

# Constructivist Approach in Teacher Professional Development: An Overview

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**Abstract** In recent years, much has been written about constructivist learning theories and their applications to outcomes-based teaching and learning environments in India. Little, if any, has been said about the implications of these ideas and practices for teacher professional development and teacher education. Despite creation of National Council for Teacher Education in 1993 and National Curriculum Framework for Teacher Education in 2009, teacher education programme continues to train teacher-trainee as transmitter of information and knowledge than partner in, moderator of, and facilitator of, learning. Mode of preparing him / her to play the role as key agent of social change is always questionable. The introduction of the National Curriculum Framework for Teacher Education (NCFTE) requires teachers to acquire new skills, knowledge, attitudes and values and to employ a wide variety of teaching strategies, in order to enable students to construct their own knowledge. The purpose of this desktop review is to rethink teacher professional development within a constructivist framework. In this article, we argue that teacher professional development can fit the context and, more specifically, in outcomes-based settings, as well as proposed a move away from a mechanistic world-view (modernist and behaviourist approach) to a holistic world-view (constructivist and situational or contextual approach) of teacher professional development.

**Keywords:** *constructivist approach, Professional development, and societal needs*

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## 1. Introduction

In recent years, an array of research has been conducted on the subject of teacher professional development. It plays an important role in changing teachers' teaching methods and assisting teachers to move beyond a comprehension of the surface features of a new idea and innovation, to a deeper understanding of a topic. Professional development provides teachers with opportunities to explore new roles, develop new instructional techniques, refine their practice and broaden themselves, both as educators and as individuals [1]. For Zakaria and Daud, good teachers constitute the foundation of good schools and improving teachers' skills and knowledge is one of the most important investments of time and money that local, state and national leaders can make in education. In the traditional and the scientific paradigm of teacher professional development, teachers are often perceived as bureaucrats, implementing a carefully specified curriculum and instructional procedures to produce standard products, referred to as students. This paradigm is compatible with the behaviouristic view of learning, in which both curriculum and instruction are broken down into small, sequential steps dictated by the teacher [2]. The introduction of the National Curriculum Framework for Teacher Education (NCFTE) embodies a significant number of challenges.

Among others, it requires the acquisition of new skills, knowledge, attitudes and values; and it requires teachers to employ a wide variety of teaching strategies, in order to enable students to construct their own knowledge. The purpose of this desktop review is to rethink teacher Professional development within a constructivist framework. Hence, teacher professional development should shift from a behaviouristic towards constructivist approach.

In this article we argue that teacher professional development programs should be underpinned and guided by principles that are compatible with the emerging paradigm. Drawing from critical pedagogy and social constructivism, this article is organized into four sections. The first section investigates emerging trends and challenges in teacher professional development. The second section explores characteristic features of the constructivist professional development. The third section reports on the models of professional development that is consistent with the emerging paradigm. The final section proposes a shift towards a constructivist professional development approach.

## 2. Teacher Professional Development and Constructivism

Emerging new trends and challenges in teacher professional development: There is a considerable volume of research on the emerging trends in teacher professional development. Since the education systems have sought to respond to rapidly evolving societal needs. In this process, the teaching profession, as a key mediating agency between society and the young generation, has come under considerable pressure; and teacher training, which is a key area of policy intervention, has been in a state of flux worldwide [3]. Such rethinking came in response to new expectations from the macro level, the school and the profession. Delannoy [3] notes that the trends varied in nature and intensity from one region to the next and they impacted on education systems that were vastly different in the first place. Some poised to reinvent education, while others were still struggling with the basics of access; some were coming from a centralized tradition and others from a decentralized tradition. Experience around the world in developing, industrialized and information-based countries suggests that professional development is the key determining factor towards improved student performance [2]. In this article, professional development is considered to be a critical component in the implementation of the NCFTE. Effective professional development experiences are designed to assist teachers in developing a new understanding of teaching and learning [2]. To be effective, professional development must provide teachers with a way to apply that which they have learnt directly to their teaching [2].

### 3. Research Point of View

The research found that teachers were more likely to change their instructional practices and gain greater subject knowledge and improved teaching skills when their professional development was directly linked to their daily experiences, as well as aligned with standards and assessments [4]. Current research [5] into the effective professional development of teachers indicates that this is nothing new but, in recent years, the way in which it has been structured and delivered, has been reconceptualised. Charner-Laird [6] notes that many scholars still assert the need for new approaches to professional learning that are responsive to the needs of both schools and teachers. Such approaches may take various forms, such as for example, cognitive coaching. The idea of cognitive coaching is based on the idea of the construction of knowledge rather than the transfer of knowledge. Adult learning principles give major support to cognitive coaching and predict its success. These approaches to curriculum development and teacher professional development had repeatedly proven to be ineffective. Kriek and Grayson [5] highlight the fact that traditional “one-shot” approaches to professional development are inadequate and inappropriate in the context of current educational reform efforts.

In addition, they are also out of step with current research into teacher learning. These studies also indicated that the professional development of teachers is “intellectually superficial, disconnected from deep issues of curriculum and learning, fragmented and non-cumulative”. Although it is widely acknowledged that changes are needed, only limited information is available about the factors that contribute to effective professional

development in mathematics and science, as are examples of programmes that result in effective practices [5]. Professional development is not a static concept. It is a social construct and fluid in nature. Today, professional development also includes providing occasions for teachers to reflect critically on their practices and to fashion new knowledge and beliefs about content, pedagogy and learners [7].

In the emerging paradigm, constructivist professional development adopts a bottom-up approach. Darling-Hammond and McLaughlin [7] assert that, starting with pre-service education and continuing it throughout a teacher's career, teacher development must focus on deepening teachers' understanding of the processes of teaching and learning, as well as of the students they teach. In addition, effective professional development involves teachers both as learners and as teachers and allows them to struggle with the uncertainties that accompany each role. It furthermore displays a number of characteristics:

- It must engage teachers in concrete tasks of teaching, assessment, observation and reflection, which will illuminate the processes of learning and development
- It must be grounded in inquiry, reflection and experimentation that are participant-driven
- It must be collaborative, involving a sharing of knowledge among educators and a focus on teachers' communities of practice, rather than on individual teachers
- It must be connected to and derived from teachers' work with their students
- It must be sustained, on-going, intensive and supported by modelling, coaching and the collective solving of specific problems pertaining to practice
- It must be connected to other aspects of school change [7].

In the light of the above, professional development is a lifelong learning activity. Given the speed of societal change and knowledge accumulation, policymakers and practitioners have come to realize that there is no way that even a good initial education program could equip a teacher with all the knowledge, skills and values required for a teaching career [3]. This is especially the case when one considers that teachers develop different needs as their careers advance from survival to instructional skills at basic, mature and expert levels.

This has resulted in a shift away from a fragmented vision of discrete “pre” and “in” service training to one of teacher development as a continuum along “the three Is,” namely teacher “initial education,” “induction” (structured support upon entry into the profession) and “in-service continuous professional development” [3]. In addition, this continuum is characterized by interaction between inductees and experienced mentors, as well as by feedback on in-service to initial education programs. Characteristic features of constructivist professional development: In the scientific paradigm, teacher professional development activities have adopted a positivist approach. At a philosophical level, among others, teacher professional development is influenced and guided by traditional or positivist principles; and behaviourist and objectivist traditions. It is also underpinned by the idea of cascading that was widely used and which is based on the idea of the transfer of knowledge rather than the construction of knowledge.

Therefore, it flows from the theoretical frameworks of a mechanistic world view (bureaucracy, Taylorism, Fordism, behaviourism, objectivity, process-based, linear, compartmentalised and step-by-step-a clock metaphor). In practice, the activities are largely dominated and characterised by a top-down approach. Within an organisational perspective, it could be inferred that traditional teacher professional development is hierarchical, with all the power centralised in the policymakers or bureaucrats as the carriers of the knowledge that needs to be transferred to teachers; and as the initiators, organisers and managers of the learning that must take place, while teachers are the recipients of knowledge to be absorbed.

In contrast, the holistic world-view operates in a reverse direction. Professional development is a situational variable. With reference to its characteristic features and the view of knowledge, constructivist professional development appears to be compatible with the beliefs and assumptions of the emerging worldview. Therefore, constructivist professional development can be typified as fitting through the lens of the emergent paradigm. The concept of professional development is guided and influenced by the contingency viewpoint and it rejects the notion that a particular viewpoint constitutes a “one-size-fits-all” approach. Given that reality is seen to be created via processes of social exchange and is historically situated, social constructivists are interested in the collective generation of meaning among people. Therefore, the characteristic feature with a view to knowledge is relational, tentative and largely perceptual.

Teacher education and professional development involve life-long growth and continuous learning. They are needed to consolidate learning but are also required for keeping motivation alive and for adapting to changes. While talking of the needs of and expectations from the teachers we should not ignore the teacher educators. The same, if not higher, level of professionalism is demanded from teacher educators. At the same time, it should not be forgotten that teacher educators too need resources and avenues for their professional development if they are to remain motivated and up to date with the innovations in the field.

#### **4. Professional Development of School Teachers**

School teachers in India, especially those teaching the elementary grades, have not often been treated as professionals and do not enjoy the same social status as those in other, financially more lucrative fields. As a result not many aspire to enter the teaching profession. There is a wide-spread perception that teaching as a profession does not pay well even though the teachers’ salaries after the implementation of the Sixth pay commission would be three to four times the average per capita for any State. (TDM, Udaipur, 2009). The high teacher salaries have resulted in people entering the profession with a sense of obtaining a secure, high-paying government job but have not done anything to enhance the social image of the teacher. The expectations from the teacher under NCF 2005 and NCFTE 2009 are high and the implementation of RTE 2009 have increased them further.

Terms such as child friendly classrooms, activity-based learning, continuous comprehensive evaluation, inclusive education etc. are widely used. The ground reality is that more than five years after NCF 2005 was drafted, the teachers are far from even understanding what is expected let alone being ready to implement these suggestions. The state of Andhra Pradesh therefore needs to work out a comprehensive plan of teacher professional development that will help the teacher fulfil the current needs of the children and be ready to face future challenges. Both pre-service and in-service programmes need to be redesigned for this purpose. Teacher education, teacher support, motivation, incentives and teacher accountability are the different aspects of professional development of teachers. Mechanisms and Policy for all three must be designed in an integrated fashion.

The Teacher education institutions can model themselves on universities and IGNOU and should design and conduct various short term courses in which the teachers can join and build their capacities as per their interest. Introductory courses on ICT, ET, Inclusive education, evaluation techniques, Guidance and counselling or subject refresher courses can help in career advancement of teachers. Teacher Support can include many possible forms including discussion forums, libraries, resource centre, activity clubs, access to ICT and networking of various kinds apart from regular trainings and seminars. Many of them can be jointly housed in the teacher education structures. Accountability to fellow teachers and to children as well as their parents and community can help in ensuring continuity of capacity building. The accountability mechanisms have to be transparent, simple, and participative (both in goal setting and goal tracking). Portfolios containing the work of the teachers, trainings and courses attended, activities designed can be used. These mechanisms can only work if the teachers have some autonomy to act and some flexibility to teach the way they want and analyse their own performance through supportive reflection. Unless the system trusts teachers and respects them as professionals their self-image would not grow and nor would their sense of ownership and responsibility grow. It is desirable that the teachers have the opportunity to develop professionally by going in to courses of higher learning as well as roles that are more responsible in terms of expectations, challenges and responsibilities.

Constructivist professional development has the metaphorical descriptive features of a holon. The holon provides the basis for a new principle in the holistic world-view, namely that the whole is always greater than the sum of its parts and, paradoxically, the whole is contained in each part while no whole is complete in itself [8]. Furthermore, wholeness is the primary reality according to the holistic worldview. Within the holistic metaphor, the leader is not simply the manager who is responsible for increased efficiency, productivity and profit, but rather an artist [8]. The leader as an artist is more concerned with insight, symbolism, intuition and stories than with economic performance. For Bremmer (as cited by Black, 1999), the leader is not simply a manager who is responsible for increased efficiency, products and profit, but rather a key artist. The role of the leader as an artist, according to Bremmer (as cited by Black, 1999), is equivalent to that of the conceptual artist who utilises

extensive communication systems in the creation of the work, so that extremely complex signs, symbols, images, text and various forms of media are designed to include the viewer-consumer in sharing or completing, or consuming complex codes of meaning or services. In contrast, in the emerging paradigm, it is characterised by mutual causation with multi-causal factors and explained by deductive, inductive and integrative reasoning. In this school of thought, leadership is situational. Wheatly (as cited by Black, 1999) posits that leadership is always dependent upon the context, but the context is established by relationships. Professional development in the emergent paradigm recognises the ecological connections that exist in the post-modern world. As a process or relationship, it demands a new understanding of power. This power is underpinned by the principle of subsidiary. Handy (as cited by Black, 1999) defines subsidiary as the reverse of empowerment, as the principle whereby the higher order body does not take into account itself as the responsibilities which properly belong to a lower order body. In the scientific paradigm, professional development has its focus on the achievement of organisational goals; and insists on an orientation towards the transformation of consciousness and social change. In contrast, professional development in the emergent paradigm focuses on both social and global transformation [8]. The emergent paradigm sees professional development's ultimate aim/goal as the refinement and the achievement of a human community. Therefore, the view of change/orientation of the future is indeterminate, unpredictable and morphogenetic.

Models of professional development that is consistent with the emerging paradigm: There are multiples of models of teacher professional development. However, this study will draw heavily from Sparks and Loucks-Horsley works [9]. Research [9] indicates that, in the early 1970s, a growing concern about the effectiveness of in-service education resulted in a spate of studies to determine the attitudes of educators about these programmes.

From a policy perspective, education policy, aimed at educational change, only becomes reality once it has been implemented at the micro (classroom) level. Smith [10] notes that teachers are indeed the key role-players in this implementation phase and they are, unfortunately more often than not, the silent voices in this process, ignored and discounted at this stage of educational change [10]. How they experience and understand the policy change, or how the human side of policy change is contextualised, remains a mystery to be explored and explained [10]. Notwithstanding the growing amount of literature on educational change and policy change, relatively little has been done with regard to the experiences of teachers and policy change in the context of developing countries, such as India. Central to this article is the assumption that professional development is a fluid concept and that it should be contextualised. During the past two decades, several approaches moved from a rationalist point of view to a social constructivist perspective by integrating social interaction. Although the outlines of a new paradigm for professional development policy are emerging, the hard work of developing concrete exemplars of the policies and practices that model "top-down support for bottom-up reform" has only just begun [7]. Furthermore, the changed

curriculum and pedagogy of professional development will require new policies that foster new structures and institutional arrangements for teachers' learning. At the same time, there is need to undertake a strategic assessment of existing policies to determine to what degree they are compatible with the vision of learning as constructed by teachers and students, as well as with a vision of professional development as a lifelong, inquiry-based and collegial activity. Darling-Hammond and McLaughlin [7] claim that new approaches are needed for the professional education of teachers and that they require new structures and support systems. New initiatives cannot promote meaningful or long-term change in teachers' practices by themselves, if they are embedded in a policy structure that is at odds with the vision of student and teacher learning that reforms seek to bring alive [7]. In other words, new wine and old wine needs new bottles, or else incentives and support structures for teacher development will be counter-productive or non-existent. Many of the modernist assumptions on which traditional professional development is based, no longer hold water in our present-day world and this has resulted in philosophers questioning modern issues, using a different paradigm. This situation requires that professional development, in a constructivist setting, be approached from a holistic or situational approach perspective. Thus, a new set of principles is apposite. Professional teacher development belongs to the scientific and the emerging world-views. In a modernist framework, the nature of knowledge is universal, objective and fixed (independent of the person with knowledge) and is grounded in the theoretical tradition of behaviourism. At a philosophical level, traditional professional development is, among others, influenced and guided by positivist, objectivistic/modernistic and/or behaviouristic principles. In this tradition, authority is hierarchically transmitted. Furthermore, the patriarchal and hierarchical social pattern is maintained by systems of command and control at all levels of the hierarchy. Most of the studies conducted in the emergent paradigm on professional development have a significant number characteristic features. Among others, these studies largely depart from a basis of qualitative and interpretive frameworks. In addition, these studies emphasise situational variables, while rejecting the notion of a particular viewpoint (e.g., a traditional or behavioural or systems viewpoint) as a one-size-fits-all professional development approach. They are furthermore characterised by holistic and artistic features, discrete units, hierarchical orders, mutual causation with multi-causal factors and explained by deductive, inductive and integrative reasoning. The main findings of the study are that:

- The characteristic features of the traditional professional development are compatible with the scientific paradigm constructivist/holistic professional development is influenced and guided by contingency theories
- Teachers' beliefs are deemed important in professional development
- Teachers' personal practical knowledge exerts a major influence on the way in which teachers respond to educational change

- Successful teacher professional development fits the context
- That the top-down approach to teacher professional development is not compatible with the emerging paradigm.

The emerging paradigm has noteworthy implications for social researchers, teachers, principals and policymakers. There is a need to open a dialogue on the concept of constructivist/holistic professional development, in its broadest sense, for the purpose of acquiring theoretical (philosophical) and practical understanding, influenced and guided by research. For the purposes of effective training and implementing outcomes-based curriculum policy, this article proposes that a future teacher professional development policy and, more specifically, in education management and leadership, policy implementation, curriculum issues, inter-relationships with the organisation and quality assurance, aimed at the Indian education system, should:

- Influenced and guided by contingency theories
- Contextualised and adopting a bottom-up approach
- Consider teachers' beliefs and experiences as the starting point of professional development
- Integrated with district goals and guided by a coherent long-term plan
- Driven by disaggregated data on student outcomes and designed in accordance with teacher-identified needs
- Primarily school-based.

## 5. Concluding Thoughts

Professional development is very essential for teachers as it inculcates curiosity, motivation, and new ways of thinking. It becomes most influential when it is adopted on continuous bases with well-planned trainings. It is recommended that proper planning may be done for professional development trainings. It may be stated by way of conclusion that teacher professional development is of utmost importance in ensuring quality in the

educational programs. This aspect has been a matter of serious concern among world education community over the last two decades or so. It is being given serious attention in India. The emergent paradigm appears to have a significant number of implications for professional development and, more specifically, with regard to skills, such as classroom management and leadership, policy implementation, curriculum issues, inter-relationships with the organisation and quality assurance in outcomes based classrooms, among others. It, inter alia, also calls for a dramatic shift in professional development focus, away from the transmission model of teaching towards one that is much more complex, situational/contextual and interactive.

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