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## **Multidimensional Roles of Teachers: Context and Policy Implication for Secondary Teacher Education in Ethiopia**

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### **Introduction**

This article aims at sharing my experience and observations, existing empirical evidences, and what research says about teacher education in general and secondary teacher education in Ethiopia in particular to the public at large. Accordingly, I present descriptions and discussions about epistemological as well as professional issues pertinent to teachers' role and their education aimed at informing educational planners and decision makers, and leaders of teacher education programs, at both national as well as institutional levels in Ethiopia. Consequently, the article aims at contributing to the existing literature on teacher education by way of informing researchers on the area. I, therefore, hope that the material can potentially help our educational decision makers and traditional academicians who for good reason are ignorant of the importance of teacher education in shaping and contextualizing teachers' role by way of realizing the aspirations of the education and training policy of the country. The materials in this article are organized in such a way that they give readers a comprehensive conceptual understanding about teacher education vis-à-vis the African context in general and the Ethiopian tradition and practice in particular.

### **An Overview of Context and Practice of Teacher Education in Africa**

Secondary education has a direct connection with that of the goals of EFA (Education for All) in that the expansion of primary education demands post-primary education. This in turn implies adequate supply of teacher vis-à-vis to the growing enrollment ratio in secondary education. The expansion of

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secondary education is thus resulting in greater programmatic diversification and flexibility of secondary teacher education as well. Countries are redefining the ways in which secondary education addresses increasingly diverse student interest and societal needs by way of redefining and restructuring their secondary teacher education programs (UNESCO, 2008). To this end, UNESCO has forwarded a logical and realistic vision of teacher education that reads as (UNESCO- 2004):

UNESCO, by 2015, will have intervened in-depth in interested Sub-Saharan countries to bring their teacher-policies, teacher training institutions, and teacher education programs into more direct line with those countries' commitments for achieving all six EFA goals and poverty reduction goals. The result would be policy redirection, improved institutional capacities, improved teacher quality...

Secondary education has increasingly become a central policy concern of developing countries in general and Sub-Saharan countries in particular (Holsinger, 2000). The majority of African countries are grappling with the question of how to either provide skills and knowledge enabling their youths to move to tertiary education or ensure a smooth transition to the world of work for students whose secondary education will be terminal. The attainment of these shared goals of secondary education in Sub-Saharan countries, however, is unthinkable without developing and/or adapting and implementing appropriate, fit for purpose, kind of teacher education program. Accordingly, teacher education in general and secondary teacher education in particular has been one of the priorities of the education sector development in most African countries including Ethiopia. This has been manifested through series of top-down and short-lived reforms. Numbers of unsuccessful and/or short-lived reforms have been adopted by African countries in general and Ethiopian Government in particular aspired at bringing a kind of radical quality improvement on the output of their secondary education. Like most Sub-Saharan countries political system, external influence, and inability of policy implementation are among the

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factors contributed for the unsuccessful and short-lived teacher education reforms in Ethiopia

The quality of teacher education is a function of the organization of the program; recruitment of suitable candidates, the kind of curriculum and training, induction of the graduates to the profession, and opportunity for continuous professional development (Solomon, et al, 2008). The quest for quality has always been there in African countries teacher education systems. Towards that end, reforms have taken place in different African countries, at different times during the last half-century. In Namibia, for instance, the reform 'Mathematics and Science Teachers' Extension Program (MASTEP)' introduced in 2003 to address the problems encountered in teaching and learning science and mathematics in Namibian secondary schools was hardly successful as aspired because of inconvenient and discouraging educational structure and management particularly for newly trained teachers (Kasanda, 2008). The education reform in Guinea that began in 1993 with the external influence (World Bank, IMF, and USAID) for instance, is one of the donor driven reforms in Africa which created a system in which teacher education system is highly centralized at the Ministry level. It also created animosity between teachers and the Ministry. One of the reasons for the observed animosity was that as a result of the influence of donor agencies, the curriculum was so rigid and the implementation strategy was highly centralized and prescriptive to the extent that any alteration or deviation were considered as breach of governments' policy (Rombo, 2008).

Towards producing skilled and motivated teachers some of the reforms adopted in Africa were not successful in terms of getting quality teacher candidates. In Mozambique, for instance, lowering teacher-training admission requirements, procedures and standards to increase the number of recruits was not consistent with the desire to improve teacher quality and student learning outcomes (UNESCO, 2008). On the other hand, shortening initial teacher-training cycle has been the trend in Sub-Saharan countries (Ghana, Guinea, Malawi, Mozambique, Uganda, and Ethiopia) without

thoroughly studying the effect on teacher quality as well as students' learning quality.

The reforms in teacher education in Ethiopia often have involved decisions among other things on; which university or department/institute should house teacher education program (the students, the teachers, the curricula, and the academic administration)? How should the candidates be recruited for education and training? Who should do it? What should be the proportion of the various curricular components: subject or content knowledge, professional or pedagogical knowledge and skills, and the balance and/or integration of the two towards pedagogical content knowledge (PCK)? A good example of such reforms, to mention, is that of Ethiopia's Teacher Education System Overhaul (TESO) which was initiated and implemented by the MoE as a policy of teacher education in Ethiopia since 2003.

TESO which came into existence as a reform program initiated by the MoE in 2003 emphasizes among other things the pedagogical content knowledge (PCK) of teachers and teachers' professional development. TESO essentially advocates, unlike the traditional and disintegrated approach, that a teacher education system should educate teachers in a holistic process that connects ideas and disciplines to each other and to the personal experiences, environments, and communities of students (MoE, 2003). Although the TESO program in Ethiopia has encountered serious implementation problems, its potential importance for the country's future teacher development and for a meaningful role of teachers has been widely accepted among professionals in the education sector. On the other hand, perhaps contrary to the research findings regarding the implementation of the TESO program (CoE, 2008) and/or without adequate empirical evidence, the Federal Ministry of Education, paradoxically, decided to quite the implementation of the reform as of 2008/9 Academic Year.

I believe and argue that the multidimensional role teachers' should and can play in nation building is vital to the current and future development of their country. Accordingly, teacher preparation in African countries in general and

in Ethiopia in particular should provide prospective teachers with the knowledge, skills, attitudes, values and experience that will form a strong foundation for effective teaching, for continuous learning and development throughout their careers, as well as for meaningfully contributing to their nation development. However, a close observation of current trends and practice of teacher education in most Sub-Saharan countries do not seem to have the real potential to realize the aforementioned vision and goals of teacher education (UNESCO, 2007). The rapidity of educational reforms in Africa (for example Ethiopia), mismatch of reforms with the African context (for example Ghana), lack of autonomy of the institutes assuming responsibility to educate and train teachers (virtually in most Sub-Saharan countries), and external influences are among the observable factors affecting teacher education systems in Africa.

Currently, teacher education in Ethiopia seems to be on a cross road. It seems there is a silence but a big debate tending to disagreement on epistemology and principles of teacher education in Ethiopia. To this end, I strongly argue and call for national attention that it is a high time for Ethiopian educational decision makers and planners at all levels to re-examine the overall teacher education system in general and the secondary teacher education program in particular vis-à-vis curricular relevance, implementation modalities in context, recruitment, and teachers professional development before declaring the full termination of the current teacher education policy and practice preparing the country for another experimentation like their predecessor. We should also learn from the experience of several African countries and our own history as well. Such a national agenda (teacher education policy) should not be thought of as a political and/or ideological victory of a group holding a specific type of thinking over the others. I believe also that it is of necessity for Ethiopian government to connect its teacher education programs with the African context in general and its nation development agenda and policies in particular. In so doing, it is of paramount importance for policy decision makers to examine and understand rival perspectives and reform traditions as well as paradigms by way of revisiting their ideologically and politically

laden reform agenda. Context and pedagogical driven instead of standard driven, school-bases instead of university-based, holistic (integrated) approach instead of specialist (content expert) approach should be the governing and deriving framework of our teacher education programs.

### **Reform Traditions in Teacher Education**

Most reforms adapted for teacher education in Ethiopia during the last five decades includes: changes in ways in which prospective teachers are recruited and selected, in the content to be taught, organizational structure, implementation modality and control of pre-service and in-service programs, in the institutional conditions that facilitate or affect the work of teachers and in the structure of the career of teaching. Reforms and improvements of teacher education in Ethiopia should be linked with comprehensive effort to reform the institutional conditions and autonomy within which teacher education programs exist and the institutional conditions of schooling at all levels within which the graduates of teacher education programs are supposed to work. The role of teachers and teacher education programs deserve to be a central concern of educational reforms for a nation where education is believed to be the best tool for its development. As Liston and Zeichner(1991) argued, reform ideas alone cannot bring change unless societal conditions that are necessary to bring about the kind of changes or reforms proposed for teacher education and schooling are created. That is, in order for significant improvements to occur in teacher education and subsequently in our schooling system; we must keep in mind both a democratic conception of schooling and democratic view of society. Liston and Zeichner (1991) analyzed and identified four major traditions of reform regarding teacher education namely: a) the academic tradition, b) the social-efficiency tradition, c) the developmentalist tradition, and d) the social re-constructionist tradition.

**The academic tradition** of teacher education emphasizes teachers' role to be that of scholar and subject matter specialists. The advocates of the academic tradition forcefully argue that the mastery of content or subject

matter is the most important and decisive goal in teacher education programs and accordingly pedagogical and/or professional courses shall not interfere with this goal. Education and/or pedagogical courses are regarded as intellectually superficial. Flexner cited in Liston and Zeichner(1991) long ago, for instance, argued that all the rest what teachers need beyond a strong subject matter knowledge could come just from apprenticeship experience in a school. Following Flexner's strong critique on education courses many others (Lynd, 1950; Bestor, 1953; Conant, 1963) criticized about the inferior intellectual quality of education courses, students, and faculty. They went to the extent of criticizing literature on education as unimportant when compared with subjects discussed by Mathematician, Biologists, Physicists, Economists or Political Scientists and that education courses are considered to be waste of time designed to frighten off intelligence (Liston and Zeichner, 1991). In the 1950s, for instance, there was a big movement towards reducing the number of education courses incorporated in teacher education programs in the USA. Even some individuals who were school board members and directly related with teacher education programs complained about the proliferation of education and/or pedagogical courses. Education faculties were charged by the advocates of the academic tradition for teacher education that they provide too many and too repetitive courses. Besides, these courses were also criticized for their alleged superficiality. And presumably the Academic traditions consider these education courses to be irrelevant to academic teaching (Koerner, 1963).

**The social-efficiency tradition** involved a faith in the power of the scientific study of teaching to provide the basis for building a teacher education curriculum. It emphasizes the acquisition of specific and observable teaching skills that are assumed to be related to student learning. It is Competency Based Teacher Education Program (CBTEP) which is highly behavioristic and producing highly technical teachers. Liston and Zeichner(1991) point out that CBTEP was stimulated partly by application of behaviorist psychology to the training of personnel in industry and the military during the second world war. Social-efficiency based approaches for

teacher education relies on scientific study of teaching as the major source for determining the teacher education curriculum.

**The developmentalist tradition** has its roots in the child study movement and assumes that the natural order of the development of the learner provides the basis for determining what should be taught to students as well as their teachers. The critical idea of this tradition of teacher education was that teachers for progressive schools offering the child-centered education must themselves be educated in the same way of supportive and stimulating environment that they are expected to provide for children. Educating prospective teachers to conduct observations and to learn from and plan activities for children on the basis of the observations are key features in the developmentalist proposal for teacher education reform. Developmentalists emphasize on teacher as naturalist and are guided by the view that a grounded understanding of developmental principles is the best preparation for teaching. According to Temechn's (2004) analysis this tradition has three aspects: a) the teacher-as-naturalist, a movement that stressed the importance of skills in the observation of children's behavior and in building a curriculum and classroom environment consistent with patterns of child development and child interests , b) the teacher-as-artist, a movement in which the teacher/artist has a deep understanding of the psychology of child development, proposed to provide prospective teachers with a variety of experiences in dance, creative dramatic writing, painting, and storytelling so that they would be able to exemplify for their students an inquiring , creative and open-minded attitude , and c) teacher-as-researcher, a movement focuses on fostering the teacher's experiential attitude toward practice.

**The social-reconstructionist tradition** of reform in teacher education defines both schooling and the education of teachers as crucial elements in a movement towards a more just society. Most social-reconstructionists feel that the private economy must be regulated to help ensure full employment, economic opportunity, and adequate incomes for fair standard of living (Stanley, 1985). It emphasize on the role of a teacher as a social agent to indoctrinate their students with socialist and collectivist values to lead to

social improvements. It therefore assumes teachers and teacher educators to play a key role in the reconstruction of the society. By extension, if teachers are to fulfill their role in social reconstruction, teacher education itself would have to be reconstructed. Accordingly, the emphasis in preparation of teachers should be on helping them develop adequate social and educational philosophy and a enthusiasm for the betterment of common civilization. The implication is that the teacher education programs should be community-based where prospective teachers are given opportunity for long practicum and understanding of the social issues of the society. To this end, the social foundation of education serves as a component of this teacher education program. The foundation of education with its focus on the fundamental problems of school, the society, and culture would assist in the development of social and educational philosophy by prospective teachers that would enable them to assume a leadership role in the making of educational policy.

Although I do recognize the inherently political nature of teacher education programs, I believe that it is essential for teacher education programs in Ethiopia to make their contribution to the building of democratic and just society. This definitely will require innovative decisions from policy makers and politicians on one hand and change of attitude and practice on the part of those who educate and prepare teachers on the other hand (teacher education). There must be an on going commitment from all concerned parties, to prepare teachers who are dedicated to the realization of a top-quality education for every children and who recognize the importance and value of the diverse cultures and traditions that make up nations in Ethiopia. Hence, it is a high time for policy makers and politicians to recognize the role and place of teacher education in the struggle for bringing a better society and accordingly examine their policies and practices.

### **Paradigms in Teacher Education**

A paradigm in teacher education as Zeichner (1983) put it can be thought of as a matrix of beliefs and assumptions about the nature and purposes of

schooling, teaching, teachers and their education that gives direction and shape of policy and practice in teacher education. There seem to be at list three paradigms that have dominated the discourse and debate in teacher education namely: behaviouristic teacher education, personalistic teacher education, and inquiry-oriented teacher education (ibid).

**The behaviorstic teacher education paradigm** is founded upon a positivistic epistemology and behavioral psychology. It emphasizes the development of specific and observable skills of teaching that are assumed to be related to students' learning. As per the behaviorstic orientation, the knowledge, skills and competencies to be taught to prospective teachers are those that are believed by positivist teacher educators, to be most relevant to the teaching role as currently defined and are specified in advance. The development of the teacher as a person over and above mastery of teaching skills and content knowledge, and the desire to have teachers critically reflect upon the purposes and consequences of their work in terms of issues like social continuity and change are not a central concern of this perspective. This approach view teaching as applied science and teachers as executor of the laws and principles of effective teaching (Tom, 1980). The content of the curriculum is fully determined in advance by others on the basis of research on teacher effectiveness. The prospective teacher is considered to simply receive all the professional as well as academic knowledge prepared for him/her in advance and has no or little part in determining the substance and direction of his/her preparation program. Hence, candidates in this approach are passive recipients of training package. In other words, behavioristic perspective on teacher education currently can be equated with the technical tradition of teacher education. The primary concern of technical tradition is fostering the development of skills to perform a predetermined task regardless of the context under which the specific task is to be performed.

**The personalistic teacher education paradigm** basis its foundation upon phenomenological epistemology and developmental psychology. Advocates of this approach have applied cognitive-developmental theory to the design

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of teacher education programs. This paradigm emphasizes the psychological maturity of the prospective teacher, reorganization of perceptions and beliefs over mastery of specific behaviors, skills and content knowledge. The knowledge and skills that prospective teachers are to master are not necessarily defined in advance to the extent the behaviouristic approach to teacher education does. Requiring a teacher education curriculum to define precisely and in detail the behaviors it helps to produce may be a way to destroy the effectiveness of its product (Comb, 1972). According to personalistic view, teacher education is a process of becoming a teacher rather than a mere process of educating someone how to teach. It put more emphasis on the attitude about self and becoming a teacher. It also attempts to be responsive to prospective teachers' own definition of their learning needs.

**Inquiry-oriented teacher education paradigm** prioritizes the development of inquiry about teaching and about the context in which teaching takes place. The assumption underlying this approach is that technical skills in teaching is to be highly valued not as an end in itself, but as a means for bringing about the desired ends (Zeichner, 1983). This approach attempts to prepare teachers who have the skills to analyze what they are doing in terms of its effects upon students, school, and society. This approach emphasizes on helping prospective teachers assume a greater role in shaping the direction of educational contexts according to purposes of which they are aware and which can be justified in all dimensions morally and ethically. It is a process of creating a liberated person with all rounded knowledge and skill as well as full autonomy for teaching students. The fundamental task of teacher education is therefore to develop prospective teachers' capacities for reflective action and to help them examine the moral, ethical and political issues, as well as the instrumental issues that are embedded in their every day thinking and practice (Dewey, 1933; Zeichner, 1983).

### **Implication of Traditions and Paradigms**

The implication of the academic tradition goes to the extent of the avoidance or bypassing of specialized faculties and colleges organized to educate and train teachers for all levels. It assumes that what matters in teaching is only the content mastery on the part of the teacher regardless of his/her attitudes, skills, and commitment and readiness to carry the most sensitive social responsibility of teaching. Teaching skill is not something to be left for just apprenticeship as experimentation of making content experts professional teachers. Unfortunately, the current tendency of the Ministry of Education in Ethiopia seems to have been advised to reinstate the academic tradition regarding secondary teacher education by way of eliminating the current undergraduate initial teacher education and training. It will be a dangerous reform direction and/or agenda to talk only about a gap in teachers' competency in isolation from the gap in teaching methods. Educators holding the academic tradition of teacher education seem not to have realized that learning will not improve markedly unless we give teachers the opportunity and the support they need, by way of initial teacher education as well as in-service programs, to advance their craft by increasing the effectiveness of teaching methods they use.

The implication of the social-efficiency tradition of teacher education is that teaching can be learned exhaustively regardless of the social and institutional context where teaching is to be applied. Although it reorganizes initial teacher education and training, it is too positivist and behavioralistic in that it lies its teacher education curriculum on some unpredictable and non-measurable human behaviors. Hence, heavy and exclusive reliance on the social efficiency tradition of teacher education could only end up in producing highly competent and mechanical and positivist teachers who teach the way they were thought in the universities and colleges regardless of their institutional and social peculiarities in context. Of course, this has been the dominant tradition in Ethiopia before the introduction of TESO. There are also educators advising the current MoE in Ethiopia to gear secondary teacher education towards a kind of a combination of the

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academic and social-efficiency traditions. However, as far as education for human emancipation and liberation of mind, and education for democratization in a democratized school system are concerned, it is hardly possible that the combination of these two traditions can also serve our purpose in the Ethiopian context.

Educators holding the social-efficiency tradition seem not aware of and not realized that teaching is a cultural activity as well. We learn how to teach not only by studying and applying methods and/or techniques but indirectly through years of participation in classroom life, and we are largely unaware of some of the most widespread attributes of teaching in our divers' culture. The fact that teaching is a cultural and contextual activity explains why teaching has been so resistant to change (Jams and Jams, 1999). And accordingly it explains why contextualized initial teacher education that prepares teacher who fit into the social and cultural settings is of necessity in the current context of Ethiopian political and educational system.

The developmentalist tradition of teacher education implies the importance of child-centeredness and the congruence between teacher education curriculum and school curriculum. Accordingly it put the learner at the center of teaching. This approach gives some room for teachers to implement whatever they are supposed to implement not only as a predetermined prescription but also as per the actual local context and as per developmental and maturity level of their students. Hence, it implies the incorporation of courses on developmental psychology, learning theory, social foundation, educational research and action research in an initial teacher education curriculum. According to this tradition it is hardly possible to exhaustively prescribe and prepare a guideline for teachers how to teach and how to manage their students because not all students' behavior and classroom interactions are predictable and perhaps not important to do so. To this and, the extreme position of this tradition implies for the implementation of school-based teacher education. Although exclusive school-based teacher education has its own limitation, if it is combined with some carefully identified components of the other traditions discussed in this

article, it will have a significant impact in the current blurred reform agenda of secondary teacher education in Ethiopia.

The social-reconstructionist tradition implies beyond that of developmentalist tradition regarding the role of teachers as social change agents. Both social-reconstructionist and developmentalist traditions imply the importance of student-centeredness of teacher education programs and its congruence with school curriculum. However, social-reconstructionist emphasizes and examines the role of the teacher not only in terms of his/her students' and or classroom activities but also on the social and philosophical values he/she has and applies the same in the process of nation development. It emphasizes the role of a teacher in serving for the society's cultural and economic development. Hence, it asserts that in a democratic society schools and school teachers has no other option than internalizing the democratic values of society in general and striving for the achievement of creating democratic society. Accordingly, teacher education program should constitute courses on philosophy of education, sociology, multi-culturalism, social foundation of education etc. And part of teacher education and training should be school-based and reflective but harmonious with the course work component of the training as well.

The current wave around the MoE and teacher education institutions within universities regarding the "abolitions" of TESO and the emergence of a new paradigm (so far vague) does not seem, to me, to have been based on clear rational based on the aforementioned traditions and paradigms. At this stage one may ask which tradition reflects more the TESO rationale and implementation strategy. The TESO document clearly indicates that what secondary school prospective teachers need is integrated content-pedagogy knowledge. It also suggests that each of the subject matter courses for prospective teachers be made to incorporate about 30% of its contents from the secondary school curriculum that prospective teachers are expected to teach. Hence, from this point of view it is not possible to say that TESO reflects the academic tradition of teacher education.

On the other hand, TESO has clearly stated about five competencies to be fulfilled by both prospective teachers and teacher educators (Temechegn, 2004). These competencies are more of social than academic contents. And the very existence of competencies indicate the influence of behavioristic and positivistic approach and hence the social efficiency tradition of teacher education. However, since TESO has clearly articulated competencies in advance regarding skills and knowledge to be mastered by prospective teachers, it can be asserted that it has been influenced by the social-efficiency tradition of teacher education.

The fact that TESO requires the would be secondary school teachers to spend about 22% of the portion of their study (ibid) in secondary schools by way of practicum courses which are fully school-based implies the influence of developmentalist tradition on TESO. Since prospective teachers in their practicum courses exercise and experience are expected to understand the developmental stages and the corresponding learning strategies of students in the Ethiopian context it can also be asserted that TESO has also been influenced by developmentalist tradition of teacher education. Furthermore, the fact that TESO also argues and is aimed at: changing the teacher-centered approach into student-centered teaching learning approach and creating a democratic culture among teachers and students by way of democratization of schooling shows certain influence of social-reconstructivist tradition on TESO. Therefore we can learn that whether or not it has been intentional, the TESO reform, now put at risk by the originators themselves, is the combination of the three (social-efficiency, developmentalist, social-reconstructionist) traditions. Hence, at this stage of social development where pluralism dominates over individualism, policy makers in teacher education have no other option than examining the existing traditions and paradigms in teacher education to dictate their teacher education policy. The process of informed decision and participatory program development is the only option left for policy makers if their reform proposal is to be implemented and produce the desired change.

Teacher education should aim at preparing and/or training teachers who are able to: articulate and identify their purposes, choose appropriate instructional strategy or means, know and understand their subject area or content to be taught, understand and base their educational action on good and logical reasons. In teaching, as Macmillan (1987) noted, we expect truth to count as a central value because teaching is the sort of activity that relies on the virtues of honesty and trust. Honesty and trust are inherent in the activities of teaching irrespective of the ideological and/or political contexts. Giving good reasons for educational actions require an understanding of the activities of teaching and the role of a teacher. The role of the teacher, in turn, should be defined by the relevant teaching community or by a particular tradition of educational thought. Hence, by implication, it means that teacher education ought to enable prospective teachers to develop rationales and justifications for educational actions that are heart felt as well as consistent with larger educational traditions. However, it is important to question the validity and applicability as well as the absolute supremacy of a specific educational tradition and/or paradigm. Perhaps as far as education is a social phenomena and teaching is a social activity, it could be hardly possible to think about a single tradition and/or paradigm that exclusively define teacher education in context. Accepting the plurality of traditions and paradigms potentially benefits the development of eclectic teacher education program and acknowledges diverse and contextual roles of a teacher. It should also be noted that besides the tradition the individual prospective teachers' value and thinking about education is important for teaching activity. Those who come to teacher education have always value and experience of their own about teaching and how teaching is valued in the society at large. Hence, their initial thinking and experience is a base for becoming truly professional teachers. Thus, prospective teachers should be geared towards understanding the details of the social context of schooling. This is because teaching is a complex social phenomenal and can be influenced by the existing social gaps.

Teaching is a messy social affair and learning to teach seems also more complicated and messy affair. Hence, teacher education programs ought to

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aim at the articulation of prospective teachers' values and belief, and relate these values and beliefs to educational traditions. Accordingly, there ought to be strategies by which prospective teachers reflect their own social and political beliefs vis-à-vis the social context of schooling. This can be achieved through two separate but interrelated strategies of field work (practicum) and course-work training modalities largely through initial undergraduate teacher education programs. Prospective teachers should be given relatively long period of actual school experience where they learn about the dynamic and social nature of schools and schooling.

### **Teachers as Decision Makers**

Teachers' roles and responsibilities are not limited to their classrooms. As there are teacher classroom roles, there are also teachers' roles in school as a whole, in the community, and in the society at large (Azeb, 1984). Teachers have also a role and function of socialization of students. For instance, it includes helping children to reduce their primary emotional attachment to their families, helping students develop social values and norms, prepare students to live with the contemporary as well as for the future society. Teachers have also the responsibility to investigate and search students' talent and interest and help them to become the future educated human resource that the society need.

However, the primary expectation of any teacher is to facilitate student learning. A competent teacher will have professional responsibilities that will extend beyond the ability to work effectively in a classroom. Kellough and Kelluough(2007) categorized teachers' responsibility in to four: responsibility as reflective decision maker, commitment to children and to the profession, non-instructional responsibilities, and instructional responsibilities. During a single school day, teacher will make perhaps hundreds of decisions. Some decisions will have been made prior to meeting his/her students for instruction others are made during the instructional activities in the classroom, and yet other will be made later as the teacher reflect on the instructional process for that day.

Since teachers are responsible for key educational decisions and actions within the classrooms, it is important prospective teachers begin to consider what will count as good reason for effective educational action (Liston and Zeichner, 1991). Virtually, classrooms in socially and culturally diverse society are places where numerous interests and conflicts may arise. The conflicts could be instructional, curricular, administrative, parental concern, cultural differences, or socio economic differences. Thus, teachers must be able to take educational action on the basis of good and logical reasons. To this end, the Social-reconstructionist perspective of teacher education and the inquiry-oriented teacher education paradigm seem appropriate approach that seriously attempt to capacitate prospective teachers able to situate educational action within a larger social and political context.

Effective teaching is much more than an intuitive process. A teacher must continually made decisions and act on those decisions. To deliver this properly, the teacher must have knowledge about learning, human behavior, and the subject matter to be taught. Furthermore, a teacher must demonstrate a range of teaching skills to facilitate students' learning and must display attitudes that foster learning and genuine human relationships. There are multidimensional issues of academic and none academic that need decision in the school organization. Decision-making procedure refers to the way the school organizes itself in terms of its decision-making processes. It includes the structure the school set up to facilitate all decision-making needed to manage and administer the teaching-learning process. There need to be clear rule and regulation and method of decision-making. That is who make what decisions at what level of the structure of the school and how decisions are made must be articulated and communicated to all concerned parties (Davidoff and Lazarus, 2002).

If we are committed to the development of democratic structure in Ethiopia in general and democratization of education and schooling in particular, then the presence of policy of teacher which emphasizes the autonomy and role of teachers becomes a key issues for development. It is true that decision-making processes often relate to issues of power of control and

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responsibility. If we wanted to build democratic schools, then we have to build democratic decision-making structure and procedure at school levels and subsequently at classroom level. The question of who should be involved in decision-making process in schools is connected with teacher's right of participation and responsibility in school affairs. Maximum and professional participation of teachers in decision-making process has a moral and efficiency ground. Morally, it is a way of empowering teachers by way of allowing them to participate actively in the control of their profession and their own lives at large. The efficiency dimension is that successful implementation of any reform and/or decision is largely dependent on the extent to which teachers have some sense of ownership. Asking teachers to do something when they were not part of decision-making process naturally is problematic and it is also undemocratic.

Schools are places where most educational policies are put into practice. Teachers are therefore, the prime implementers of educational policy. Hence, if teachers do not implement what the policy expects, then either the policy need to be reviewed or the implementation strategy and process need to be re-examined. Policy should address real needs experienced by teachers and schools at large. If the policy is to be implemented, teachers need to participate meaningfully and contribute towards policy decision and formulation of policy (Solomon, 2008; 2007; 2006). However, our history of education in general and school culture in particular in the past did not show this. Although current policy discourses and practices clearly aim to include teachers in the process of educational policy formulation, this remains a daunting challenge at all levels of policy formulation and decision-making.

A teacher has to make a number of educational decisions during his day both inside as well as outside a classroom. A teacher may, of course, make decisions on the basis of his belief and educational philosophy about what is good and appropriate. Teachers' philosophy and value about what they believe is good education and good teaching. As Azeb (1984) argued, it is a result of what they acquired and developed in professional education courses and carefully planned and supervised practice teaching programs.

When teachers secure a number of years of teaching experiences in the teaching career, their inherent and learned values and philosophy become more and more refined and applied in helping the betterment of students' learning.

### **Teachers as Implementation Agents**

As Fullan (1991) described it, 'If the change works, the individual teacher gets little of the credit; if it does not the teacher gets most of the blame.' From this statement, we understand how decisive and sensitive the role of the teacher is in the implementation of educational policy and/or reform. Put differently, educational change depends on what teachers do and think. At the teachers' level, the success of change is strongly related to the extent to which teachers interact with each other and with others who are providing technical help. Within the school, qualities such as a collegiality among teachers, mutual support and help, are positive indicators of implementation success. Significant educational change consists of changes in beliefs, teaching style, and materials but essentially it needs understanding of the change itself. It is the change that happens in the individual classroom that changes the school, and so onwards through schools, districts, and state. As Gene Hall (1995) has described it, one of the failures of understanding about curriculum implementation few years ago was that we did not accept the fact that a school does not change until each individual teacher within the school successfully implements the innovation. The only way that classroom effects can accumulate to be school effects is if there is the use of the innovation in each classroom. To look at the school as a whole, first we need to look at the use of the innovation by each teacher. Each teacher individually can have an effect but it is the accumulation of their activities, which aggregate and compound to become school effects. At state level, the multiple school and districts effects can accumulate. Put differently, the key building block for all this is what happens in each classroom. In addition, the teacher as a change agent determines what happens in the classroom. Unless classroom and school activities change, the most sensitive tests possible will measure no positive changes in outcomes. The study of Newman and his colleagues

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as cited in Fullan (1998) indicate that more successful schools had teachers and administrators who formed a professional learning community (collaborative work culture) focused on student work (assessment), and changed their instructional practice (pedagogy) accordingly to get better results. Collaborative activity can enhance teachers' technical competence. As teachers work with students from different backgrounds, and as the curriculum demands more intellectual vigor, teachers require information, technical expertise, and social-emotional support far beyond the resource they can get as individuals working alone. When teachers collaborate productively, they observe and react to one another's teaching, curriculum and assessment practice, and they engaged in joint planning.

The greater the sense of teacher efficacy, the greater the success of implementation is. Since educational change depends on what teachers do and think, lack of teachers' knowledge and skills to conform to the new mode is one of the inhibiting factors, and lack of staff motivation is another. McLaughlin (1987) refers to the attitude of teachers as a critical factor for implementation. Sounders and Vulliamy (1983) capitalized on the teachers as the most important link in any chain of educational innovation. To them, it is what goes on in the classroom that finally affects student learning which the goal of implementation is. Thus, unless teachers are helped to develop new lessons, content and new teaching skills, they will revert to pre-innovation practice. This suggests the necessity of continuous teachers' professional development and in-service training and resource support for teaching during implementation to enhance effective practice. Baker (1977), long ago, asserted that lack of teacher enthusiasm can wipe out programme effectiveness. It is unlikely an innovation will be implemented if it does not receive a warm acceptance on the part of teachers. It seems because of this that Ornstein and Hunkins (1998) advised school leaders to consider teachers' needs, level of commitment, and skills when determining when and how to involve teachers in curriculum implementation. This is because teachers want programmes that reflect their philosophy and curriculum orientation since teachers' actions are largely based on their attitudes. In addition to this, the ability of teachers to implement the curriculum has to be

given equal importance to other factors, because the extent to which a curriculum is implemented depends upon the extent to which teachers are clear about, and the degree to which they are competent to perform it. Teachers cannot teach what they do not know. Sayler, Alexander, and Lewis (1981) have also affirmed that a teacher's instructional plan and a curriculum plan may not connect if a teacher neither understands nor accepts the basic assumptions of the curriculum. Therefore, as Snyder and his associates (1996) noted, being the deliverer of the curriculum to students, the role of the teacher is recognized as being critical to the success of the curriculum implementation and accordingly for the achievement of the change aspired to achieve. To this end, teacher quality is a major problem in African countries including Ethiopia, and so are the low levels of commitment and morale that characterize the profession. Craig (1990), however, argued that it is unfair to place all the blame for these deficiencies on the teachers. He further explained that it is the politicians and administrators in Africa who have been largely responsible, for they have typically resisted offering the incentives and the sustained support and assistance needed to upgrade teachers and their profession. He also criticized educational planners, for they have failed to take adequately in to account the limitations of those expected to put policies into effect within the school and the classroom and accordingly also failed to reconstruct their teacher education.

Craig (1990) argued that even if teachers' quality were not an issue, teachers might still represent a major obstacle to the implementation of a new curriculum policy. There are three possible reasons: in the first place, teachers may doubt putting such a curriculum policy into practice is worth the effort. Those teachers with more ability and expertise may believe that particular reforms cannot attain the intended goals. They may also reject the pedagogical or curricular theory (if any) used to justify the reform. They may believe that the needed resources will never arrive or they may even think that the curriculum policy, however appealing in the abstract, cannot be made to work with their pupils. Furthermore, teachers often conclude, with good reasons, that change means additional work without additional compensation or incentives (Fullan and Pomfret, 1977). However, if teachers

are persuaded that the new curriculum could bring a significant improvement over the old curriculum, they may be willing to make the sacrifices demanded of them. But they are not easily persuaded even if a serious attempt is made, and usually a serious attempt is not made.

On the basis of the Ethiopian education and training policy, a paradigm shift with regard to teachers' education has also been introduced in the system. The education and training policy gave the background for the shift of paradigm when it states (TGE, 1994, p. 20-21) as:

Teacher education and training components will emphasize basic knowledge, professional code of ethics; methodology and practical training....ascertain that teacher trainees have the ability, diligence, professional interest and physical and mental fitness appropriate for the profession.... Teachers will be certified before assigned to teach at any level of education.

Accordingly, Teacher Education System Overhaul (TESO) program that was initiated by the MoE as per the new education policy required teachers of all levels to exhibit competencies in: producing responsible citizens, in subject and methods of teaching, in the classroom, in areas related to the school and the education system, and in the values, ethics and abilities essential to professionalism. The teacher education curricula were designed in such a way that they emphasize integrated content-pedagogy knowledge and the practicum (would-be teachers' actual school experience from the very beginning of their study up to their completion of the programme). TESO assumes that teacher education and training in Ethiopia at all levels should be school-based in the sense that they must devote about 22 percent of the training time on school-based students' practicum, and similarly should incorporate about 22 percent of contents from the school curriculum (Temechgn, 2004). However, there are good numbers of teachers currently teaching in our secondary schools who are not trained in line with TESO. On top of this, the introduction of some relatively advanced contents in the

secondary education curriculum also seemed to put teachers in a position to consider the curriculum as complex and beyond the level of their students. Politicians and educational leaders in Ethiopia are largely responsible for they did little towards offering the incentives and the sustained support and assistance needed to upgrade teachers and their profession. Educational planners as well as curriculum workers at centre and region are also responsible for they have failed to take adequately into account the limitations of those expected to implement the proposed curriculum within the school and the classroom (Solomon, 2007).

Nevertheless, some studies had questioned the match between the TESO program and its implementation. That is, the inadequacy of the implementation of the teacher education or training programs appears to be one of the major factors affecting the implementation of curriculum in Ethiopian Secondary Schools. An empirical evidence of Kedir's (2006) study, for instance, disclosed a clear contradiction and conflict between the official curriculum (until 2008) of teacher education (TESO) and the actual process of the implementation when he says:

Official discourses, conceptions and practices in the entire landscape of teacher education reflect mismatches, far-fetchedness, conflicts and misalignments. One of the frequently and glaringly noticeable contradictions is what is conveyed rhetorically about the preparation of skilled/knowledgeable teachers or educators (or the improving of the skills/knowledge of practicing teachers or educators) and what is actually done in practice. On the one hand, there is a heated argument or action, to some extent, for skilling practitioners or the would-be practitioners. On the other hand, there is the opposite of skilling, i.e., deskilling....

The curricula of teacher education at all levels need to serve its purpose by correlating with the curriculum and context of the respective level of school system. Hence, there is another gap between rhetoric and practice within

teacher education. Put differently, TESO has not been implemented as per the rhetoric and its aspiration. By way of conclusion of this section, I would like to relate and interpret curriculum implementation as a change process that necessarily requires teamwork. It needs the involvement of all individuals in the school. It should not be left only to either the teacher or the principal's responsibility. In addition to the school principal there are also other change facilitators such as vice-principals, unit leaders and head teachers in school who in most cases, are expected to make a large number of interventions in the implementation process. The important thing is not merely having other change facilitators active at the school site, but how well these change facilitators work together as a team. Though the larger role of a principal has to be transforming the culture of the school, a culture of a "new way of doing things" and of a "collaborative working" environment for the students' effective learning, it seems that students and most teachers in some Ethiopian secondary schools are unhappy with their principals' role as change facilitators (Solomon , 2008). That is, the way the principals have been attempted to implement the changes given from the government, by way of the curriculum, as prescribed seems unsuited to the feeling and belief of teachers. It is therefore momentous to think and ask how our teacher education policy could solve these multidimensional problems affecting students' quality of learning and teachers' quality of teaching.

### **Teachers as Researchers**

Studies on our secondary schools teachers' practice and context imply the importance of revisiting our system of teacher education in order to facilitate the process of teaching and learning in secondary schools. Teachers' established practice and the culture of professional development in Ethiopia did not really assist the process of curriculum implementation. A change of teachers' classroom practice and their professional culture is necessary to facilitate the process of curriculum implementation in Ethiopian secondary schools. This in turn requires defining, redefining and designing teacher education with the spirit of teacher *as researcher*. That is teachers should be allowed to exercise professional judgment in the context of academic

autonomy. Solomon (2008), for instance, has made the following conclusions on the basis of detailed case studies he conducted on some secondary schools in Ethiopia:

- The axiom teacher as researcher is not yet well understood by significant numbers of secondary school teachers in Ethiopia nor properly recognized by teacher education curriculum.
- Secondary school teachers in Ethiopia are not encouraged to adapt the given curriculum in to their school/classroom context nor the teacher education program created such quality teaching force
- A good number of secondary school teachers in Ethiopia neither have the culture of learning from each other nor developed the habit of learning from their own practice.
- Teachers in Ethiopia are treated as instruments of government's design and their role is limited to putting into practice the fixed curriculum given from the MOE (a top-down reform implementation.
- A paradigm shift from teacher as technician to Teacher as researcher seems to be a necessity to facilitate the process of curriculum implementation in Ethiopian secondary schools.

A government will not successfully develop and implement curriculum unless it also develops teachers. This means curriculum development and implementation is hardly possible without considering and developing the quality of the people who should develop and implement it. Curriculum implementation in the context of secondary schools in Ethiopia requires a series of changes in pedagogy which in turn would require quality teacher education, both initial and in-service, and continuous teachers' professional development at school level. As Tsai (1996) noted, curriculum innovation de-skills teachers' old competence and practice and they need to be re-skilled in order to implement the innovation. Therefore, compatible initial as well as in-service teacher education and a scheme of continuous professional development is a necessary condition for successful curriculum implementation in Ethiopian secondary schools.

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Instructional problems in Ethiopian secondary schools among other things are connected to teachers' academic as well as professional levels of competencies. This is very much connected to our teacher education curriculum that is virtually geared towards linear academic qualification of teachers as a major requirement. As opposed to TESO's inherent values and aspirations, teachers and teacher educators, particularly those who joined the profession after the new education policy, lack adequate knowledge: about subject matter, how to teach, and they don't know enough about how to integrate content and pedagogy. Nor do they know enough about how to understand and influence the conditions around them. Above all, the fact that teacher education in both initial and in-service programs is not tailored and practiced in line with the values of 'teacher as researcher', added with lack of a culture of continuous learning has limited the quality of teaching and learning in our secondary schools (Solomon, 2008).

Secondary school teachers in Ethiopia are supposed to be implementing the curriculum laid down by the government. The idea is that the Ministry of Education prescribed a set of uniform syllabi, textbook, and teacher's guide as a curriculum package that is fixed and inert, and then teachers should implement it without any modification and or adaptation. The way the curriculum of teacher education was planned and has been implemented is not too far different from this approach. Hence, from this point of view, it is not surprising when teachers teach the way they were taught. Since the curricula for teacher education as well as secondary education were both developed and have been implemented in line with the *fidelity approach*, the government accordingly did not seriously consider dissemination of the curriculum at the local level or the complexity of the implementation process in the classroom context.

There was no culture and or opportunity for teachers to meet and discuss academic issues such as problems in teaching methods and materials. The majority of teachers in most Ethiopian secondary schools neither has a culture and habit of learning from each other nor developed the habit of learning from their own practice. Stenhouse's (1975) and Elliott's (1993)

axiom *teacher as researcher* seems not yet understood and recognized by teachers, and of course by the curriculum of teacher education itself as well, as an epistemological power to bring about *quality education* the education policy aspired. Teacher education cannot be inert because unless it is dynamic it can't prepare teachers in line with the dynamic nature of knowledge itself. It therefore needs to be continually tested and re-tested in classrooms. Bridges's (1996) argument of teacher education's poverty of pragmatism particularly holds true for Ethiopia. A pragmatic theory of knowledge, McDermott in Elliott (1998, p. 140), said, "Views reflective thought not as the process of 'copying' or 'mirroring' the objects of experience in terms of their invariant essence, but as the process of taking account of the ways in which more effective and more profitable relations with these objects may be established in the future." By the extension of Bridges's and Elliott's argument it can be asserted that teachers' knowledge and skills of teaching can only be developed if we recognize '*teachers as researchers*' rather than '*teachers as technicians*' who perform what they studied from a book of rules. A pedagogically driven curriculum as opposed to standard driven curriculum which in a way recognizes the importance and application of pragmatist theory of knowledge (Elliott, 1998), I suggest, could bring a significant change not only to teacher education but also to the overall system of education, if adapted in Ethiopia, because its prime concern rests on the construction of knowledge by the learners themselves.

In Ethiopia the government approach to the implementation of the proposed curriculum in secondary school is to set up textbooks and teacher's guide that could tell teachers what to do in the classroom. There are 'right' answers in the teacher's guide of each subject to questions of both how to teach and what to teach. Therefore, teachers are treated as instruments of government's design and their role is only to put in to practice (implement) the fixed prescription from the central government (Ministry of Education). Certainly the majority of teachers in many secondary schools in Ethiopia were conscious of the potential importance of their participation, if they were given opportunity for curricular involvement. But unfortunately they were all virtually neglected from such involvements in curricular activities. They were

not only neglected from participation but also are not allowed for its adaptation to their school or classroom context. Teachers in Ethiopian secondary schools are not encouraged to play a role of adaptation even within the top-down frame work (Solomon, 2008; 2007). Unless school teachers are able to understand and internalize the given top-down innovations and are also allowed to tune it to a particular context, it can't be tuned in to classroom practice and effectively implemented. Curriculum innovations in Ethiopia need to be designed to be adapted according to local and school or even classroom context because there is a significant difference among the local contexts. Particularly there are always unavoidable differences and gaps among students in each classroom regarding their academic backgrounds. Therefore it is only when the given curriculum gets interpreted and re-interpreted in the actual classroom context that it reaches its meaning and could bring about change on the part the learners. Accordingly, we need to revisit and reconstruct our secondary teacher education curricula in order to obtain quality teaching forces that are fit for the purpose.

To sum up, governments (federal and regional), curriculum workers, school principals, and teachers in Ethiopia need to promote the professionalism of teachers by way of injecting the spirit of 'teacher as researcher' in the professional culture of teachers in secondary schools. Teachers also need to be encouraged to reflect on their teaching, to carry out action research in their classroom context, to engage in professional dialogue with their colleagues, to open their classroom and treat their school as a base of change. Both federal as well as regional governments need to encourage and help secondary school teachers to develop their understanding and sense of ownership of the policy / curriculum and subsequently how to implement in their own classroom context. Successful curriculum implementation is ultimately the result of teachers' understanding and translation of innovation in to classroom practice contextually. This in turn requires our teacher education policy / curriculum to value and incorporate the spirit of 'teacher as researcher' as its major paradigm.

### **Pedagogical Content Knowledge (PCK) as an Essential Tenet in Teacher Education**

In the 1950's, 1960's and 1970's curriculum was produced to be 'teacher proof'. Subject area specialists who made little or no comment about teacher or resource adaptation to specific classroom contexts developed curriculum and resources for teachers. In the early 1970's researchers became interested in the role of the teacher in the instructional process. The research about the role of the teacher in the instructional process yielded a profile of how complex classroom teaching is with hundreds of decisions being made by the teacher each minute. Further research identified how much pedagogical knowledge came to bear on each decision. With the synthesis of many studies terms such as "expert teacher", "effective teaching" and "teacher competencies" emerged. An expert teacher must demonstrate knowledge of the subject being taught and knowledge of pedagogy. However, it is where these two areas overlap that the facilitation of learning in a specific subject area begins. Whereas a teacher's knowledge of the subject area may be personal and applied in many personal situations and experiences these experiences in and of themselves do not necessarily foster understanding of subject or concepts for students. In other words, successful teachers cannot simply have an intuitive or personal understanding of a particular concept, principle, or theory. Rather, in order to foster understanding, they must themselves understand ways of representing the concepts for students.

Despite a teacher's deep understanding of a subject area he/she must also be able to foster understanding of subject or concepts for students. Shulman (1981, p. 9) calls this pedagogical content knowledge. Pedagogical content knowledge includes:

. . . the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations - in a word, the ways of representing the subject that make it comprehensible to others.... It also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to learning.

Pedagogical content knowledge is grounded in beliefs and practices of the teacher. It also includes conceptual and procedural knowledge, a range of varied techniques or activities (which meet different learning styles or preferences) knowledge of techniques for assessing and evaluating, and knowledge of a variety of resources, which can be easily accessed for use in the classroom. Pedagogical content knowledge according to Marks (1990, p. 9) "represents a class of knowledge that is central to teachers' work and that would not typically be held by non-teaching subject matter experts or by teachers who know little of that subject." In other words, being a teacher with generic 'pedagogic knowledge' or just being able to speak the language we teach (with content or subject knowledge) are not sufficient conditions for being an effective teacher of, say, mathematics. Indeed, one must possess knowledge of varied pedagogical factors such as evaluation strategies, lesson planning, classroom management, etc. and knowledge of the subject being taught: mathematics in this case. But a teacher of a subject must also have and be able to apply knowledge of how to teach specific aspects of Mathematics to an age specific group of learners. **That final point is PCK.**

Pedagogical Content Knowledge (PCK) should be an essential tenet in the current attempt of reforming secondary teacher education in Ethiopia. Content and Pedagogy should not be treated as mutually exclusive. What is meant by content? From literature and experience, content refers to the subject knowledge a teacher should possess. Content understanding relies on much more than the rote memorization of facts. People in content

disciplines teach many content specific courses. The content knowledge of the prospective mathematics teacher, for instance, may developed primarily in mathematics courses taught by a person with strong background of pure mathematics but preferably with a person with strong background of both pure mathematics as well as pedagogy of mathematics. Accordingly all mathematics teacher candidates should be provided with a carefully designed, balanced content curriculum leading to a demonstrated knowledge of the concepts and relationships they are preparing to teach.

Pedagogy includes actions and strategies of teaching, organization of classroom experiences, providing for diverse learner needs, evaluation and implementation of learner's prior notions, and transformation of ideas into understandable pieces. Teachers should be able to provide all students the opportunity to learn from classroom instruction, to make sense out of the subject they are learning and to want to do more on the nature and application of the subject thought in and out of classroom. Hence, pedagogy virtually involves multiple tasks including: addressing all students' needs; planning activities that allow and encourage students to learn and reason about problems; trying to make sense of the world; and instilling in students the desire to learn how to learn and learn more (National Research Council, 1996).

Why do we consider PCK an essential part of teacher education? There are many explanations for this. Shulman (1987) developed the construct of "Pedagogical Content Knowledge" (PCK) in response to some of the problems of teaching and teacher education. There is a connection between content knowledge and pedagogical knowledge in teaching. For example, the pedagogy suggests that teachers know about organization of classroom experiences. However to design such "organizations" requires a deep understanding of content. This is what Shulman (1987, p. 15) is talking about when stating, "the key to distinguishing the knowledge base of teaching lies at the intersection of content and pedagogy."

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Several studies have examined, for instance, the practical connections of PCK to science and mathematics teaching. These studies examine the value of attempting to teach this principle to prospective teachers. For instance, a study by van Driel, Verloop, and de Vos (1998) reviews the existing literature and finds both support and change in teachers as a result of developing pedagogical content knowledge. They found, through empirical study, that there might be value to having prospective teachers study subject matter from a teaching perspective. The studies have also shown the importance of PCK in teaching. To have a set of standards that implies that pedagogy takes precedent over content or vice versa seems to ignore this research. To this end, the current movement towards reforming secondary teacher education in Ethiopia seems in contradiction with these research findings in that it assumes content to take precedence over pedagogy. Put differently, the movement has planned to add pedagogical component to prospective teachers after they will have completed all the content area courses (Add-on approach).

Teachers of a given subject say for example Science; need to be prepared to help students uncover the embedded texts of scientific ideas. PCK provides a useful lens for teachers to begin to help students see the assumptions of science. However, this requires more than knowing content and how to teach. It requires an understanding of how to teach the content, namely PCK. For teachers to build on and challenge student conceptions, it is necessary for them to have deep conceptual as well as pedagogical understanding. This application of pedagogical understanding to content understanding is a fundamental premise behind pedagogical content knowledge. Therefore, if we are to change students' learning in the Ethiopian context, we must start with changing subject teaching. This requires a shift of paradigms in the structure of teacher education. The current paradigm of learning to teach is not organized in a true sense of the principles of PCK and is virtually supporting the existing divergence and does not force teachers and students to examine the embedded texts of subject knowledge. Such a shift is found in a model of teacher education built around PCK, as an essential tenet to making improvements in students' learning. While this

model or approach may not be a kind of cure-all, it certainly provides opportunities for improvement of teacher education programs at primary as well as secondary levels. The PCK model can easily and truly be realized via initial undergraduate teacher education modality where students are housed in specialized teacher education institution at university level.

### **Concluding Remarks**

The article retrospectively explored the context and practice of teacher education of Sub-Saharan countries including Ethiopia. Accordingly, the experience of Ethiopia's reform tradition is not unique in that it is practically similar with that of most African countries. It has been politically and externally influenced and is now swimming in the dreams of "radical change" and "big reform" but with no or little change. Like in all Sub-Saharan countries policy makers in Ethiopia make decisions about future of teacher education without even knowing the most rudimentary information about what is happening in classrooms. It is hardly possible to determine teacher education framework without knowing what teachers were doing and why they were doing whatever they did inside and outside classrooms. At this stage of our social development, and the knowledge we have about teaching and teacher education, a kind of policy and/or guideline imposed from the center through which an identical diet is rigidly dispensed to all students on secondary teacher education program in all institutions in the country is simply authoritarian.

There is a valid concern among the general public and teacher educators in general and the government in particular that good number of students graduating from teacher education institution is weak in the knowledge and skills fundamental to teaching. One possible response to these growing concern of and criticism of the quality of teachers being graduated is rethinking and working on the standard and criteria used in admitting candidates. Virtually, everyone agrees that upgrading admission standard is desirable but it is not the whole solution. Besides this, criteria that better predict teacher success and effectiveness are needed. Both quantitative as

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well as qualitative criteria should be devised and employed in recruiting and admitting candidates. Accordingly potential candidates would come from three overlapping sources: Committed pre-professional students, undecided students learning towards the professions, and liberal arts and science students in general. The challenge of recruiting such candidates is formidable, but the establishment of special teacher education and teacher certification needs to be viewed and practiced in their own distinct line without losing their unavoidably overlapping and complementary nature. This is because there is no single and final solution for a problem of such nature. Formal teacher education programs should primarily select individuals with the desirable quality and characteristics and prepare them for the teaching profession. The preparation of teachers for all levels should devote sufficient time and resource for the development of realistic and practical experiences in observation, community based experience, and actual teaching and research. One ways of doing this is to emphasize on selection of candidates rather than recruitment and providing appropriate experience and training in an integrated modality.

The need to develop in prospective teachers a stronger focus on teaching content is apparent. Accordingly, teacher education programs need to integrate knowledge and skills about the subject matter disciplines, ways to organize and deliver content to facilitate student learning, and methods of evaluating student achievement as part of the effort to strengthen student learning. The structure of the content discipline and the skills necessary to organize and made learnable to the appropriate learners are not mutually exclusive (Cassandra et.al,1983).The professional education components of teacher education includes courses and/or experiences on special methods of teaching certain age groups, ability groups, subjects matter, skills etc. Knowledge about how children or youth learns is another component of teacher education programs. Through careful and systematic education and training of prospective teachers, this knowledge is applied in the classroom and facilitates students' learning process (Azeb, 1984).

It is therefore unprofessional and fallacious to assume and argue that pedagogical and/or education courses for prospective teachers are unnecessary. Azeb (1984) had been professionally correct when she labeled and considered the position of persons holding the academic traditions who argue that *all teachers need to know is the subject matter, and methods will take care of themselves* as ignorance. It is also equally wrong to assume that a reduced time for professional courses and practice teaching. Because it is these professional courses and practice teaching together with other inputs that distinguish prospective subject expert from a prospective subject teacher. Hence, prospective teachers should be given adequate amount of professional courses and training within a relatively adequate period of time. Knowledge from at least three categories, in an integrated way, is required for prospective professional teachers namely: general knowledge, subject area or specialized knowledge, and professional knowledge.

Currently it seems that there is a policy gap regarding secondary teacher education in Ethiopia because there is no clear reform tradition and/or paradigm of teacher education, at least equally clear to all of us, that is guiding and or informing our policy or decision makers. Accordingly, secondary teacher education in Ethiopia needs to be rescued. Hence, it is high time for us to think and make our teacher education reform to be based on research on the area and our own history. Our teacher education policy generally should recognize that teachers' knowledge is highly personal and is highly contextual and that a significant part of it should take place in the context of schools and classrooms. The policy should guide explicitly about who should come to initial secondary teacher education, the kind of professional education and the importance of school based training as well as the PCK as a tenet of secondary teacher education and training.

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