicated that participation in professional development fostered increased technological knowledge and awareness, sustained use of technology integration into classroom instruction, and generation of more elaborate beliefs on the role of technology in teaching and learning.

**Judith (2005)** in a case study titled “the impact of a reform-based professional development program on the practices of eighth grade science teachers” studied the growth of secondary science educators from pre-service teacher preparation through their involvement in a Master's interdisciplinary Science program to their classroom practices. The qualitative analysis suggested that increasing science content knowledge through professional development programs gives teachers greater confidence to teach integrated science. A case study method with 21 teachers was administered. The data collected through observation, interviews and documents were triangulated and analysed. Participation in a

professional development program focused on their pedagogical knowledge and helped to teach inquiry based lessons for their students. The participant teachers experienced change after the program as neither the graduate programs nor the teacher education programs prepared them to teach integrated science.

**Brutsman (2006)** examined the impact of a district level professional development writing course on teacher implementation practices of information addressed in the course. A particularistic case study of Qualitative method was used to study teacher participation. Each teacher's implementation practices, and teacher use of artifacts and /or tools of appropriation was impacted by participation in the program was also studied. Analysis of data yielded that some teachers were consistent in their implementation, and some missed opportunities to use artifacts introduced in their courses. The findings of the study revealed that the participation of teachers in professional development not only impacted implementation practices but also teachers tend to emulate these practices with students. The mentors assigned to beginning teachers demonstrated proficiency at implementing district programs and content contained therein. The recommendations of the study were that, the district programs need to address contextual factors related to professional development. It may also need to address content knowledge.

**Kelly (2006)** investigated the effects of professional development on classroom teachers in the study entitled "Does one School District's Professional Development Model Lead to Improved Student Academic Achievement". The study addressed the research questions like how effective are professional development programs in a suburban/metropolitan school district and what impact do the professional development programs have on student academic achievement in the school district? The study method used was both qualitative and quantitative. The findings of this study described professional development make significant changes in the knowledge, skills, practices, and attitudes of teachers with the ultimate goal of improving student learning.

**Marie (2006)** in a study the effects of professional development in literacy on selected teachers in reading workshop, investigated the relationship between the instructional practices of selected urban high school teachers and their understanding of how to teach reading. The objective of the study was to gather

insight into how a professional development program might influence high school teachers to change their practices and their understandings about reading instruction. Data sources included classroom observations; interviews with teachers, students and an administrator; PD meetings, documents from PD sessions. Results indicated that when teachers participated in a PDP in reading, they changed their instructional practices and understanding of teaching reading and students were more enthusiastic about reading and positive endorsement for certain aspects of the PDP.

**Meade (2006)** evaluated the professional development programs and practices of small private Christian schools based on the perception of administrators and teachers. Seven research questions provided the frame for examining educators' perception regarding their professional development experiences. The perceptions of the teachers and administrators were compared through the use of nonparametric chi square test and Mann Whitney U tests. Results indicated significant congruence between the perceptions of the respondents. The teachers and administrators perceived their professional development experiences as effective and aligned with NSDC staff development standards.

**Roman (2007)** studied the effects of a professional development program conducted by geoscience education institute upon secondary school science teachers. The study was based on the (1) the effects of a five-day long constructivist and field-based earth science education upon 26 secondary school science teachers' earth science conceptual knowledge, perceptions of fieldwork, and beliefs about teaching earth science; and (2) the implementation of participants' newly acquired knowledge and experience in their science lessons at school. Qualitative data included questionnaires, semi-structured interviews, reflective journals, pre-post concept maps, and pre-post lesson plans. The results indicated that the PD Program improved the participants understanding of earth science concepts, content, and processes related to the geology of Puerto Rico. Participants also improved their earth science teaching beliefs, perceptions on field-based education, and reflected on their environmental awareness and social responsibility. Participants were greatly benefited from the field-based learning environment, inquiry-based teaching approaches modelled, the attention given to their affective domain, and reflections on their teaching practice.

**Pradere (2007)** focused on the development, implementation and evaluation of a school based staff development project in his study on ‘Effective Staff Development Connected to Increased Student Achievement’. The study addressed the research questions like; is there a change in teachers instructional practices as a result of participating in the professional development program; are the teachers adopted the new instructional practices; are these changes have an impact on student performance as calculated on the Measures of Academic Progress (MAP) assessment. The study established qualitative research methods including survey, interview, and classroom observation. To measure changes in student performance, traditional univariate and multivariate statistical techniques were utilized. The findings revealed that students whose teachers exceeded proficient skill levels in instructional practices and student engagement demonstrated higher performance levels in reading and language on the MAP assessment than those students whose teachers met or approached desired skill levels in those two areas.

**Daniel (2008)** studied the professional development program and its impact on teacher performance (transfer of skills and knowledge from training to the classroom) and student achievement on high stakes test in subject areas. The study tried to answer the questions like (a) how does professional development support the instructional practices of novice high school teachers? (b) What is the impact of professional development of novice high school teachers on test results as demonstrated in teacher’s value added assessment scores? The sample consisted of 128 teachers from the school district. The data was collected on using an on-line survey. The data was analysed using chi square test. The results indicated that the school district is supporting both professional growth of the teachers and also the teaching-learning of students in the classroom. The professional development opportunities were offered throughout the year to improve the teaching skills. The mentor programs were effective which enhanced content-based conversations and skill development within the classroom.

**Kathy (2008)** examined formative evaluation procedures for professional development used by selected Pennsylvania schools and their relationship to student achievement. This was a descriptive research study. Data were acquired

through PDE public records and a survey instrument from principals. Results of quantitative analysis indicated that many procedures were employed to evaluate professional development. Methods to evaluate participant reactions to activities were more prevalent than all other levels of evaluative practice. The findings revealed that the advancing schools demonstrated significantly higher use of professional development standards for evaluation than static schools. There was no statistically significant difference. Although Pennsylvania Act 48 regulations mandate all staff development programs be evaluated based on student learning, evaluative procedures focused on student learning was the least used of all evaluation methodologies for all schools in this study.

**Mazzie (2008)** investigated the relationship between students' standardized test scores in science and (a) increases in teacher assessment literacy and (b) teacher participation in a Teacher Quality Research (TQR) project on classroom assessment. The samples for these studies were teachers from underperforming schools who volunteered to take part in a professional development program in classroom assessment. School groups were randomly assigned to the treatment group. For Study 1, teachers in the treatment received professional development in classroom assessment from a trained assessment coach. Teachers in the control received no professional development. For Study 2, teachers in Treatment 1 received professional development in classroom assessment from a trained assessment coach and teachers in Treatment 2 received professional development in classroom assessment from a facilitator with one day of training. Teachers in both groups completed a measure of assessment literacy, the Teacher Quality Research Test of Assessment Literacy Skills (TQRTALS), prior to the beginning and then again at the conclusion of the four month professional development program. A hierarchical linear model (HLM) analysis was conducted to determine the relationship between students' standardized test scores in science and (a) increases in teacher assessment literacy and (b) teacher TQR status. Findings of the study based upon these analyses, revealed that the professional development program increased teachers' assessment literacy skills; however, the professional development had no significant impact on student achievement.

**Murphy (2008)** investigated whether there is a link between teacher professional development for school improvement and student achievement by analyzing data of the Missouri Commissioner's Award School Districts and other Missouri school districts. Quantitative research methods were used to evaluate professional development practices which were regarded as high-quality professional development and its impact on student achievement in Missouri K-12 public schools. Missouri Assessment Program (MAP) data from 24 Missouri Commissioner's Award of Excellence school districts and 24 comparison Missouri school districts were analysed. The achievement rates researched were the MAP achievement tests among nine subgroups, Adequate Yearly Progress (AYP) rates, graduation rates, and American College Testing (ACT) scores. The results indicated that high-quality professional development is an important component for teacher growth and student achievement. There were no statistical differences in ACT rates and graduation rates between Commissioner's Award school districts and comparison schools. The results also indicated gains in AYP subgroup achievement rates of Commissioner's Award school districts and comparison between the years of 2003 and 2006.

**Steinbeck (2008)** analyzed the impact of the Select Teachers as Regional Resources (STARR) program on the former STARR participants' personal empowerment, professional growth and the influence on subsequent career roles. It was a survey study conducted to determine (a) if any relationships existed between selected demographic variables of teachers who have participated in the STARR program and the participants' current self-perceived empowerment and (b) if differences existed in the self-perceptions about empowerment for the participants in the STARR program prior to beginning participation in the program, immediately after the completion of the program, and currently. A mixed methodology using both qualitative and quantitative analysis was conducted to determine the participants degree in the STARR program described beneficial experiences from the program, influences of the program on their professional development, and the influences of the program on their subsequent career roles. The results implied that the STARR program had a profound impact on their professional skills and confidence. The STARR program opened doors to new careers and leadership opportunities.

**Howland, (2009)** studied the, “Effects of individualized professional development on the theoretical understandings and instructional practices of teachers”. The primary purpose of this study was to analyse the outcomes of an original method of teacher-learners, while capitalizing on the current state of knowledge regarding effective professional development characteristics, and teacher cognition and learning. Specifically professional development that acknowledged and addressed the specific learning needs. The analysis revealed what changes occurred in the instructional practices and theoretical understandings of elementary teachers as they participated in Individualized Professional Development (IPD). The findings suggested three different levels of teachers whose needs were different in collaborative groups based on similar support needs, teacher-learners were then provided with Individualized Learning Activities to support their level of theoretical understandings and/or level of curriculum implementation.

**Kelly (2009)** studied the ‘Professional Development of Teachers of Mathematics’ which forms a holistic, rich description of the way a professional development experience transformed teachers of mathematics. This professional development targeted teachers from six underachieving schools in a southern state who were trained for a week in inquiry techniques of instruction. A case study design was used to study the impact, this experience had upon participants. Three of the high school teachers were the subjects of analysis. Additional data were incorporated from project administrators and other teachers and assistants involved with the professional development experience. Data sources included highly structured questionnaires, observations, semi-structured interviews, documents, archival records and e-mails. Data were gathered before, during and after the experience to compare findings. Themes were developed from the data sources to assess the way that the professional development transformed the pedagogies and the beliefs of the teachers. Results suggested that designers of professional development must take into account the previous experience of the participants, especially their perceived professional needs and beliefs. Designers also need to be aware of participant’s content knowledge and pedagogical skills. The findings of this study had impact on the

planning, execution and evaluation of professional development programs in education and other fields.

**LaBombard (2009)** conducted A Qualitative Case Study of Professional development processes in the Classroom: From Initiatives to Implementation. School districts increasingly use professional development programs to improve instruction and, as a result, students' outcomes. This study explored the impact of an instruction development and evaluation processes used by professional development staff in relation to teachers' subsequent demonstrated improvement in knowledge, skills, participation in school organizations, and classroom practices. It is a qualitative study, which used Tallerico's professional development as a framework and examined 5 professional development program processes in 2 selected districts. Participants totalled 25 purposively selected teachers from both districts. Data sources were pre-program interviews, classroom observations, and post program reflections. Data were analyzed using open and axial coding to identify themes and trends. Although results indicated varying knowledge retention levels based on the different program processes used, more notable was the minimal demonstration of retained knowledge and skills being implemented in classrooms. Though, half of the participants indicated they found collaborative problem solving the most beneficial process for successfully implementing professional development, but they did not use the process in their classrooms. This study impacts social change because it indicates a need for in depth examination of instructional methods to see which types motivate and inspire teachers most and it provides professional development specialists with a clear understanding of the professional development structure that will help them evaluate those programs' impacts and value in improving classroom instruction.

**Lisa (2009)** studied the relationship between high quality professional development and student achievement in the state of Missouri as measured by the Missouri Assessment Program (MAP). The Missouri Assessment Program results of the school districts served by the Missouri Regional Professional Development Centres were compared to the percentage of teachers who participated in high quality professional development activities offered through the Missouri Regional Professional Development Centres. A Pearson Product

Moment Correlation was used to determine the degree of association between high quality professional development activities offered through the Missouri RPDC regions and MAP. The data in this study was analyzed using an Excel© spread sheet and combined indices of Communication Arts and Math. The results indicated that there were no significant relationship existed between high quality professional development activities offered through the Missouri Regional Professional Development Centres and student achievement as measured by the MAP.

**Miller (2009)** explored how professional development enhanced innovative instruction and achievement within the learning environment. A student-centred environment particularly helped students in the areas of reading and math. This allowed teachers to use a combination of instructional strategies to meet the students' needs. Today's students no longer benefitted from one instructional approach. Today, all students needed an enhancement in their learning. The best way to do this was through professional development experiences that offered improved classroom practice and strengthened community relationships. The areas focused upon were curriculum and instruction, the learning climate for students, social services for students, and parental-community support for the students. The study was developed from a qualitative theoretical framework related to the learning action model. The learning action model prepared the teacher to develop professionally, in an effort to equip the students to develop emotionally, socially, and physically in the chosen learning environment. The study developed a 27-question survey and was given to randomly selected two hundred and fifty (250) faculty and staff. The results indicated the use of teacher developed professional development programs which were successful but could not indicate whether student achievement in the learning environment increased or not.

**Viggiano (2009)** examined implementation of the ePortfolio, and also examined the professional development necessary to increase teacher confidence and knowledge of the pedagogy involved in their use. A qualitative case study was conducted. Research methodology combined questionnaires, observations, and interviews. Four secondary teachers' implementation of the ePortfolio was documented. The study revealed that teachers were more likely to implement

electronic portfolios if they receive training in the technology, were given adequate support, and have available computers for students to use. Teachers valued the ePortfolio for use with students but were not using the ePortfolio as an assessment tool either to inform instruction or increase student achievement; therefore, professional development needed to go beyond technology to include pedagogy, including reflection and assessment, to fully realize the potential of the ePortfolio. Even when teachers and principals believe facilitating the ePortfolio as part of the teacher's job, the time and resources required can overwhelm teachers and cause them to hesitate in the implementation of electronic portfolios. Research recommends that the ePortfolio can reach its full potential through teacher feedback to improve implementation. Schools can continue to work in isolation with varying degrees of success, or the state can give support. The state needs to have a process in place, such as focus group meetings, to receive suggestions and continue to upgrade the database to meet consumer needs.

**Cynthia (2010)** conducted a study on “The Effects of High Quality Professional Development Activities for Teachers on Students' Tennessee Comprehensive Assessment Program”. The objective of the study was to determine the level of technology integration as perceived by the teachers and administrators and to determine the professional development opportunities at each level. Three hundred and twelve teachers from thirteen high schools and across diverse content areas responded to a questionnaire. The principals from each of the thirteen high schools and a random sampling of the responding teachers were also interviewed. The findings in this study indicated that the majority of the teachers were integrating technology at a routine level. Professional development that included independent exploration, collaborative time with peers and on-site coaching had enabled these teachers to utilize technology for lessons and classroom management as well as to facilitate their students in using technology tools. This study also indicated that in order for teachers to move to higher levels of technology integration, the professional development should include differentiated, collaborative, real time opportunities on a frequency of at least once in a month.

**Elizabeth (2010)** studied the effectiveness of professional development and resource allocation to student achievement. The research question was: What is the relationship between professional development expenditures and student achievement? This study collected and analyzed professional development expenditures and student achievement data for 2007 for middle and high schools (N = 426, N = 1234 respectively) in Texas. A partial correlation, controlling for socioeconomic status and English proficiency, revealed that there is no relationship between professional development expenditures and 8th grade student achievement in language arts, mathematics, social studies, and science. High school results revealed small, but negative relationships between professional development expenditures and student achievement in English, mathematics, and science. Consequently, the study concluded that expenditures for professional development are not yielding positive returns in the student achievement domain. It is the quality of professional development which has the positive impact on student achievement.

**Kano (2010)** examined the effects of professional development on the infusion of engineering design into high school curricula. The National Centre of Engineering and Technology Education (NCETE) sponsored professional development workshops at California State University, Los Angeles (CSULA). Four in-service teachers with backgrounds in physics, chemistry, industrial education, math, and electrical engineering participated. The three sources provided were used to answer the research question, "What are the effects of professional development on infusing engineering design into high school science, technology, engineering, and math (STEM) curricula"? Three major themes emerged from the data. They were (a) incorporation of professional development content, (b) challenges with incorporating professional development content, and (c) benefits of incorporating professional development content. It was shown that the effect that the NCETE professional development had on the infusion of engineering design into high school curricula varied among each of the four teachers due to their subject area, educational backgrounds, and experiential knowledge. The study revealed that one step approach to professional development is not enough to cater to the individual teacher's requirements.

**Lesley (2010)** examined the impact of teachers' professional development activities on student achievement. This was carried out by quantitatively examining the amounts of professional development (number of activities and number of days) and qualitatively examining the types of professional development activities. The responses of a questionnaire by the Public Schools teachers' were examined. A two-way ANOVA was conducted to determine if the number of professional development activities and number of professional development days impact student achievement in mathematics and Reading/Language Arts as measured by TVAAS. The analysis of data suggested that teachers' participation in high-quality professional development did not impact student achievement in Reading/Language Arts and mathematics as well. The results of this study indicated that more research needs to be done to examine the impact of teachers' professional development on student achievement.

**Ralph (2010)** in the study entitled “Changes in High School Chemistry Teacher Beliefs and Practice after a Professional Development program” proposed that when professional development modelled the inquiry-approach and provided time for peer-observed enactment and reflection, it would produce change in in-service chemistry teachers' beliefs and practices. Case study methodology was used to collect a variety of in-depth data on teachers' beliefs and practice including interviews, journals, classroom videotape and participant-observation, to address the research questions: (1) how does the use of an inquiry approach with in-service chemistry teachers in a professional development result in their re-examining their pedagogical theories? (2) How does the reflection on the inquiry approach and practice teaching result in changes in these teachers' pedagogical theories? (3) How do the changes in these teachers' pedagogical theories translate into their classroom practice? Semi-structured interview data revealed that 7 of 9 in-service chemistry teachers showed evidence of change in their beliefs over a year-long professional development program. Reflection data from the participating teachers showed they believed that modelled inquiry placing them in the student-learner role helped them to re-examine their pedagogical theories and develop more inquiry-based beliefs. Additionally, the professional development's emphasis on collaboration, peer-observed

enactments, guided reflection, and the establishment of a community of learners helped them to re-examine their pedagogical theories and develop more inquiry-based beliefs. 5 of 9 in-service teachers translated their beliefs into inquiry practice in their classrooms.

**Rosemary (2010)** investigated the level of implementation of formative assessment strategies among Rhode Island high school teachers and students in three districts: urban, suburban, and urban-ring. The research also analyzed the relationship of the disciplines taught, the time and quality of professional development teachers had, and district urban city relative to their levels of implementation of formative assessment strategies. A concurrent mixed methods design was used to survey high school teachers (N = 137) and students (N = 129) in three school districts. Focus group interviews with volunteer students (n = 23) and teachers (n = 19) provided depth of understanding to the relationship between each group's perception of implementation. The results of a "t" test found significant difference between students and teachers regarding teacher modification of instruction when students are struggling. Correlational analysis results showed a significant positive relationship between teachers' use of feedback strategies and the amount of professional development received on this same topic. Qualitative information validated quantitative data. Recommendations to national, state, and local education institutions included strategies to incorporate formative assessment within a balanced assessment system and substantial and on-going professional development for teachers to support its implementation.

**Susan (2010)** compared the science achievement and high school completion rates of students in a large high school implementing professional learning community concepts. The primary methodology employed was a causal-comparative quantitative study. The data collected included was archived 2008 and 2009 Texas Academic Knowledge and Skills (TAKS) test scores, archived high school completion rate data and survey responses from science teachers, administrators, science instructional facilitators and science department heads. The following conclusions were derived based on the data analysis in this study: (1) Professional learning community concepts and practices identified by DuFour et al. (2006) were being implemented (2) Professional learning

community concepts and practices positively affect science student achievement in large high schools (3) The implementation of professional learning communities does not appear to have an impact on students' Commended performance on the science Texas Assessment of Knowledge and Skills (TAKS). (4) The high school completion rate for "all students" is higher.

**Casale (2011)** investigated a sequential explanatory study of teachers' perceptions of professional development and the extent to which they believe it expands their knowledge and skills and improves student learning and alternate models of professional development. Approximately 1,000 teachers responded to an online survey questionnaire. Teachers also participated in a follow-up focus group discussion. Data from the survey questionnaires were analyzed via descriptive statistics. Teachers perceived that the topic chosen by and facilitated by the teachers were effective. The successful experiences assisted the teachers to apply what they had learned and they had time to meet the resource person to discuss the effectiveness of the program. The results also revealed the extent to which teachers were aware of other models of professional development than the traditional workshops. This awareness according to the teachers would help them to choose the type of professional development programs. The result will help in designing more personalised learning programs for the teachers by the policy makers and district authorities.

**Blake and Eddie (2012)** in the article entitled "Promoting Teacher Development in a Racially/ Ethnically, Socioeconomically, Linguistically and Academically Diverse School: A US Case Study" provided the analysis of a site-based professional development model that is grounded in teacher best practices. The administration and teacher leaders of the school developed a teacher-centred coaching model. The post-program survey of the practice-based approach to the development of teachers enabled the improvement of their instructional methods and assisted in building knowledge that was useful beyond a particular reform program. The analysis also showed that the program was developed through research and involved the best practices where the teachers were empowered to: identify the area of focus for growth; gather information about best practices related to the area of development; facilitate training sessions on the topics of interest identified by the teachers; and engage

all teaching faculty in study as a learning community. Suggestions for improvement based on international standards of best practice for professional development of teacher educators were offered.

## **2.2 Research Studies Conducted in Other Countries on the Professional Development of Teachers**

The studies conducted in other countries related to the present study found eleven in number. The studies presented chronologically as follows:

### **2.2.1 Policies on the Professional Development of Teachers**

**Hardy and Lingard (2008)** draw on Bourdieu's field theory and related concepts of habitus and capitals, to explore policy implementation in relation to a particular case of teacher professional development in Queensland, Australia. The implementation process was described as an effect of the policy field and the field of teachers' work. The policy field demonstrates intra-field tensions between the federal "Quality Teacher Programme" (QTP) and a raft of state policies, particularly those associated with the Queensland meta-policy, "Queensland State Education 2010" (QSE, 2010). The experiences of principals and a group of teachers engaged in professional development in a cluster of six schools in south-east Queensland, Australia were utilised to investigate the effects of this complex policy ensemble. The specific focus is on the "Curriculum Board", a cross-school body created by the principals in the participating schools, and its mediated work in policy implementation and teacher learning. The article analyses the effects of the involvement of the principals in the creation of the board, the limiting impact of QTP requirements to involve consultants rather than support for teacher release, and the limited influence of the board on teacher learning and policy implementation in the individual schools. The findings of the study showed the disjunctions between the logics of practice of the policy field and that of teachers' work, and the ways in which the differing habitus of principals and teachers and teacher members of the board affected teacher learning and policy implementation.

### **2.2.2 Programs on the Professional Development of Teachers**

**Sylvia and Choi (2009)** presented a qualitative study on how teachers entering the profession at different times made sense of their professional lives and

continuing professional development (CPD) experiences against the CPD policy structure and wider educational context in Hong Kong over the last five decades. The life history method was used. The findings of the study showed that teachers' self-directed professional development was driven by a commitment to the moral purposes of teaching. This was characterized by their active agency in professional knowledge construction, and the organizational conditions in schools facilitated by supporting them. The study also revealed that fierce competition among individuals and schools, intensification of work, stress, uncertainty and alienation on the part of teachers evidenced the de-humanizing effects of an increasingly market-oriented approach to school education.

**Ngala and Odebero (2010)** conducted a survey on management of staff development programs in Kenya. 100 teachers from 100 low performing and high performing schools were the sample for the study. A modified Likert Scale type of questionnaire was administered. The study revealed that the most popular staff development programs were taking higher education and training, in-service courses and participating in workshops, seminars and conferences among others. School management skills, evaluation techniques, academic achievement correlates and wider content were learnt in such programs. Teachers in the high performing schools were found to take more interest in staff development programs compared to their colleagues in the low performing schools. The study recommended granting paid study leave and allocating more funds and time to serving teachers to enable them to participate in staff development programs. Equally imperative is retraining of teachers aimed at radical attitudinal change towards staff development activities related to their respective teachers.

**Philpott, Furey and Penny (2010)** explored the need for innovative leadership in teacher education in the Canadian context, in a study on promoting leadership in the On-going Professional Development of Teachers Responding to Globalisation and Induction with a particular call for renewed professional development of current teachers. Contemporary classrooms were evolving at a pace faster than projected within a country defined as multicultural, recent demographic shifts, interregional migration, growing ethnic diversity, and the

emergence of a paradigm of inclusion. Effective training for teachers is the need to bring in an urgent need for leadership among students. This paper recommends that on-going professional development must be characterized by six focus areas in order to empower teachers with pragmatic skills to balance the needs of their diverse classes. The authors conclude that a first step in this process is training for administrators who lead professional development in schools.

**Hammond and Rothman (2011)** in a study entitled “Teacher and School Leader Effectiveness: Lessons Learned from High-Performing Systems” compared the policies in Finland, Ontario, and Singapore. These jurisdictions have attracted a great deal of attention in other countries education policy circles recently, and with good reason. They are among the highest-performing countries in education in international tests of student achievement, and their results are among the most equitable in the world. Finland, Ontario, and Singapore also provide important lessons for discussions of policies to develop teacher and school leader effectiveness. All attribute their educational success in large measure to their efforts to recruit, prepare, develop, and retain a strong educator workforce within a purposeful human capital system. The findings of the study revealed that the right efforts to improve teacher effectiveness can lead to higher and more equitable student achievement. These efforts as revealed in by the study include: (1) a systemic approach; (2) strong recruitment and preparation; (3) attractive teaching conditions; (4) continuous support for learning; and (5) proactive leadership development. The three countries also provide training for principals and teachers for instructional leadership. Ontario has a Principals qualification Program for prospective principals. In Singapore, there is a training program for six month after the selection process. All programs have extensive clinical training. This assists the teachers to professionally develop themselves.

**Mona, Rima and Zeina (2012)** examined the attitudes of the secondary and middle school teachers in a case study at one school regarding the effect of the professional development program on the quality of their teaching practices and motivation. The data was collected through Questionnaires, focus group interviews and observations and data results were triangulated. The findings

show that for the novice teachers professional development program of the school was more beneficial than the experienced teachers. The findings also show that the teachers have proposed modifications for the program. The teachers' perceived that the programs were need based it is more effective.

### **2.2.3 Perception of Teachers on the Professional Development**

**Hinds (2007)** in a Case Study entitled *Teacher Professional Development and Its Impact on the Improvement of Practice in One Ontario Secondary School* focused on teacher professional development in one high school in Ontario, Canada, and explored how teachers perceived their emerging experiences as impacting on their practices. Administrators' perspectives on teacher professional development also were sought. Using a framework of adult learning, self-efficacy, collective efficacy and supervision for renewal, the study addressed questions like how does a sample of high school teachers understand the definition and function of professional development? How does the existing design and implementation of professional development contribute to teachers' respective practices? What goals and aspirations do teachers have for professional development and how might those goals and aspirations contribute to their practices? Are the school board's goals and aspirations for the design and implementation of professional development in conflict with or congruent with the goals and aspirations held by the teachers in the study? Key findings from in-depth interviews, validation surveys and observations revealed that the literacy initiative and mentoring for leadership programs were successful in promoting professional development of teachers. The present institutional teacher professional development programs, however, did not meet teachers' individual learning needs and had little or no sustained impact on their practices. Findings indicated that beginning teachers needed subject content and instructional strategies consistent with their assignments, mentoring, and skills in mapping the curriculum; mid-career teachers needed training on inclusive classrooms, opportunities for collaborative work, and career counselling; and experienced teachers needed challenges for renewal, mentoring in communications technology and student assessment, and opportunities for promotions.

**Yiasemina and Loizos (2008)** in the study investigated the Greek Cypriot teachers' in-service training needs in the context of local demands for educational reform and the drive to reformulate teachers' professional development. Data for the qualitative study were collected through an open-ended questionnaire and through individual and focus-group interviews. The results indicated the teachers' dissatisfaction towards the in-service training program. The teachers indicated that the programs need to focus on pedagogical needs, establishing practicality and active learning, setting multiple resources and maximising participation. Teachers concern reflected a transition from traditional training activities towards reform and lifelong learning policies. The study suggested further research and administrative actions to improve the in-service programs.

**John (2011)** explored the experiences of eight Hong Kong teachers of academic subjects who took a full-time, short-term professional development course in a qualitative study. Course was designed to provide them with specialized knowledge and classroom skills required to teach content subjects through the English medium. In-depth interviews with participants and discourse analysis methods were used to collect data and analysis. The findings showed that the participants believed that the course in terms of their classroom teaching was positive. The participants faced significant challenges in their preferred identity. The course experiences have contributed to the rigid, antigenic identities of the teachers. Suggestions were given to improve the designing of the course.

#### **2.2.4 Evaluation and Impact of Professional Development for teachers**

**Hoque, Alam and Abdullah (2011)** in the study described the teachers' professional development activities in Bangladesh and explored the hypotheses about the relationship between teachers' traditional professional development activities and school improvement. Data was collected through questionnaires from 127 principals and 694 teachers from 127 secondary schools from Bangladesh. Hierarchical multiple regression analysis was used for analysis. The results of the analysis showed significant impacts of some of teachers' professional development activities on school improvement. The findings revealed that if schools put more emphasis on teachers' collaboration, in-service training and classroom observation and less emphasis on individual action

enquiry maximum school improvement can be achieved. The findings of this study provides important information for the policy makers, educational managers and especially for the headmasters and teachers concerned with the improvement of teachers' quality in secondary schools of Bangladesh.

**Opfer and Pedder (2011)** explored three influences on the effectiveness of teacher professional development for improving schools--the individual teacher, the learning activities in which teachers participate and the structures and supports provided by schools for teacher learning in the study, *The Lost Promise of Teacher Professional Development in England*. The data was from documents of survey data collected for a national study of teacher professional development in England. The findings of the analysis indicated that supports for professional learning by teachers in high performing schools display many of the characteristics associated with effective professional learning though the professional development of teachers in England is generally ineffectual and lacks school level systems and supports, the professional development. The findings supported the earlier report of the importance of school capacity in influencing learning and improvement and also revealed the link between school factors and professional learning of individual teachers.

### **2.3 Research Studies conducted in India on Professional development of Teachers**

Reviews of fifteen studies conducted in India for the professional development of teachers related to the present study have been chronologically presented below:

#### **2.3.1 Policies on the Professional Development of Teachers**

**Abraham (2004)** in a study entitled “Conversions, connections and Critical thinking: collaborative Action research with Women Science teachers in Hyderabad, India” studied the implementation of constructivist instructional methods through an Action research. The National Policies on Education in India have recognised the need for professional development. But the science teachers continue to look for innovative methods to improve teaching through professional development. Data were collected through interviews, reflective memos, research journal and documents. The findings of the study revealed that

teacher development depends on teacher background and experience, teachers' views on science education and the school environment. The teachers' views on science education were affected by constructivist's instructional strategies. The teaching was made enjoyable and less burdensome by the constructivists' methods. The study recommended that the teacher education institutes may consider creating collaborative networks between researchers and teachers.

### **2.3.2 Programs for the Professional Development of Teachers**

**Srivatsava (1966)** studied the growth and organization of in-service program in India. The objective of the study was to find the historical development of the in-service program, the activities undertaken by the organisations, the achievement of the program, to find the impact of the program on the teachers and to study some major issues. The sample was the head of selected secondary schools, teachers of the secondary schools, administrators of the Boards of secondary education and extension services. Questionnaires, Opinionnaires, attitude scales and interviews were used as tools. The findings revealed that there is a significant improvement in attitudes with increasing number of activities. The strength of the program depends on the quality of the institutes and the staff.

**Theresa (1983)** carried a study titled "A critical study of personal development programs" stated that education and training are necessary for the developing personnel, competency but different in purpose. Training programs should be planned and started as one form of preparation to help the teachers' personal and professional developments. Successful program evaluation was not done.

### **2.3.3 Perception of Teachers on the Professional Development**

**Pacholi (1997)** emphasized that teachers' effectiveness; area and experience are predictors of teacher's attitude towards the profession. In-service training should be organized regularly to promote the effectiveness level and professional attitude of teachers.

**Mathur (2000)** in her study Identification of Training Needs of Higher Secondary Biology teachers of Baroda city for their professional development stated that the Biology teachers need professional development programs. The objective was to study the various tasks performed by the Biology teachers of

higher secondary schools and to identify the training needs for the professional development of higher secondary school biology teachers. The findings revealed that they had no time to enhance themselves as they have been given other subjects to teach. The teachers were in favour of professional development programs to enrich in content knowledge. The training programs are drafted on papers and not implemented; the training needs of the biology teachers were not identified and content up gradation was not there in the few training programs which were conducted by the district Education Office

**Meera (2009)** studied the Professional Development Programs for Secondary and Senior Secondary school teachers in Baroda City. The objective was to study the different PD programs organized by schools, the area of context, content and process, the issues and challenges and the perceptions of teachers and principals. Qualitative survey method was used. A total of 4 English medium schools, two from CBSE and two from the GHSSEB, the teachers and the principals of each school comprised the sample of the study. The data was collected through interviews and questionnaires. The findings revealed that the programs were not need based, content based, and mostly based on psychology. The state board teachers and principals opined that the programs conducted by the district education office lacked proper resource persons, facilities and it was a ritual to attend the programs. The study also found that teachers were interested in a school based professional development program. The experienced teachers needed refresher courses in content knowledge and pedagogy.

#### **2.3.4 Evaluation and Impact of Professional Development for teachers**

**Mama (1980)** studied the impact of in-service education on teachers in the state of Maharashtra. The main objective of the study were (i) to find out the number, media and the kind of programs in Maharashtra; (ii) to examine the concept of in-service education; (iii) to find out the opinion of teachers on in-service programs, (iv) to examine the facilities offered to teachers to attend in-service education programs and (v) to find out the nature of attendance at the in-service programs. The survey method was used for the study. The tools used for data collection were questionnaires for principals and teachers of secondary schools and principals of colleges of teacher education and an interview for the experts

in education and principals and teachers of secondary schools. The findings of the study were that the colleges of education conducted a variety of programs, most of which dealt with subject matter, planning of tests, evaluation, audio visual aids. Little importance was attached to in-service education. No efforts were made to involve the teachers in planning, evaluation and follow up of in-service programs. The school teachers had to access to college libraries except while participating. Adequate communication did not exist between the colleges of education and the secondary schools. The concept of in-service program was not clear to the teachers. The in-service programs were conducted as weekend courses.

**SCERT (A.P) (1980)** evaluated the in-service training programs run by the science teaching centers with respect to their academic and administrative aspects. The findings were that many activities and projects undertaken during the programs made the participants enthusiastic to undertake such projects in their schools also. Many of the concepts and demonstrations in Biology were conducted in an impressive manner.

**Jangaira (1981)** tried to find the effectiveness of training in teaching skills through micro teaching and stated that in-service training brought about overall improvement in teaching skills (viz. reinforcement, illustrations, pupil participation). The study followed a pre-test-post-test single group design. Eight week observations of the selected teachers were conducted. The Baroda General Teaching Competence Scale and skill competence Scales were used to measure general teaching competences and skill competencies of the teachers. The findings showed significant gain in the mean scores on the competence to use the five teaching skills (reinforcement, probing stimulus variation, illustrating with example). There was change in the teaching competence of the teachers after the program.

**SCERT (A.P) (1982)** enquired the relevance of the in-service training program and found that more than 60% of the participant felt that the course was good and acquainted teachers with new development in science. It was theoretically relevant but most of the teaching activities were not applicable in classroom and problems of science teaching were not considered.

**Bailkeri (1983)** studied the Effect of Self-Instructional Remedial Microteaching Course on the Instructional Competence of In-service Secondary School Mathematics Teachers. The objectives of the study were (i) to prepare a mathematics instructional competence scale, (ii) to diagnose the weak instructional skills of in-service mathematics teachers (iii) to prepare remedial self-instructional microteaching course (RSIMC) materials to strengthen the weak skills, (iv) to provide in-service training to the teachers through RSIMC, (v) to evaluate the effectiveness of the RSIMC in improving mathematics instructional competence, and (vi) to study the reactions of participant teachers to the SIMC. Fourteen teachers who were found to be weak in the skills of asking probing questions and of concretizing abstract ideas with examples participated in the experiment. The Dharwad Mathematics rating scale was used. A rating scale was also prepared with a view to collecting reactions of participant teachers to the SIMC. The effectiveness of the course was tested by comparing pre-treatment scores with immediate post-treatment scores and immediate post-treatment scores with delayed post-treatment scores using t-test. The findings of the study were: 1. The remedial SIMC was effective in improving mathematics general instructional competence of in-service teachers of secondary schools in terms of the six instructional skills taken together and each skill independently, excepting the skill of using black-board. 2. In-service teachers sustained mathematics general instructional competence in terms of the six skills taken together and each skill independently (excepting skill of using black-board) strengthened by RSIMC even two months after training. 3. Participant teachers held a favorable attitude towards the SIMC.

**Butala (1987)** studied the in-service educational programs conducted by secondary teachers training colleges of Gujarat and emphasized on the needs to be identified before conducting a training program. The objectives of the study were (i) to study the existing position of in-service educational programs in secondary teacher training colleges, (ii) to study the usefulness of the program and to study the in-service programs according to the assessments of the participants, resource personnel and coordinators. Stratified inferential sampling was used and questionnaires and interviews were used as tools. The major findings were very few colleges conducted in-service programs. Majority of the

teachers were not covered under any in-service program. Only lectures, seminar and workshop were the mode of in-service. The teachers preferred programs in the working days. They also preferred summer vacation. Attendance certificate was considered a proper incentive. The in-service programs were not evaluated systematically.

**Shahi (1989)** critically studied the school based professional activities for teachers and found that a number of activities are taking place but 70% of teachers do not like to plan lessons, 70% felt the need of demonstration lessons, teachers were duped to attend seminars on the basis of seniority and not needs, problems related to reference books etc.

**Bhadresh (1992)** conducted a study titled “A study of the In-Service education programs for the secondary school teachers and principals organised by the extension service centre, faculty of education and psychology, Maharaja Sayajjirao university of Baroda.” The objectives of the study was to know the history and development of in-service education in Gujarat state; to survey and review the programs organised for the professional education of secondary school teachers by the extension center and to study the perceptions of the teachers regarding the programs. The findings show that the extension centers should reorganize and concentrate on the programs. There is a need for feedback system and that the extension centres should not be closed.

**Tyagi (2010)** in the study entitled “School-Based Instructional Supervision and the Effective Professional Development of Teachers” conducted a comparative study from the selected government, private-aided and private senior secondary schools in India to consider how academic supervision and support by educational authorities help improve the teaching-learning process and the professional development of teachers in government and private-aided senior secondary schools. The study also examined how heads of government and private-aided institutions feel about placing emphasis on providing instructional supervision for teachers. They and their staff obtain little or no feedback or academic support from educational authorities in this field. It also investigated how heads improve the teaching-learning process and provide effective professional development of teachers at school level. The paper argues for the provision of effective school-based instructional supervision and support for the

professional development of teachers by heads. It concludes by recommending various measures for strengthening the efforts of the heads of government and private-aided institutions, given the lack of academic support from educational authorities.

## **2.4 Summary of the Review of Related Literature**

The researcher has reviewed a total of 85 research studies. This comprises of 59 studies from USA, 11 studies from other countries and 15 studies from the Indian context. A summary of the reviewed literature on professional development of teachers is categorised and presented under the following sub headings: studies on policies (9), programs (22), perception of teachers and principals (16), impact of the programs (31) and evaluation (7) of the programs.

### **2.4.1 Policies for the Professional Development of Teachers**

There are nine studies (USA -7, other countries – 1, India – 1) related to the policies for professional development of teachers. Little (1989) focused on the policies and practices of professional development. The study found that professional development programs of the school were disassociated from the guiding policies of the school districts and were not an integral part of the school vision. Grossman, Tabitha, Hirsch and Eric (2009) found the state policies focused exclusively on the time required and the types of opportunities that can be used for renewal of licensure but the quality and the relevance of the professional development was not regulated by states. Frank and Valerie (2010) studied the policies that support professional development in six states. The study revealed that professional development was enhanced in these states through state policies. Sylvia (1995) found that the school districts police helped in the improvement of incentives to teachers. Allison Ashley, and Christa (2007) analysed teacher certification policy and how it is meeting the needs of beginning teachers and found that a gap between the policies for certification and the implementation of the policy. The study suggested that policies for certification need modifications. Desimone, Laura, Smith, Thomas, Phillips, and Kristie (2007) attempted to find whether the participation in professional development is influenced by policies. The study revealed that stabilizing the existing policies gives teachers opportunities to participate.

Hardy and Lingard (2008) found that there is disjunction between policies and implementation of policies in Queensland, Australia.

#### **2.4.2 Programs for the Professional Development of Teachers**

There are twenty one studies (USA – 9, other countries – 7, and India – 5) related to the programs conducted for the professional development of teachers. Desimone, Porter, Garet, Yoon, and Birman (2002), found that the quality of the professional development programs does not depend on the duration, or time span of the professional development activity but professional development depends when the programs were focused on a specific teaching practice (pedagogy) and teacher collaborations. Frank (2003) found that the awareness of their students' cultures and culturally responsive practices in the classroom increased after the teachers attended culturally responsive the professional development program and implemented it in the classroom. Teachers' motivation to attend different professional development workshop was mainly influenced by the need to improve content knowledge and skills, and requirements associated with educational policies Duygu (2006). The study conducted by Ngala and Odebero (2010) revealed that the most popular staff development programs were taking higher education and training, in-service courses and participating in workshops, seminars and conferences among others. Sylvia and Choi's (2009) showed that teachers' self-directed professional development was driven by a commitment to the moral purposes of teaching. This was characterized by their active agency in professional programs conducted by the school districts were intent and focused. The districts encouraged teacher collaboration. The study provided positive example of how teacher collaboration centred on student learning as professional development has the potential to improve teachers' instruction and increase student learning. The result of Gwin's (2008) study indicated that the implementation of job embedded PLTs positively impacted teacher attitude and professional knowledge construction. Hall (2007) found that the professional development development increased the dialogue and collaboration among the teachers within the PLTs. Mario (2008) found that the professional development program reinforced the skills in establishing classroom rituals and routines, creating better performance assessments. Nonyelum's (2010) findings showed

that the design of professional development can foster a teacher learning community of reflective practice that promotes instructional change in inquiry-based science. Teague (2010) indicated that school professional development was effective and the teachers were aware of the NSDC standards. Philpott, Furey and Penny (2010) in their research paper recommended that on-going professional development must be characterized by six focus areas in order to empower teachers with pragmatic skills to balance the needs of their diverse classes. A study conducted by Hammond and Rothman (2011) on three countries revealed that the right efforts to improve teacher effectiveness can lead to higher and more equitable student achievement. These efforts as revealed in by the study include: (1) a systemic approach; (2) strong recruitment and preparation; (3) attractive teaching conditions; (4) continuous support for learning; and (5) proactive leadership development. Srivatsava (1966) found that the strength of the training programs for teachers depends on the quality of the training and the staff of the extension centre. The study revealed that there was a significant improvement in the attitudes of the teachers with the increasing number of programs attended. Theresa (1983) found that training programs should be planned and started as one form of professional development for teachers.

#### **2.4.3 Perception of Teachers on the Professional Development**

There are seventeen studies (USA -11, other countries -3, India -3) related to the perceptions of teachers on the professional development programs. Bischoff (2004) found that the teachers perceived that the professional development programs need to be effectively planned, implemented, and evaluated. Yiasemina and Loizos (2008) found the teachers' dissatisfaction towards the in-service training program. The teachers indicated that the programs need to focus on pedagogical needs, establishing practicality and active learning, setting multiple resources and maximising participation. Teachers concern reflected a transition from traditional training activities towards reform and lifelong learning policies. Sorensen (2007) indicated that the teachers perceived the training increased the use of the WEdGate in the classroom. The study also revealed that effective implementation process of the professional development programs has greater impact. Sefrit (2008) found that the majority of beginning

teachers perceived the formal mentoring and professional development program was "very beneficial" to their individual growth as a teacher; the mentor made a significant difference in the success of the beginning teacher's first year teaching. Spicer (2008) found that the Novice teachers experienced the professional development to be high quality than the experienced teachers. Hinds (2007) found that beginning teachers needed subject content and instructional strategies consistent with their assignments, mentoring, and skills in mapping the curriculum; mid-career teachers needed training on inclusive classrooms, opportunities for collaborative work, and career counselling; and experienced teachers needed challenges for renewal, mentoring in communications technology and student assessment, and opportunities for promotions. Floyd's (2009) study showed that the teachers value the professional development opportunities that were attended by them. The teachers attended workshops to improve their teaching skills, students' achievement and to advance their career and maintain certification. Jennifer (2009) found that the professional development programs were most effective when embedded in the school day and closely aligned with district goals and teacher needs. Suski (2009) found that the administrators of School District of Pennsylvania perceived that the Program Planning, Program Design, Program Vision and Goals were found to be the strongest aspect of districts' professional development programs. Program Resources was determined to be the weakest area. Elliott's (2010) study showed that professional development holds promise for support to a collaborative culture which uses data to guide decisions. Professional development within many schools, districts has become more closely linked to school or district achievement goals. John (2011) found that the teachers believed that the course in terms of their classroom teaching was positive. The course experiences have not changed the rigid, antigenic identities of the teachers. Mathur's (2000) study revealed that the teachers had no time to enhance themselves as they have been given other subjects to teach. The teachers were in favour of professional development programs to enrich in content knowledge. The training programs are drafted on papers and not implemented; the training needs of the biology teachers were not identified and content up gradation was not there in the few training programs which were

conducted by the district Education Office. Meera (2009) found that the programs were not need based, content based, and mostly based on psychology. The state board teachers and principals opined that the programs conducted by the district education office lacked proper resource persons and facilities. The study also found that teachers were interested in a school based professional development program. The experienced teachers needed refresher courses in content knowledge and pedagogy.

#### **2.4.4 Impact/Effect of Professional Development for teachers**

There are thirty two studies (USA -23; other countries -3; India -6) related to the impact/effect of professional development programs for teachers. Wenglinksy (2000), Pradere (2007) and Rosemary (2010) found that students whose teachers majored or minored in in a particular subject education and who reported participating in professional development programs scored better in the respective subjects and demonstrated higher performance levels. Studies revealed that professional development program increased teachers' assessment literacy skills (Mazzie, 2008) and change in the teaching competence of the teachers after participating in the programs (Jangaira, 1981). However, the results of studies indicated that professional development had no significant impact on student achievement (Mazzie 2008; Lisa, 2009; Leslet, 2010). Steinbeck's (2008) study implied that the STARR program had a profound impact on their professional skills and confidence. The STARR program opened doors to new careers and leadership opportunities. From the studies it was found that the individual teachers' needs are different (Howland, 2009) and the teachers knowledge retention levels varies (LaBombard 2009). Chrystalla (2004) indicated participation in professional development fostered increased technological knowledge and awareness, sustained use of technology integration into classroom instruction. Judith (2005) found that Participation in a professional development program focused on the teachers' pedagogical knowledge and helped to teach inquiry based lessons for their students. The participant teachers experienced change after the program as neither the graduate programs nor the teacher education programs prepared them to teach integrated science. Brutsman's (2006) study revealed that the participation of teachers in professional development not only impacted implementation

practices but also teachers tend to emulate these practices with students. Kelly (2006) found that professional development made significant changes in the knowledge, skills, practices, and attitudes of teachers with the ultimate goal of improving student learning. Marie's (2006) study indicated that when teachers participated in a PDP in reading, they changed their instructional practices and understanding of teaching reading and students were more enthusiastic about reading and positive endorsement for certain aspects of the PDP. Roman (2007) found that the PD Program improved the participants understanding of concepts, content, and processes. Participants were greatly benefited from the field-based learning environment, inquiry-based teaching approaches model. Daniel's (2008) study indicated that the school district is supporting both professional growth of the teachers and also the teaching-learning of students in the classroom. The professional development opportunities were offered throughout the year to improve the teaching skills. The mentor programs were effective which enhanced content-based conversations and skill development within the classroom. Miller (2009) indicated the use of teacher developed professional development programs were successful. Cynthia's (2010) study. Professional development that included independent exploration, collaborative time with peers and on-site coaching enables teachers to utilize technology for lessons and classroom management and also facilitated their students in using technology tools. Kano (2010) found that one step approach to professional development is not enough to cater to the individual teacher's requirements. Ralph (2010) found that the professional development's emphasis on collaboration, peer-observed enactments, guided reflection, and the establishment of a community of learners helped teachers to re-examine their pedagogical theories and develop more inquiry-based beliefs. Hoque, Alam and Abdullah (2011) revealed in the study that if schools put more emphasis on teachers' collaboration, in-service training and classroom observation and less emphasis on individual action enquiry maximum school improvement can be achieved. Opfer and Pedder (2011) found that supported the earlier report of the importance of school capacity in influencing learning and improvement and also revealed the link between school factors and professional learning of individual teachers. Mama (1980) The findings of the study were that the colleges of education conducted a variety of

programs, most of which dealt with subject matter, planning of tests, evaluation, audio visual aids. No efforts were made to involve the teachers in planning, evaluation and follow up of in-service programs. Bailkeri (1983) The findings of the study were: The remedial SIMC was effective in improving mathematics general instructional competence of in-service teachers of secondary schools in terms of the six instructional skills taken together and each skill independently Tyagi (2010). It also investigated how heads improve the teaching-learning process and provide effective professional development of teachers at school level. SCERT (A.P) (1982) enquired the relevance of the in-service training program and found that more than 60% of the participant felt that the course was good and acquainted teachers with new development in science. It was theoretically relevant but most of the teaching activities were not applicable in classroom and problems of science teaching were not considered.

#### **2.4.5 Evaluation of the Professional Development Programs**

On evaluation of the professional development programs ten studies (USA-6, India -6) reviewed. Furman (2005) found that both traditional and reformed type of professional development can enhance the knowledge and skills and change in teaching practices when the design of professional development activity focused on content and duration and also allowed time for feedback opportunities. Meade's (2006) evaluated the professional development program and indicated significant congruence between the perceptions of the respondents. The teachers and administrators perceived their professional development experiences as effective and aligned with NSDC staff development standards. Murphy (2008) found that high-quality professional development is an important component for teacher growth and student achievement. There were no statistical differences in ACT rates and graduation rates between Commissioner's Award school districts and comparison schools. The results also indicated gains in AYP subgroup achievement rates of Commissioner's Award school districts. Kathy's (2008) study revealed that the advancing schools demonstrated significantly higher use of professional development standards for evaluation than static schools. Student learning was the least used of all evaluation methodologies in the school districts although Pennsylvania Act 48

regulations mandate all staff development programs be evaluated based on student learning.

Viggiano (2009) found that technology based (ePortfolio) teaching was very effective with but ePortfolio was not used as an assessment tool either to inform instruction or increase student achievement, It is a good way to support the students in assessment. Casale (2011) examined to what extent teachers were aware of other models of professional development than the traditional workshops. The awareness of the teachers helped the teachers' to choose the type of professional development programs. Blake and Eddie (2012) found that the program was developed through research and involved the best practices where the teachers were empowered to: identify the area of focus for growth; gather information about best practices related to the area of development; facilitate training sessions on the topics of interest identified by the teachers. SCERT (A.P) (1980) evaluated the in-service training programs run by the science teaching centres with respect to their academic and administrative aspects. The study found that the activities and projects undertaken during the programs made the participants enthusiastic to implement such projects in their schools also. Many of the concepts and demonstrations in Biology were conducted in an impressive manner. Butala (1987) found that very few colleges conducted in-service programs. Majority of the teachers were not covered under any in-service program. Only lectures, seminar and workshop were the mode of in-service. The teachers preferred programs in the working days. They also preferred summer vacation. Attendance certificate was considered a proper incentive. The in-service programs were not evaluated systematically. Studies also revealed that there were no feedback systems (Bhadresh, 1992). Shahi (1989) evaluated school based professional activities for teachers and found that a number of activities were taking place but it was need based.

## **2.5 Implications of the Review of the Literature for the Present Study**

Professional development has been identified as an integrated part of educational reforms (Gusky, 2000; Hawley and Valli, 1999; Lewis, Parsad, Carey, Barfai, Farris and Smerdon, 1999). Professional development is the key to keeping teachers abreast of current issues in education, helping them to implement innovations, refine their practices and broaden themselves both as

educators and individuals (Darling-Hammond 1990). New type of expertise are required of teachers in order for them to keep abreast of the emerging knowledge base and be prepared to use it to continually refine their conceptual and craft skill.

From the review of literature it was found that professional development programs are important for teachers to enhance their teaching competencies. Studies also revealed that the effectiveness of the programs is largely depending on the expertise of the resource persons and the relevant design based on the needs of the teachers (Desimone, Porter, Garet, Yoon, and Birman, 2002; Nonyelum, 2010; Srivatsava, 1966 ). The state policies focused exclusively on the time required and the types of opportunities that can be used for renewal of licensure but the quality and the relevance of the professional development was not regulated by states (Grossman, Tabitha, Hirsch and Eric , 2009). The study revealed how the policies are meeting the needs of beginning teachers and found that a gap between the policies for certification and the implementation exists (Allison Ashley, and Christa, 2007).

The novice teachers experienced the professional development to be high quality than the experienced teachers (Spicer, 2008; Sefrit, 2008). From the review it was found that the professional development programs need to be effectively planned, implemented, and evaluated. Teachers found the programs to be ineffective (Yiasemina and Loizos, 2008; Meera, 2009).

From the review of literature it was found that the right efforts to improve teacher effectiveness can lead to higher and more equitable student achievement (Hammond and Rothman, 2011; Wenglinksy, 2000; Pradere, 2007; Rosemary,2010) . Teacher developed professional development programs which included independent exploration, collaborative time with peers and on-site coaching enables teachers to utilize technology for lessons and classroom management were very successful and also facilitated the students in using technology tools (Miller,2009; Cynthia, 2010; . Hoque, Alam and Abdullah, 2011). The studies also revealed that effective evaluation and feed-back systems are essential for professional development programs to be effective (Murphy, 2008; Furman, 2005).

Reviewing the methodologies, tools and techniques employed by various studies, the researcher could gather insight for the present study. Studies on policies were all qualitative studies which used, questionnaires for teachers, interviews with district authorities and document analysis (Sylvia, 2005; Kyle,2006; Grossman, Tabitha, Hirsch and Eric, 2009). There were 2 case studies conducted on programs (Frank, 2003; Hall, 2007). A few quantitative studies were conducted (Duygu, 2006; Spicer, 2008; Robinson, 2009, Suski, 2009). Surveys were conducted and the data was analysed by mixed methodology (Sefrit, 2008; Teague, 2010). There were 32 studies conducted on the impact of the professional development programs. There were five studies which used mixed methodology (Steinback, 2008; Rosemary,2010; Meade,2006;Pradere,2007; Kelly,2006). Quantitative studies were seven in number (Murphy, 2008; Miller, 2009), the rest of the studies were qualitative which were descriptive studies and case studies(Ralph, 2010; Kelley,2009; Susan,2010). Most of the studies triangulated the data received from the interviews, questionnaires and the observations to find the impact of the program. The researcher could get insight into the methodologies and formulate the methodology for the present study.

## **2.6 Conclusion**

The researcher have not come across any study pertaining to the specific policies related to professional development of teachers in India. Further, most of the studies conducted in this area in India are data based and interpreted quantitatively rather than qualitatively. The studies that were reviewed, especially studies in USA, it was found that most of the studies were conducted on the evaluation of the programs in terms of content, logistics, methodology and impact of specific programs and were qualitative in nature. Very few international comparative educational studies are conducted in India and therefore, the researcher strongly feels that the present study is extremely relevant in this context to study the policies and programs of professional development of USA and draw some implications to India.

Chapter III deals with the plan and procedure of the study, the various tools and technique used to collect the data and the methodology used to analyse the data obtained.