Fundamentals of Teacher Education Development

4

Ensuring quality by attending to inquiry: Learner-centered pedagogy in sub-Saharan Africa

Frances Vavrus, Matthew Thomas, and Lesley Bartlett

Fundamentals of teacher education development - 4

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About IICBA

Established in 1999, the UNESCO International Institute for Capacity Building in Africa is one of six UNESCO institutes and centres under the administrative direction of the UNESCO Secretariat. As the only UNESCO Institute in Africa, it is mandated to strengthen the capacities of teacher education institutions of its 54 Member States. This is carried out through a range of initiatives, including introducing information and communication technology for education; establishing networks of partner institutions to foster the sharing of experiences; undertaking research and development on teacher education institutions in Africa; utilising distance education for improving the capacities of teacher education institutions; linking educational development to economic development through collaboration with the African Union and sub-regional and regional educational institutions; and promoting international cooperation for the development of education through the New Partnership for Africa's Development (NEPAD).

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Foreword

Great gains towards education goals have been achieved in sub-Saharan Africa since the adoption of Education for All (EFA) and the Millennium Development Goals (MDGs) in 2000. According to EFA Global Monitoring Report 2011,[1] the region's primary net enrollment ratios have increased by almost one-third, gender gaps have narrowed at the primary level, and more girls and boys are attending secondary school. Yet much remains to be done. As highlighted in the report, 43% of the world's out-of-school children are in sub-Saharan Africa, gender disparities are still large, and the learning needs of young children, adolescents and adults continued to be neglected.

In recent years, building on the gains in access to education, the international community's focus has shifted to the challenge of improving education quality and learning. However, levels of learning achievement in sub-Saharan Africa are still very low and vary across countries. Narrowing learning gaps requires concerted efforts, including fairer distribution of teachers and learning materials and deployment of sufficient well-qualified, motivated, and supported teachers in all schools.

It is argued that the relationship between learner, teacher, and materials is the heart of education quality, and teacher training to meet learners' needs is essential. Recent trends in teacher policy and practices have promoted more learner-centered pedagogy and curricula. However, UNESCO found a lack of research evidence in this area and urged further investigation.[2]

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[1] UNESCO. 2011. EFA Global Monitoring Report 2011. The hidden crises; Armed conflict and education. Paris: UNESCO.

[2] Barrett et al. 2007. Initiatives to improve the quality of teaching and learning; A review of recent literature. Background paper prepared for the Education for All Global Monitoring Report 2008. Education for All by 2015: will we make it? Paris: UNESCO.

For this reason, UNESCO-IICBA is proud to present the fourth issue of its booklet series on the *Fundamentals of Teacher Education Development*, "Ensuring Quality by Attending to Inquiry: Learner-Centered Pedagogy in Sub-Saharan Africa."

For more than a decade, UNESCO-IICBA has been committed to enhancing the quality of education in Africa by assisting in capacity building of its 54 Member States through teacher training and education. In recent years, many African countries have been reforming the historically common teacher-centered curriculum, which employs a lecture style, 'learning by rote' method of teaching. Botswana, Kenya, Senegal, and others seek to promote creativity, critical thinking, and problem solving skills in their students.

Since the inception of the *Fundamentals of Teacher Education Development Series* in 2009, Dr. Bikas Sanyal has served the institute as the general editor and provided advice and guidance to ensure the quality of the series. The booklet series aims at informing teacher education practitioners, policy-makers, and managers of the teacher education systems and institutions on the African continent working at national, regional, and continental levels. Topics are selected on the basis of their current relevance, which should also highlight the long-term value of the booklets to the readership. The issues are currently grouped under the following nine major headings: (1) Teacher demand and supply; (2) Quality of teacher education; (3) Management of teacher education; (4) Pedagogy of teacher education; (5) Curriculum of teacher education; (6) New technologies in teacher education; (7) Cost and financing of teacher education; (8) Planning techniques and approaches to teacher education; and (9) Any other topic(s) the editorial members may suggest.

Given the importance and timeliness of the topic, IICBA's Programme Specialist, Akemi Yonemura, identified this research to be included in the series under the pedagogy of teacher

education thematic heading, which was approved by the IICBA's Editorial Board in 2010. Ms. Yonemura has been responsible for the review of the manuscript by peers. Two distinguished experts in the education development field (Frances Vavrus and Lesley Bartlett) in conjunction with a doctoral student (Matthew Thomas) were selected to write this issue.

Frances Vavrus is an Associate Professor in the Department of Organizational Leadership, Policy, and Development and McKnight Presidential Fellow at the University of Minnesota. She is also an affiliated faculty member at Mwenge University College of Education in Moshi, Tanzania. She was formerly an Associate Professor at Teachers College, Columbia University, where she also served as the Associate Director of the Center for African Education. Much of her research is concentrated in the sub-Saharan Africa region, where she employs an ethnographic approach to explore issues such as education and population change, gender and development, and secondary and teacher education. Vavrus is author of *Desire and Decline: Schooling amid Crisis in Tanzania.* She was a board member of the Comparative and International Education Society and serves on the board of several non-governmental organizations working on educational issues in Tanzania.

Matthew A.M. Thomas is an adjunct faculty member at Hamline University's School of Education in St. Paul, Minnesota and a doctoral candidate in Comparative and International Development Education at the University of Minnesota. Thomas has worked for the past four years on a program for secondary school teachers in Tanzania, and he also served as an education analyst for The Millennium Cities Initiative in Kaduna, Nigeria. Thomas and Vavrus recently co-authored the chapter, "Lessons from Teaching in Action: Developing, Implementing, and Sustaining a Teacher-Training Professional Development Program" found in the book *Developing Partnerships to Support Quality Education.*

Lesley Bartlett is an Associate Professor in the Department of International and Transcultural Studies at Teachers College, Columbia University. She is also an affiliated faculty member at Mwenge University College of Education in Moshi, Tanzania. Her research and teaching interests include schooling in Latin America, the Caribbean, and East Africa; anthropological approaches to literacy, including multilingual literacies; teacher education; youth; and human rights and education. In 2008, Bartlett received a UNICEF research grant to perform a five country study of schools in sub-Saharan Africa. Her findings from the resulting publication, *Schools as Centers for Care and Support: A Five Country Study in sub-Saharan,* has helped inform research for this booklet. In addition, she has authored numerous articles and books on education development such as *The Word and the World: The Cultural Politics of Literacy in Brazil, Additive Schooling in Subtractive Times: Bilingual Education and Dominican Immigrant Youth in the Heights* (co-authored with Ofelia Garcia)*,* and *Critical Approaches to Comparative Education: Vertical Case Studies from Africa, Europe, the Middle East, and the Americas* (co-edited with Frances Vavrus). Dr. Bartlett is a board member of the Comparative and International Education Society and the Co-Director of the Center for Multiple Languages and Literacies at Teachers College.

I truly thank each of the authors for their great contribution by agreeing to provide their research findings in this booklet.

Arnaldo Nhavoto

Director

UNESCO-IICBA

Preface

The EFA Global Monitoring Report 2005 of UNESCO entitled Education for All - The Quality Imperative stated that:

"Pedagogical renewal across sub-Saharan Africa has included many attempts to switch to learner centered, activity-oriented pedagogy and away from teacher-dominated instructional practices. These efforts may be explained in part by the current tendency of some international agencies to favour such pedagogies. In most of the countries concerned, however, attempts to institutionalise child-centered pedagogy in schools and teacher-training institutions have produced inconclusive results."[3]

Inconclusive results of these attempts cannot prevent the teachers, teacher educators, and officials of the ministries of education and other related agencies from exploring alternatives that would allow them to move away from teacher-dominated "learning by rote" methods toward "cooperative learning and inquiry to foster conceptual understanding, critical thinking, and problem-solving skills" (ibid). Teachers' pedagogical skills significantly affect students' learning and acquisition of skills necessary for the twenty-first century. To improve the quality of education effective pedagogical training becomes extremely important as has been asserted by the former Director General of UNESCO, Koichiro Matsuura as follows:

"Every investment in basic education must be measured against how well it serves both to expand access to education and to improve learning for all children, youth and adults. This endeavour begins at home, with a national consensus on quality and a robust long-term commitment to achieve excellence.

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[3] UNESCO. 2004. EFA Global Monitoring Report 2005: Education for All -The Quality Imperative (pp. 152-153). Paris: UNESCO.

However, the international community must also give strong and consistent support to countries that are boldly seeking to expand and improve learning for all of their citizens." (ibid, Foreword)

IICBA therefore intended to revisit 'Learner-Centered Pedagogy' with a broader approach that focuses on the role of the learner in an active learning process to ensure quality of instruction by encouraging the attitude of inquiry among the learners. The Institute chose the topic "Ensuring Quality by Attending to Inquiry: Learner-Centered Pedagogy in Sub-Saharan Africa" under its programme of sharing experts' knowledge and experience in the subject through its series of "Fundamentals of Teacher Education Development" in Africa. The Institute was fortunate to have two distinguished educational experts and a new arrival, a doctoral student, to the world of expertise in international education with focus on the continent to work on the topic. According to the authors this booklet is designed to provide a guide for making informed decisions about the use of learner-centered pedagogy in schools, colleges, and other educational institutions. The purpose is to explain in a popular way the rationales of the learner-centered pedagogical approach, the challenges of using it in teacher education institutions, and to propose a number of strategies for action with concrete steps to be taken by stakeholders in teacher education development in Africa. The stake-holders, according to IICBA, are policy-makers, senior government officials of the Ministries of Education, and those engaged in capacity building in teacher education planning and management and in training and research. These strategies, if appropriately implemented, the authors believe, will make pedagogy more effective and will help achieve excellence in education especially in the context of Sub-Saharan Africa. The authors were asked to put their thoughts and ideas in a non-specialised way.

The authors have elaborated on the definition of learner-centered pedagogy in the broadest possible terms with an extensive literature, including debates on its appropriateness in African contexts. They have explained the theories and methods associated with the pedagogy to equip the teachers and the teacher educators with practical and effective skills to promote critical thinking and inquiry-based learning. They have attempted to provide a clear sense of the rationale for using the pedagogy to the relevant stakeholders, including policy and decision-makers in the field of capacity building in teacher education development in Africa, while making them aware of the challenges facing them in implementing the pedagogy. Among the challenges facing adoption of learner-centered pedagogy provided by the authors, I have selected nine as stated below:

1. Without high-quality initial training, teachers largely teach the way they were taught. It is difficult for them to adapt and adopt learner-centered pedagogy.

2. With few exceptions, teacher education programs in Sub-Saharan Africa utilize the technical rationality model transmitting knowledge about the content of their subject and the 'correct' ways for teaching it to student teachers. Student teachers are then evaluated on the extent to which their lesson plans, methods, and techniques demonstrate these technical skills. It would be more appropriate to implement the reflective practitioner model in which tutors aim to create conditions for student teachers to use active learning strategies and to think critically about the authoritative knowledge in their fields, inquire into and discuss various ways of teaching content for different contexts, and develop their own pedagogical style.

3. Tutors are often not specifically trained as teacher educators since it is assumed that anyone graduating in education would be capable of teaching at a college.

4. Teacher Training Colleges (TTCs) are not held accountable to primary and secondary schools and even at times to the Ministry of Education. These disconnections too often lead to poor preparation of teachers at TTCs.

5. Tutors at TTCs and university faculty may have expertise in education, which includes theories of learning, materials development, and teaching methods but not in specific academic subjects. On the other hand tutors may have excellent knowledge of the content of their courses, such as history or chemistry, but have limited understanding of how to teach content using methods appropriate to their subjects and contexts, especially methods aligned with learner-centered pedagogy.

6. One of the principal philosophical challenges lies at the heart of learner-centered pedagogy: the notion that knowledge can be co-constructed by teachers *and* students. The assumption may engender cultural conflict because it challenges the authority vested in teachers as *the* person in the classroom who possesses knowledge.

7. Teachers' practical concerns about learner-centered pedagogy, especially with respect to school-based professional support and favourable conditions of teaching, are not given due consideration.

8. Teachers often do not have adequate linguistic skills in the medium of instruction to express complex ideas and to ask critical questions.

9. The examination system is aligned less with active learning and learner-centered pedagogy and more with direct instruction, pushing the teaching practices to be more teacher-centered.

The authors do not stop after identifying the challenges. They go forward to provide some strategies for action focusing on two principal areas for reform—teacher education and systemic realignment.

For teacher education the strategies for action are as follows:

1. Professional development opportunities for teacher educators should be provided through: (i) organization of professional development workshops for faculty and tutors, (ii) establishment of professional learning communities for faculty and tutors, and (iii) professional outreach to area primary and secondary schools with assistance from schools in developing locally-relevant methods for promoting learner-centered pedagogy (LCP).

2. Pre-service curriculum and methods of instruction should be revised by: (i) redesigning content and educational foundation courses so that pedagogical content knowledge is not divorced from subject content knowledge, (ii) restructuring the timetable to allow more structured opportunities for teaching practice using LCP, and (iii) integrating LCP into the curriculum across all subjects.

For systemic realignment the authors recommend the following strategies for action*:*

1. A wide range of participants should be involved with different experiences in the education system in units within the education ministry or a relevant agency to write school curricula and syllabi for different subjects. These units are frequently distinct from teacher education institutions and other relevant bodies involved with implementing changes in the curriculum.

2. An alternative to the above structure would be for curriculum development and implementation to utilize teams comprised of current or recently retired expert teachers, tutors from teacher education institutions, university faculty, and curriculum development personnel from ministries or parastatals. Ideally, these teams would also involve school inspectors,

school heads, and parent representatives. Changes in the primary or secondary school curricula would occur together with changes in teacher education curricula following, according to the authors, the work done in Namibia to link school curriculum reform to teacher education so as to make the process more coherent.

3. National assessments should be aligned with learner-centered pedagogy so that assessments are formative rather than only summative. They should be continuous without involving continuous testing, and they should include authentic learning tasks. Learner-centered pedagogy demands a different way of assessment where students should be able to demonstrate their ability to comprehend concepts and not only restate them, to apply theories to different settings, and to analyze novel problems critically by themselves and with others.

While there is no doubt that learner-centered pedagogy may improve student learning, the authors are not recommending that LCP be used in all circumstances. They have introduced in the booklet the concept of a "spectrum of teaching" and have suggested that teachers should draw upon their professional knowledge in determining when more teacher-centered or more learner-centered methods are appropriate. With respect to the effectiveness of LCP in making students more critical, creative thinkers, and more engaged citizens, they recommend further research.

I hope that this booklet will provide stakeholders of capacity development in teacher education some useful insights and directions in the areas of further research for improving the quality of teaching and learning, an important preoccupation of UNESCO and IICBA.

Bikas C Sanyal

General Editor of the series

Acknowledgements

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List of abbreviations

BETD	Basic Education Teachers Diploma (Namibia)
CPD	Continuing Professional Development
DANIDA	Danish International Development Agency
DEP	Diploma in Education (Primary) (Lesotho)
EFA	Education for All
FCUBE	Free Compulsory and Universal Basic Education (Ghana)
FIBATTA	Field-Based Teacher Training Approach
GDP	Gross Domestic Product
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit, or German Society for Technical Cooperation
INSET	In-Service Teacher Education
JUSSTEP	Junior Secondary School Teacher Education Project in Ghana
LCP	Learner-Centered Pedagogy
MIITEP	Malawi Integrated In-service Teacher Education Programme
MOEC	Ministry of Education and Culture (Tanzania)
MOEVT	Ministry of Education and Vocational Training (Tanzania)
MOI	Medium of Instruction
MUSTER	Multi-Site Teacher Education Research
NIED	National Institute for Educational Development (Namibia)
NTTC	National Teacher Training College (Lesotho)

OECD	Organization for Economic Co-operation and Development
PCK	Pedagogical Content Knowledge
PERP	Primary Education Reform Program
PRESET	Pre-Service Teacher Education
PTE	Primary Teacher Education
PTCs	Primary Teacher Colleges
SSA	Sub-Saharan Africa
TDMS	Teacher Development and Management System
TTCs	Teacher Training Colleges
TTISSA	Teacher Training Initiative for Sub-Saharan Africa
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USAID	United States Agency for International Development
ZATERP	Zambia Teacher Education Reform Programme

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Introduction

Since the adoption in 1990 of Education for All as a global goal, classrooms across sub-Saharan Africa (SSA) have expanded rapidly to accommodate all of the children seeking primary and secondary schooling. Today, approximately 90 per cent of children in SSA have access to the first year of primary school (UNESCO, 2005), and nearly 35 per cent participate in secondary school (UNESCO, 2010a). Nevertheless, less than half of the children who enter primary school in SSA actually complete it (UNESCO, 2005), and, of these children eligible for secondary school, only 45 per cent even begin (Verspoor, 2008). These figures for SSA mask considerable national and sub-national variation, but most experts agree that completion rates at the primary and secondary levels must be improved if the region's youth are to play a more central role in global economic, political, and social affairs.

Teachers have a key role to play in helping children to develop the knowledge and skills necessary for the 21st century. Certainly, learning is affected by a student's ability and attitude as well as resources in the child's school and home. However, teacher quality has been shown to be the "single most important school variable influencing student achievement" (Verspoor, 2008, p. 217; Organization for Economic Co-operation and Development [OECD], 2004). Teachers' qualifications, experience, knowledge of subject areas, and pedagogical skills influence student learning in profound ways. Improving the quality of instruction depends to a large extent on the pedagogical training and support provided to teachers before they begin their teaching careers and throughout the years they are in the classroom.

Today, policymakers are ever more concerned with finding ways to improve how teachers teach and not merely increasing the number of teachers. For instance, since the early 2000s Ethiopia, Mali, and Tanzania have instituted policies specifying that teachers should use pedagogical approaches that engage students and make learning more interactive. National curricula in Botswana, Ghana, Kenya, Senegal, and a growing number of other African countries seek to promote such skills as analysis, creativity, critical thinking, and problem solving. The aim of these reforms is to enable teachers to move away from standard 'learning by rote' methods and to utilize alternatives that encourage inquiry among students as they develop, research, and reflect on new ideas (Leyendecker, Ottevanger, and van den Akker, 2008).

To develop these competencies, teachers must understand why these inquiry-oriented skills are now encouraged in education policy. They need to learn how they can modify their teaching methods to promote lifelong learning as well as student success on assessments that often determine whether a child will advance to the next level of the education system. There are different terms used to describe this approach depending on the principles and practices emphasized. Phrases such as "inquiry pedagogy," "participatory teaching," "child friendly," and "constructivist strategy" are related in that they connote a pedagogical approach that focuses on the role of the student in an active learning process. However, learner-centered pedagogy (LCP) will be the term used throughout this booklet to be consistent with current policy reforms in SSA. As described more fully in the next chapter, LCP places the student at the center of the teaching and learning process. It focuses on students' needs, abilities, backgrounds, and interests with the teacher serving primarily as a guide and facilitator for learning. The approach marks a significant shift from teacher-centered pedagogy, where students take a more passive role as teachers transmit knowledge that students learn

primarily through rote memorization. However, a range of teaching methods exists in SSA, and one should be cautious about setting up a dichotomy between transmission pedagogy and learner-centered pedagogy because teachers rarely utilize one approach to the complete exclusion of the other. A more realistic view of pedagogy is to conceptualize it as a spectrum of practices and perspectives that teachers move across with greater or lesser ease depending on their education, training, and experience (Barrett and Tikly, 2010).

The turn toward learner-centered pedagogy as an aspect of education policy has significant implications for pre-service and in-service teacher education in sub-Saharan Africa because it introduces a new interpretation of 'quality teaching.' It also has the potential to impact the educational trajectories of primary and secondary school students in countries where national examinations have not undergone a concomitant change in orientation. In such cases, exams continue to assess primarily students' knowledge of discrete, factual information, often referred to as declarative knowledge, rather than their critical, analytical skills (Woolfolk, 2011). This booklet examines the many implications of this move toward learner-centeredness and encourages reflection on the term itself, especially in relation to critical, participatory, and inquiry-based pedagogies that may or may not be part of a country's working definition of LCP.

The chapters to follow present research and recommendations from a variety of sources to serve the needs of the three stakeholders most directly affected by this global pedagogical reform movement. First, pre-service and in-service teachers need to understand the theories and methods associated with LCP to equip themselves with practical, efficacious skills to promote critical thinking and inquiry-based learning. Second, teacher educators at teachers colleges and universities must have a firm grasp of the literature on LCP, including debates surrounding its appropriateness in African contexts

and recommended areas for further research. Third, officials in ministries of education and finance, departments and institutes of curriculum development, and national examination councils should have a clear sense of the rationale for using LCP and the challenges it presents for countries with limited financial and human resources to support this new approach. This audience is particularly important for instituting educational reform in SSA; therefore, several chapters conclude with a section outlining implications for planners and policymakers.

This booklet is designed to provide a guide for these three primary audiences in making informed decisions about the use of learner-centered pedagogy in their schools, colleges, and other educational institutions. The first chapter, *Assumptions and definitions*, explains the principal assertions underlying LCP and presents related terms used in the field of education. The second chapter, *Trends in pedagogy and teacher education*, provides an overview of the history and directions in pedagogy and teacher education during the past century in SSA with a focus on the post-colonial era. *Reasons for the promotion of learner-centered pedagogy*, the third chapter, reviews the available literature on the psychological, political, and economic rationales for the expansion of LCP and also considers critiques of this approach to teaching and learning. The fourth chapter, *Case study of learner-centered pedagogy in Tanzania*, offers an example of the adoption and implementation of LCP in one country so as to highlight lessons for other countries. The fifth chapter, *Challenges facing teachers in using learner-centered pedagogy*, considers some of the major difficulties in incorporating LCP in pre-service preparation of teachers and in-service professional development. Finally, the *Strategies for action* chapter discusses a number of concrete steps that policymakers could take if they wish to move toward LCP and improve the alignment of elements within the education system to achieve the goal of excellence in education.

I. Assumptions and definitions

A coherent teaching philosophy is always accompanied, whether one is aware of it or not, by a philosophy of knowledge.

--Joy du Plessis and Irfan Muzaffar, 2010, p. 42

There are different philosophies of knowledge that educators and policymakers utilize in their professions, with two of the most distinct being positivism and constructivism. This brief chapter explains how these philosophies inform different perspectives on teaching and learning. Positivism starts from the assumption that knowledge lies outside the knower and that his or her task is to use reason to discover it objectively. More recent contributions to positivist thought have focused on empiricism and the use of the scientific method to learn the reality of the external world. This refers to the testing of hypotheses through observation and experimentation, and the verification or falsification of these hypotheses by other researchers. When applied to teaching, positivism suggests that teachers should 'deliver' a body of knowledge discovered and verified by scientists. The teacher's task is to 'transmit' this authoritative knowledge to students, who 'receive' it with little critical reflection on how it came to be. Students are assessed by how well they have learned this pre-determined set of facts about the world, thereby placing the teacher at the center of the learning process: "If knowledge is to be transmitted by the teacher and received by the student, then the curriculum tends to be consistent with a teacher-centered model of instruction and a traditional system of assessment that aims at assessing recall of received knowledge" (du Plessis and Muzaffar, 2010, p. 45).

The roots of behaviorist psychology lie in positivism, and it has had a large impact on teaching and teacher education because of its emphasis on the scientific method for measuring

observable phenomena and making generalizations based on these observations for standardized school reform. In teacher education, Schön (1983) contends that positivism and behaviorism underlie the 'technical rationality' model common to many parts of the world whereby student teachers 'receive' knowledge of their disciplines and of pedagogy through the same mode of transmission they then use in their classrooms. In this model, the element of reflection on received knowledge is missing, a shortcoming criticized by constructivists because it hinders teachers' ability to adapt to different situations as professionals must do in any vocation.

Learner-centered pedagogy draws on an alternative theory of knowledge known as constructivism. While not opposed to the use of the scientific method as one approach to creating knowledge, constructivism assumes that knowledge emerges through interactions and experiences among knowers and through reflection on the knower's own ideas. In other words, knowledge is not external to the knower and awaiting discovery by him or her; rather, knowledge "is created through a process of new information interacting with the prior knowledge and experiences of learners" (du Plessis and Muzaffar, 2010, p. 45). Several prominent education scholars, such as John Dewey, Jean Piaget, and Lev Vygotsky, are associated with constructivism and have demonstrated its relevance to pedagogy. Each of them made distinct contributions to the development of constructivist theory and focused on its various influences. However, they all see knowledge as emerging in specific situations and contexts; additionally, they consider knowledge as relevant for teachers and students when it is 'in use' rather than when it is 'delivered' in a way that dissociates it from previous experience and from the opportunity for engagement with it.

This philosophy of knowledge suggests that teachers should create the conditions for students to discover and actively construct knowledge—to 'learn to learn'—and to develop

the higher-order thinking skills of analysis and synthesis through inquiry-oriented lessons in the classroom. From this perspective, lessons should encourage students to draw upon, connect, and analyze their prior knowledge and experiences through self-discovery and interaction with other students and with the teacher. The primary role of the teacher is to engage students in inductive, hands-on activities, group work, and reflection to promote critical thinking, self-evaluation, and the integration of knowledge across traditional subject areas. For these reasons, some educators prefer to use the terms student-centered pedagogy, child-centered pedagogy, critical-thinking pedagogy, inquiry pedagogy, or discovery-based teaching to direct attention to the persons or process of greatest concern.

This booklet relies on learner-centered pedagogy as an overarching term to describe the principles and methods common to these constructivist-oriented perspectives while also recognizing that there are important differences among them. The working definition of LCP adopted for this booklet is as follows: It is an approach that informs the practices of teaching based on the assumption that people learn best by "actively constructing and assimilating knowledge rather than through the passive addition of discrete facts to an existing store of knowledge" (Mtika and Gates, 2010, p. 396). This definition assumes that posing problems and engaging students to think critically about them is a superior way of teaching compared to transmission models that posit the teacher as the central source of knowledge and engage students mainly through rote memorization. It is an approach that is also premised on the view that continuous, competency-based assessment provides more useful information about student learning than summative, discrete-point tests. However, this booklet recognizes that different definitions of LCP circulate globally and that some usages of the term in SSA have omitted the elements of inquiry, critical thinking, and

problem solving. The centrality of critical inquiry to any effort to enhance the quality of teaching and learning will be taken up in the various chapters because improving educational quality is, ultimately, the goal of any policy reform. The potential effects of the widespread reform to embrace LCP are examined in the following chapters in an attempt to deepen understanding and promote debate about the best ways to ensure quality education across sub-Saharan Africa.

II. Trends in pedagogy and teacher education

The history of formal education in sub-Saharan Africa provides a context in which to situate contemporary debates surrounding the most appropriate ways to improve teaching and promote learning. Policies about the content of the curriculum, access to schooling, and the education of teachers have changed significantly since the beginning of the colonial era. However, the structure of the school system, the reliance on behaviorist forms of assessment, and, in some cases, the curriculum itself continue to resemble those developed by British, French, or Portuguese educators and officials. According to the Secondary Education in Africa initiative, "African secondary education systems still exhibit features inherited from a colonial past. Surprisingly little change has taken place in curricula, assessments, and examinations at the secondary levels in SSA countries" (Verspoor, 2008, p. 185). Although there has been more innovation at the primary level, this description of secondary schooling presents a fairly accurate picture of the education system as a whole. This chapter explores both continuities with the colonial past as well as innovations that have led to a rethinking of teacher-centered methods in favor of more learner-centered approaches.

The colonial era and the early phase of independence

Much of the impetus for previous educational reforms in sub-Saharan Africa came from a desire to break with the colonial past. Fundamentally unequal schooling systems that restricted enrollment and limited the curriculum to content consistent with the needs of mission societies and the colonial administration were a hallmark of education throughout much of the 19th and early 20th centuries. In the early 1800s in British colonies, Christian missionaries established formal education initiatives, through which they intended to 'civilize' Africans by teaching basic reading to facilitate a focus on the Bible, moral development, personal

hygiene, and technical skills. Teacher training was eventually established by the same entities and led to the development of a cadre of African teachers for mission-sponsored schools, which then expanded into the provision of teachers for government-sponsored institutions. In Portuguese-held territories, educational opportunities beyond the primary level were largely restricted to the urban elite, or *asimilados*, with Catholic missions providing basic education consistent with the government's goal of creating Portuguese-speaking Christian colonies (Azevedo, 1980; Mungazi and Walker, 1997). The Belgian Congo also pursued its 'religious mission' through schooling provided by Catholic missionaries, who taught basic numeracy and literacy as well as vocational training aligned with the economic exploitation of the colony. The situation in French colonies was somewhat different in that the separation of church and colonial state was more pronounced: Although mission schooling was common in the 1800s, by the 1920s French colonial powers had established a comprehensive state-run educational plan for their West African colonies, which slowly took shape. The plan offered a higher level of study for 'assimilated' Africans, but most of the population did not receive more than a basic education emphasizing French, agricultural skills, and hygiene (Bolibaugh, 1972). Despite differences in the balance of religious and secular schooling, the amount of formal education was severely limited and restricted primarily to the lower levels of primary school. The curriculum and assessment systems conformed to academic patterns in the colonial center, and instruction was almost exclusively teacher-centered with little if any attention given to higher-order thinking skills.

Even though critical thinking was not encouraged in colonial schools, the graduates of these institutions were keenly aware of the injustices inflicted upon their societies and fought to expand access to schooling and the content of it. The latter half of the 20th century was a particularly important period of struggle over education, illustrated most vividly by the situation in

southern Africa and its extreme forms of educational inequality during this period. For instance, the British educational policy from 1934-1954 in Zimbabwe (then Rhodesia) emphasized practical training and geographical segregation that aimed to guarantee an inexpensive, unskilled labor pool. A brief expansion of educational opportunities for blacks after World War II was curtailed by the 1962 election of the Rhodesian Front Party (Zvobgo, 1994). Similarly, in 1953 in South Africa, the National Party's apartheid policies led to highly racialized and geographically-segregated schooling so that by the 1970s, the government was spending nine times more on white students than on black students (OECD, 2008). Black students training to be teachers in South Africa attended one of the small, primarily rural colleges where the quality of instruction was low. There was a very limited amount of time—in some cases two weeks in a year—spent on teaching practice, and the pedagogical philosophy promoted in the colleges served as a rationalization for the racist ideology of the apartheid state (Stuart, 1999). In Namibia (South West Africa at the time), apartheid extended into teacher training: Teacher training centers were, in reality, extensions of secondary schooling. They enforced education in Afrikaans and limited preparation to a two-year certificate program to produce primary school teachers (Cohen, 1994; Nyambe and Griffiths, 1999).

During the 1960s, the decade when many African countries gained independence, there was still a great shortage of teacher training colleges and teachers for primary and secondary schools. In Tanzania, for instance, there were only 21 teacher training colleges (TTCs) with 1,851 students in 1962, a year after independence; less than two decades later, there were 37 TTCs with more than 13,000 students enrolled, but this still did not meet demand in the country's primary and secondary schools (Buchert, 1994). Not only did many countries in SSA face shortages of teachers, but they also had to make decisions

about whether to maintain the colonial-era educational structure and curriculum. Many countries eventually changed some aspects of the organization of the educational system, teacher training, and curricula. For example, Tanzania's socialist leader, President Julius Nyerere, criticized the elitist nature of formal education and promoted Education for Self Reliance, which sought to make the curriculum more relevant by orienting it toward rural life and productive work, and by engaging teachers and students in decision-making to promote community development (Kassam, 1995; Samoff, 1990). Paulo Freire's critical pedagogy approach, which also challenges elitism in education and oppression more broadly, was applied in Mozambique and Guinea Bissau. Other countries, such as Botswana and Zambia, experimented with the model of Education with Production, which challenged the theory/practice, mental/manual division characteristic of colonial education.

Elements associated with LCP were also taken up and incorporated into the new and influential Life Science curriculum in independent Namibia in 1990, where it was seen as an effort to promote equity and democracy through reforms in the school curriculum (Angula and Grant Lewis, 1997; Chisholm and Leyendecker, 2008). In an effort to dismantle segregation, the Namibian government transferred responsibility for teacher education to the newly established National Institute for Educational Development (NIED) and increased salaries for teachers to professionalize the field (Dahlstrom, 1999). In neighboring Angola, seeking to redress deep inequality, the country embarked on a socialist path and launched a national literacy campaign after independence from Portugal in the hopes of reaching the estimated 85 per cent of the population who had been excluded from colonial education. Some former French colonies followed a similar path, with the socialist governments in Guinea and Mali setting out to 'decolonize the mind' by Africanizing their curricula. In the case of Guinea, this also meant rejecting

French as the medium of instruction. In contrast, Côte d'Ivoire and Senegal adhered to a different political philosophy and maintained the French curriculum with only slight modifications (Bolibaugh, 1972).

In summary, there was a great deal of variation in the degree to which former colonies in sub-Saharan Africa modified the structure and content of the formal education systems in the first few decades after independence. Some countries reorganized TTCs and changed the language of instruction, methods of instruction, and content of school curricula at the primary (and occasionally secondary) level; other countries pursued minimal modifications. In most cases, however, primary schooling has been the sector that has seen the most experimentation with far less redesign of schooling thereafter. Secondary schooling and TTCs have generally maintained the same organization, examination structure, and medium of instruction from the colonial period with teachers continuing to use methods that develop lower-order thinking skills because they "teach as they were taught" (Verspoor, 2008, p. 220).

The emergence of learner-centered pedagogy

Throughout sub-Saharan Africa, there has been a gradual shift in policy, if not necessarily in practice, away from prevailing pedagogical traditions toward learner-centered pedagogy as a result of economic, educational, and political factors. As noted above, a number of countries implemented curriculum reform efforts that incorporated some elements of LCP, such as active learning and critical thinking, but the widespread embrace of this approach by governments since the mid 1990s marks a significant change that warrants further attention.

By the early 1980s, many countries in Africa, Asia, and Latin America faced a growing economic crisis as oil prices rose and commodity prices dropped, resulting in significant consequences for the education sector. For example, when in

the 1970s Ghana's economy declined precipitously, government expenditures for education dropped from 6.4 per cent of GDP in 1976 to 1.5 per cent in 1984. The school system fell into disarray, causing trained teachers to leave for other professions and gross primary enrollment rates to decline drastically (World Bank, 2004). To cope with their external debt burden, many African countries adopted structural adjustment reforms aimed at reducing government expenditures by cutting the size of the civil service, privatizing state-owned industries, and instituting 'cost sharing' policies in the education and health sectors to recoup costs. By the mid 1980s, roughly two thirds of African countries had implemented some structural adjustment reforms (Peet, 2003). Although each country instituted a somewhat different set of reforms, many of them specified changes in the education sector that went beyond simply charging user fees: They also began to target the structure and content of schooling. "Curriculum reform [became] part of the educational component of the structural adjustment package through the implementation of Universal Primary Education," according to Chisholm and Leyendecker (2008, p. 199). This has resulted in an increased emphasis on quality education and efficiency manifested in revised curricula and methods of teaching. Many countries, such as Malawi, Mozambique, Tanzania, and Uganda, saw changes in the primary school curriculum coupled with economic reforms (Guro and Weber, 2010; Kunje, 2002; Vavrus, 2009).

The new emphasis on learner-centered pedagogy also emerged from the view shared by certain international organizations and national policymakers that this approach would contribute to the expansion of democracy. For example, the USAID-funded Primary Education Improvement Project, which ran from 1981 to 1991 in Botswana, was embraced by policymakers as a means to promote democratic social relations and critical engagement between citizens and officials (Tabulawa, 2003). Namibia, which won its independence

in 1990, also turned to LCP and teacher education reform in an effort to democratize society, and a number of international organizations supported these efforts even though they promoted ideologically distinct understandings of LCP (Dahlstrom, 1999). Nevertheless, the shift to LCP in Namibia and elsewhere has been hindered by strong authoritarian traditions emerging from diverse sources, including chiefdoms, colonial structures, religious and racial hierarchies, and the military command of liberation movements (ibid.).

During the late 1980s and early 1990s, learner-centered pedagogy received a further boost from the 1990 adoption of Education for All as a global policy. Education for All's goals of expanding educational access and improving quality through revised curricula and pedagogical approaches fit well with the ambitions of many post-colonial countries. On its list of conditions for educational quality, the Dakar Framework specifically included "active learning techniques" and "a relevant curriculum … that builds upon the knowledge and experience of the teachers and learners" (UNESCO, 2000, para. 44). As Chisholm and Leyendecker argue, LCP became "part of a discursive repertoire of international rights and quality education … broadly shared amongst multilateral and donor agencies" (2008, p. 198).

The 1990s and early 2000s witnessed a flourishing of educational reforms with strong elements of learner-centered pedagogy. For example, LCP featured prominently in the 1995 reforms in Ghana called Free Compulsory and Universal Basic Education (FCUBE). FCUBE restructured the curriculum of teacher-training colleges to make teacher education more practical and to include training in LCP (Akyeampong and Stephens, 2000). In 1999, Mali embarked upon a general educational reform and decentralization process based on a ten-year plan that, among other things, aimed to expand enrollment in primary education, reform teacher training, scale up a competency-based curriculum for grades one through nine, and introduce active

learning methodologies (USAID-Mali, 2002). In 2004, South Africa's Outcomes Based Education reform linked a competency model with LCP approaches (Chisholm and Leyendecker, 2008; Jansen, 2004). In the same year, Mozambique's new curriculum for basic education emphasized LCP (Guro and Weber, 2010). Similar reforms were underway in Guinea, which adopted a new pre-service primary teacher education project that featured student-centered approaches and active learning (Dembélé and Miaro II, 2003).

These examples show that the period from the late 1980s to the present has witnessed a number of significant economic, educational, and political changes across sub-Saharan Africa. The high degree of influence by international development organizations in these three domains means that global educational trends toward the adoption of LCP have been noted and adopted by many African policymakers and planners. Some of the most common features of LCP that one finds in current policy include, to varying degrees, attention to the child as an active learner; learning through problem posing and inquiry; locally-relevant curricula, at least in primary schools; diversified and formative assessments; and teacher reflection to improve practice (Dembélé and Miaro II, 2003; UNICEF, 2009).

Despite these examples of curricular and organizational change, it appears that policy has changed more than practice when it comes to teachers actually utilizing learner-centered pedagogy. Tabulawa (1997, 1998) argues that LCP in Botswana conflicts with teachers' views on knowledge, learning, and the goals of schooling that are informed by indigenous and colonial perspectives. Coe (2005) demonstrates in her study of schooling in Ghana that national and local understandings of teaching and learning hinder international efforts to promote LCP. Other reports suggest Ghanaian teachers are still relying primarily on teacher-centered methods even though government policy calls for LCP (Mereku, 2002). In short, various descriptions of

curricula and pedagogy on the continent reveal the prevalence of transmission pedagogy with lecturing and drilling being common teaching methods in schools. As explored in the following section, the limited reforms of teacher education programs across SSA partially explain the continued reliance on teacher-centered approaches.

Learner-centered pedagogy in teacher education programs

There are many forces that have influenced the shift toward learner-centered pedagogy in sub-Saharan Africa, including independence, economic reforms, international development organizations, and democratization with its concomitant political pressures from citizens seeking a better education for their children. While space limitations prevent a comprehensive review, this section highlights changes in teacher training colleges in several African countries to show general trends and challenges related to college organization, curriculum, and pedagogy. Information on teacher education reform in Anglophone Africa is drawn primarily from the rich documentation developed by the Multi-Site Teacher Education Research (MUSTER) project, a four-year study conducted by the University of Sussex with key African educational institutions, supplemented by other available literature.

Ghana, one of the African countries in the MUSTER study, experienced a disappointing basic education reform in 1987 that led to criticism of the country's teacher training programs. As a result, the British-funded Junior Secondary School Teacher Education Project, which operated from 1989-1993, worked with the Teacher Education Division of the Ministry of Education to review the curriculum and to write materials for the country's 38 teacher training colleges addressing four themes: (1) communication across the curriculum; (2) caring for pupil progress; (3) assessing pupil achievement; and (4) reflecting on

practice (Stuart, 1999). The new model, based on a competency approach, stressed what teachers could do (more than what they knew) and presented an image of a teacher as technical practitioner (ibid.). The subsequent 1995 Ghanaian reforms, called Free Compulsory and Universal Basic Education, made practical training more central in teacher training colleges and expanded the use of learner-centered approaches (Akyeampong, Ampiah, Fletcher, Kutor, and Sokpe, 2000).

Lesotho, a second MUSTER country, radically reformed teacher education in 1975, when it shuttered the seven church-affiliated teacher training colleges and opened one National Teacher Training College (NTTC), which was eventually housed within the Ministry of Education. Funded by UNESCO and UNDP and led by U.S. personnel, the initial approach was based on a behaviorist model of teaching and learning. The program gave equal emphasis to content and methods coursework; it employed a 'sandwich' program, in which students spent years one and three at NTTC and the second year teaching in the schools under the supervision of a trainer (Stuart, 1999). Since the initial opening of the NTTC under this organizational structure, policymakers in Lesotho have reduced the amount of time required for teacher preparation to lower costs and meet the demand for teachers. In 1993, the NTTC initiated a three and a half year Diploma in Education (Primary) (DEP); the program includes a one-semester bridging course in academic areas, stronger academic training, and a two-stage practicum. More recently NTTC has opted to include a one-year teaching practice.

Malawi, another country in the MUSTER study, has also witnessed major shifts in its teacher preparation programs in response to the high demand for teachers across the country. To standardize quality, the number of colleges diminished from twelve in 1972 to six in 1998 (Stuart, 1999). From 1964-1987, the 'normal' training program entailed a two-year residential

college course; in 1987 one of the TTCs started a one-year in-service course to prepare untrained but experienced teachers. Responding to escalating demands, the Malawi Special Teacher Education program was set up in 1989 to train teachers on the job through short courses, local seminars, and distance modules. Multiparty elections in 1994 introduced free primary education, requiring the recruitment of 17,000 untrained teachers. With the assistance of the World Bank and German Society for Technical Cooperation (GTZ), the government suspended other teacher education programs and began to use the country's six TTCs for the two-year mixed mode Integrated In-service Teacher Education Programme (MIITEP). The program blended three months at college, 20 months in a distance-learning, school-based modules, and a final month of studies and exams at college (Kunje 2002).

The MUSTER study also examined South Africa's efforts at the end of the apartheid era to initiate a major restructuring of its segregated teacher-training programs. In 1998, after adopting the National Qualifications Framework and Curriculum 2005, teacher education was moved into the higher education sector. The new programs emphasized, among other things, problem-solving, critical thinking, and civic engagement, with student teachers prepared to facilitate learning, design and implement learning materials, become reflective practitioners, and lead in the development of citizens (Parker, 2002).

In addition to the four Anglophone African countries in the MUSTER study, Namibia, Uganda, and Zambia provide useful lessons in recent teacher education reform. As noted above, learner-centered pedagogy permeated Namibia's post-independence reforms of teacher education, specifically the pre-service and in-service Basic Education Teachers Diploma (BETD) programs developed by the National Institute for Educational Development. The BETD programs represent

an unusual model in SSA in that pre- and in-service teacher education are not rigidly divided, and they are integrated into the reform of school curricula (Dembélé and Miaro II, 2003). The in-service program employs a "practice-based inquiry (PBI) approach" that encourages teachers to improve their classroom practice through critical reflection (p. 40). This program, a four-year endeavor, combined meetings with tutors over five days three times a year at six centers throughout the country. In these meetings, tutors guided teachers through instructional module guides. These innovations are still undergoing revisions as an evaluation of the program found that teachers had significant difficulty linking the theoretical materials on learning to their actual practice (ibid.).

In 1993 Uganda started its Primary Education Reform Program, which was designed, in part, to improve instructional quality through reducing teacher attrition and improving competency (especially among the 40-50 per cent of unqualified teachers). The reform sought to improve training at 23 primary teacher-training colleges by aligning the teacher education curriculum with the primary school study programs (Dembélé and Miaro II, 2003). In Zambia, reforms to teacher education came in the late 1990s. Education for primary school teachers remained static from independence in 1964 through the 1990s, and it was criticized for its "overloaded and inappropriate curriculum" and "promotion of rigid teacher-centered methodologies" (Ministry of Education, 1996, p. 109). By the end of the 1990s, the effects of the major economic and political changes generated, in part, by structural adjustment were felt in the education sector. To address a shortage of teachers that resulted from cuts to the civil service sector, Zambia inaugurated the Teacher Education Reform Programme (ZATERP), funded by the Danish International Development Agency (DANIDA). ZATERP is based on the integration of traditional subjects—such as mathematics, agriculture, and geography—into six

streamlined study areas and aims to prepare student teachers who "teach effectively using a range of teaching strategies which place the learner at the centre of the educational process;" who project "a sense of responsible citizenship;" and who demonstrate the ability "to construct meaningful relationships in order to foster effective and efficient teaching and learning" (Musonda, 1999, p. 163).

In Francophone Africa, one finds some similar cases of reform, such as the two-year teacher education model adopted by Guinea. The country was threatened by a significant teacher shortage, and it obtained a World Bank loan and the support of the University of Quebec to develop a model "conceptually oriented by active pedagogy, learning-centeredness, reflective practice, and socio-constructivism" (Dembélé and Miaro II, 2003, p. 34). The first year of content training at the institution is broken up by periods of student teaching; in the second year, trainees assume responsibility for a classroom but are supervised collaboratively by tutors and host teachers, as well as receiving support from peers teaching at the same site.

These cases of teacher education reform indicate that many countries, especially in Anglophone Africa, are attempting to integrate learner-centered pedagogy into the preparation of teachers. Although some have been quite successful, most face a number of common challenges. The most significant ones are taken up in the fifth chapter in the booklet, but a few of them are mentioned here to reinforce the point that policy declarations about LCP do not necessarily translate into the use of this approach for philosophical and practical reasons.

First, changes in teacher education programs like the ones described above have not been able to overcome the contradictory theories of learning presented to student teachers and experienced by them in teacher education programs. In their review of teacher education curricula, the MUSTER researchers found:

> *[T]wo parallel educational discourses [are] going on: a theoretical one largely drawn from Western conceptual frameworks, and a more practical one about the kinds of teaching, learning and socialization that go on in the real communities, and which students 'know' at a different level. This may be one reason for the particularly strong disjunction between theory and practice.... (Lewin and Stuart, 2003b, p. 73)*

The researchers found in the countries studied that student teachers were expected to acquire knowledge of their discipline and 'transmit' it in a similar way regardless of context—a feature of a behaviorist approach—but they were also supposed to reconstruct that knowledge based on the different cultural, political, and social contexts in which they found themselves. The MUSTER team reported the following typical pattern from Lesotho and Malawi:

> *[T]he Lesotho DEP programme aims seem based on the 'reflective practitioner' model of the teacher, who would have high levels of knowledge and skills, but also be expected to use their professional judgment, help develop the curriculum and act as change agent. But the individual subject courses seemed premised on a 'behaviourist' model, giving no space to reflection, self-evaluation or implementing classroom change. Similarly in Malawi, some of the MIITEP documents mention the 'teacher as facilitator and agent of change' while the overall national objectives for teacher training remain unchanged, emphasising the role of the teacher as effective instructor and moral guide. (Lewin and Stuart, 2003b, p. 68)*

Second, the MUSTER study showed that student teachers' academic English (the medium of instruction in each of the cases in the study) was poor, and yet the teacher-training colleges made no significant efforts to remedy this shortcoming.

This is a critical problem given that teachers are expected to learn a new approach to teaching that places significant linguistic demands on them because they must facilitate discussion in a language in which they may not be fluent rather than lecture from prepared notes.

Third, countries varied significantly in their balance between developing content-area and pedagogical proficiency among student teachers. The primary school curriculum in most countries dictates subjects studied at TTCs, and there are many subjects at both the primary and secondary level to cover; as a result, teachers generally provide "shallow or partial coverage," as Verspoor found in reviewing secondary school curricula in SSA (2008, p. 54). Some countries, such as Ghana and Lesotho, are attempting to remedy the overloaded curriculum by reorganizing subjects into a few broader subject areas (Stuart, 1999). Mulkeen (2010) avers that, due to pressures to increase rigor and quality in college courses, prospective teachers are taught advanced content knowledge that is geared toward university exams but not aligned to the primary or secondary school curriculum. Furthermore, TTCs rarely provided content instruction in a way that is useable by student teachers; instead, the MUSTER research team found that "curricula often present subject methods in the form of 'recipes' to be applied regardless of context, rather than as 'pedagogic content knowledge' which could be adapted flexibly to widely varying school conditions" (Lewin and Stuart, 2003a, p. 699).

Implications for planners and policymakers

In the midst of liberal democratic reforms and greater integration into the global economy, national and international policymakers have hailed learner-centered pedagogy as a potential contributor to desirable economic and political change. However, teacher preparation programs have generally not adequately integrated LCP into the curriculum. This approach

may now be advocated in curricula and policy, but some student teachers may not fully understand its underlying philosophy or its attendant methods. Some tutors at TTCs may not be modeling active learning methods or using alternative forms of assessment; therefore, the transition to a more complete adoption of LCP will take time and additional support. Given the high hopes attached to this approach for economic, educational, and political reform, it is important to consider not only the limitations of LCP as it is currently practiced but also the ways in which policymakers and teacher educators can reasonably support teachers' acquisition of and familiarity with its methods. These are issues that will be addressed more fully in the final two chapters of the booklet when challenges and strategies related to LCP are discussed. Before considering those issues, however, it is important to ask: What is the empirical basis for the claim that LCP promotes the desired learning or social, political, and economic changes? The following chapter addresses this essential question.

III. Reasons for the promotion of learner-centered pedagogy

The previous chapter showed that trends toward learner-centered pedagogy vary across African countries and institutions within them. This chapter examines reasons for this variation by exploring different rationales for the promotion of this approach. In particular, it looks at three broad categories of anticipated benefits for adopting LCP: 1) cognitive and psychological; 2) political; and 3) economic. Although these benefits may or may not be realized, this chapter seeks to understand various and widespread beliefs for the advocacy and support of LCP by many local, national, and international stakeholders. Several criticisms of these rationales are also explored in an effort to better conceptualize the rationales for LCP and the reasons for opposition to it. Lastly, the implications of these differences are outlined in the final section.

Cognitive and psychological rationales

Cognitive and psychological benefits of learner-centered pedagogy are often cited as the primary reasons for teachers, schools, and ministries of education to adopt this approach. The term cognitive refers to mental processes, such as remembering or solving problems, while psychological encompasses cognition but also includes the study of emotions, motivation, and interpersonal relationships. Derived from early research conducted by educational psychologists and theorists like Dewey, Piaget, and Vygotsky, contemporary scholarship examines how LCP is related to cognitive and metacognitive ability, motivational and affective characteristics, developmental and social qualities, and individual differences (American Psychological Association, 1997).

The American Psychological Association has developed 14 Learner-Centered Psychological Principles that highlight some of the benefits that are believed to result from high-quality LCP instruction in the classroom. The most relevant principles for this paper include the following:

- The successful learner, over time and with support and instructional guidance, can create meaningful, coherent representations of knowledge.

- The successful learner can link new information with existing knowledge in meaningful ways.

- The successful learner can create and use a repertoire of thinking and reasoning strategies to achieve complex learning goals.

- Higher-order strategies for selecting and monitoring mental operations facilitate creative and critical thinking.

- The learner's creativity, higher order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control.

- Learning is most effective when differences in learners' linguistic, cultural, and social backgrounds are taken into account. (1997, pp. 3-6)

These principles have in common the view that through LCP students have the capacity to develop higher-order thinking and critical engagement with the world around them, skills deemed necessary for success in a complex global society. Higher-order thinking skills, such as the abilities to analyze, evaluate, and create knowledge (Anderson and Krathwohl, 2001), enable students to examine and process the wealth of information that is available in the modern era. It is also evident that the APA principles assume that the role of the teacher must be more

than merely a 'giver of knowledge' who lectures and encourages rote-based memorization. Instead, teachers need to consider learners' backgrounds as they create learning activities that place the learner at the center of inquiry. They must also challenge students to make connections between prior knowledge and new situations, critically analyze ideas and events, and become co-constructors of knowledge.

Many educational researchers have noted that learner-centered pedagogy helps students to develop critical thinking and the ability to apply complex ideas in real-life situations. Piaget's concept of 'disequilibrium' describes the process when students are confronted with new information that does not fit within their existing understanding of the world, and they must search for a solution to the problem this poses for them (Woolfolk, 2011). The assumption is that teachers who utilize LCP will develop in their students the capacity for "cognitive flexibility, self-direction, cooperation, resourcefulness, [and] perspective-taking," all of which are skills gained by the active process of working through cognitive disequilibrium rather than by the passive memorization of facts (Gallagher, 2003, p. 96). In addition, a central tenet of LCP is that it promotes "an active engaging of critical inquiry" among students as they complete classroom activities that cause disequilibrium but that the teacher-as-facilitator helps them to resolve it by applying theoretical concepts from lessons in the classroom to real-life experiences (Thornton and McEntee, 1995, p. 251).

This process of applying theory to practice and constructing new knowledge is dependent on social interaction among students and between students and teacher. Each person in a classroom in which LCP is practiced is positioned as a learner, not only the students. Learning, then, depends on a process of co-creation of knowledge and negotiation of it among all participants in the classroom. Thornton and McEntee (1995) suggest that LCP is

"an equally-shared, socially-constructed process of creating and building a knowledge base among the students and the teacher" (p. 251). This does not mean, however, that teachers who use LCP are not familiar with the content they teach; on the contrary, they must be experts in their content areas and know how to express it in ways that facilitate higher-level thinking and learning among their students. For example, teachers using LCP collaboratively explore with students connections and incongruities between concepts, resulting in new ideas that have been generated by students but facilitated by the teacher.

Some studies indicate that when the relationship between teacher and students is based on empathy, mutual understanding, and the promotion of critical thinking, teaching is more effective (Cornelius-White, 2007). For example, research suggests that posing complex tasks, problems, or questions to groups of students promotes higher-order thinking and student engagement as well as increased levels of curiosity (Applefield, Huber, and Moallem, 2000/2001). Other studies have found that the best predictor of student achievement and motivation is a positive learning environment where teachers provide individual options, and students are considered co-creators of knowledge through learner-centered activities (McCombs, 2001). The World Bank (1999) also contends that LCP is usually a better way to promote learning and now advocates for it through the programs it supports: "Since active learning is generally superior to learning by rote, countries that move strongly toward more participatory and individualized modes of learning will be at an advantage relative to those where teachers talk and write and students listen and read" (p. 8). In summary, scholars from a variety of fields, including psychology, education, and economics, draw upon cognitive and psychological rationales to encourage the use of LCP. Clearly, activities in school that utilize LCP are not the only elements that contribute to students' cognitive and psychological growth. However, most current scholarship in

education appears to support the general position that active learning using real-life situations promotes students' ability to use their knowledge in a variety of contexts.

Despite these studies, it largely falls to teachers to translate constructivist theory into classroom practice. Constructivism, as a theory of knowledge and learning, has not developed into a theory of instruction as fully as behaviorism has over the years (see Lemov, 2010 for a recent example of behaviorism applied to teaching in the U.S.). This may be one of the reasons why teachers may face difficulties in implementing LCP and resist the changes to instruction it requires, as seen in Chapter Four. Coupled with the limited modeling of methods consistent with LCP in TTCs, teachers' challenges with constructivism in the classroom should be anticipated by policymakers and planners.

Political rationales

The literature on learner-centered pedagogy draws on studies indicating that the way teachers teach and not only the content of their classes may contribute to students' political socialization and engagement in democratic processes. The relationship between students and teachers, especially opportunities for students to express their views in the classroom, is considered especially influential in developing students' views on democracy and their degree of civic engagement. Dewey, in particular, believed that education systems should prepare citizens for active involvement in democratic forms of governance. Merely gaining knowledge about equitable social policies or democratic processes, he argued, is not adequate to effect political change (Dewey, 1916). Advocates of LCP usually share Dewey's faith in democracy and believe students need to experience democracy in action in the classroom and in the school as a whole to become democratic citizens. Engendering democratic civic values, they contend, requires practice and experience with negotiation, cooperation, and critical thinking.

Research on education programs teaching civic engagement suggests that using learner-centered pedagogy is the best way to instill democratic values and principles in students. For instance, Antal and Easter (2009) found that programs utilizing LCP had the highest levels of impact on students' desires to apply democratic ideals outside of the classroom. Participatory teaching methods that allow students to practice democratic behavior by experiencing negotiation, collaboration, and active civic engagement in the classroom seem to have the greatest influence on students' views. In contrast, programs that rely on teacher-centered pedagogical approaches in teaching about civics exhibit weak results and actually undermined the content of the course by reinforcing authoritarian and non-democratic forms of interaction in the classroom. Mattern (1997), who has also studied civic engagement, aptly summarized the importance of aligning the method with the message:

> *If students engage routinely in educational practices that teach passivity, deference to elites, acceptance of unaccountable authority and power, and comfort with undemocratic hierarchy, they internalize these traits and accept them as normal…. Alternatively, teaching critical intelligence, creative problem-solving skills, willingness to challenge authority and power, and an inclination to experiment with social forms rather than accept them uncritically requires that educational practices routinize these traits in the classroom. (pp. 510-511)*

These examples suggest that the democratic philosophy and methods associated with LCP are necessary in order to resist authoritarian political climates where levels of democracy and civic participation are limited. For these reasons, some elements of LCP have been taken up over the years by African governments seeking a radical change from the colonial past. However, the development of critical-thinking skills in students and the greater democratization of schools may also be seen as threatening to

parents, teachers, school heads, and political leaders. In general, LCP is premised on more egalitarian power relationships between students and their teachers. Due to the hierarchical relations of power between teachers and students—and adults and children more broadly—in many African contexts, the prospect of 'flatter' hierarchies in the classroom and questioning of teachers by students is not always comfortable.

If, however, greater engagement by citizens in democratic processes is a government priority, then research suggests that learner-centered pedagogy should extend beyond civics classes or civic education programs. Harber (2002) cited a number of studies showing that African nations are moving towards LCP across all subject areas as a means to cultivate the "knowledge, skills and values necessary to promote and protect a democratic political culture" (pp. 272-273). He posited that:

> *schools in Africa have traditionally tended to promote authoritarian values and practices. They have not encouraged participation, debate, responsibilities and critical enquiry and have preferred instead to use chalk and talk, rote memorization and corporal punishment to reinforce teacher-centered discipline (p. 273).*

In a related but more radical vein, proponents of Brazilian educator Paulo Freire's problem-posing education promote the co-construction of knowledge through dialogue as a path to empowerment, equality, and the deepening of democracy (Freire, 1970). This approach goes further than the liberal democratic rationale found in much of the literature to champion a type of learner-centered pedagogy that encourages students to engage in an analysis of social inequality (Bartlett, 2009). Freire strongly reproached the use of a banking system in education wherein teachers simply deposit factual information into the minds of their students (Freire, 1970). He believed that this type of positivist approach to education limited the possibilities

for students' development and ultimately liberation of oppressed peoples. As Samoff (1991) noted, "Only education that is engaging and participatory in this sense can be empowering to non-elite students. And only where non-elites become self-conscious, self-reliant, self-confident, and critical citizens can democratic society flourish" (p. 17).

As more African countries embrace democracy in one form or another, it is logical that learner-centered pedagogy would serve as a complement to this political change by modeling some of the same practices in the classroom. African youth spend large portions of their young lives at school, particularly for those who attend boarding schools; therefore, it is reasonable to assume that the unspoken lessons they learn are internalized and applied as adults. This presumed correspondence between pedagogical and political approach is not without its skeptics, however, and further research is required to understand the conditions under which LCP does, or does not, promote democracy in practice. Nevertheless, increased political engagement in democratic processes is a primary rationale for supporting the policy shift toward LCP.

Economic rationales

The potential benefits of learner-centered pedagogy can also be framed in economic terms. As countries diversify their economies and seek to become more competitive in the global economy, they look to the schools to equip youth with new sets of skills. The shift in many, though not all, countries from 'Fordist' to 'post-Fordist' modes of production means that schools should prepare students not for work in hierarchical organizations or for the repetition of a single set of tasks as in the past in settings like Henry Ford's automobile factories; rather, it is argued, students need to learn how to communicate effectively in decision-making teams and to solve problems that arise in these more flexible environments (see Tabulawa, 2009).

For these reasons, some scholars posit that rote memorization of facts and hierarchical school and classroom patterns are no longer suitable for the competitive global market, where the skills of inquiry and problem solving to address rapidly-changing environments are needed. The outcomes-based education movement in South Africa, for example, is rooted in the belief that international trade and production have changed along with the global economy; the government believes students' skills and competencies should also change (Weber, 2007). Wagner (2008), among others, noted the necessity of developing these more complex skills in students, whether they become manual laborers or managers, to enable them to analyze the wealth of information available through technology today:

> *In the twenty-first century, mastery of the basic skills of reading, writing, and math is no longer enough…. We are confronted by exponential increases of readily available information, new technologies that are constantly changing, and more complex societal challenges such as global warming. Thus, work, learning, and citizenship in the twenty-first century demand that we all know how to think—to reason, analyze, weigh evidence, problem-solve—and to communicate effectively. These are no longer skills that only the elites in a society must master; they are essential survival skills for us all. (p. xxiii)*

The skills associated with learner-centered pedagogy, such as 'learning how to learn' and communication to co-construct knowledge, are those sought by an increasing number of employers around the world. Therefore, international financial institutions promoting economic growth in SSA want to see schooling align more closely with the needs of industry. From this point of view, human capital development must expand beyond the acquisition of basic skills and content knowledge to include strategies for becoming 'lifelong learners' and creative entrepreneurs in ever-changing economic environments.

Similarly, educational reform must extend beyond increasing access and enrollment to include the introduction of approaches to teaching and learning that parallel changes in the global economy (World Bank, 2007). Developing the skills necessary for this new economy places new demand on teachers to learn ways of teaching consistent with LCP: ''Teachers are increasingly required to employ constructivist teaching approaches, a shift in the teaching and learning paradigm that will require that teachers learn a much more complex and varied repertoire of teaching skills than has been necessary in the past" (Mulkeen, Chapman, DeJaeghere, and Leu, 2007, pp. 26–27). Although this shift is consistent with post-Fordist modes of production, there are critics of LCP based on its economic, political, and psychological rationales.

Criticisms of the rationales for LCP

Despite these rationales for learner-centered pedagogy, scholars differ as to whether they embrace any of them, and some question the reasons for the current appeal of this approach among African policymakers. Regarding the intended cognitive and psychological benefits of LCP, some conclude that the results are inconclusive at best, contradictory at worst. Gauthier and Dembélé (2004), for instance, reviewed studies of LCP implementation from different countries and found that the benefits varied greatly depending on the teachers doing the instruction, with teacher characteristics such as maintaining high expectations and participating in planning with colleagues being important to achieving benefits. They also questioned whether perceived improvements in learning were attributable to the superior nature of LCP as an educational approach or merely to the initial period of excitement associated with any new educational movement. Additionally, they pointed out that there is a lack of research on LCP from developing nations, particularly those in sub-Saharan Africa. Because many of the studies supporting the cognitive rationale for LCP were conducted in Western contexts, there is a reasonable concern about transferability.

This issue of transferability has arisen in a study from South Africa of the co-construction of knowledge in learner-centered pedagogy. Nykiel-Herbert (2004) found that the South African teachers whom she studied missed the pedagogical value of LCP when they "uncritically accepted the value of learners' experiential knowledge not only as the starting point, but as the main point of schooling" (p. 257). Consequently, in an attempt to avoid concepts or terms that may have been new, foreign, or outside the experiences of some children, these teachers did not encourage their students to learn new concepts, and they were left untaught. As a result, Nykiel-Herbert argued that some students' learning is impaired by LCP, especially those living in impoverished and isolated areas who have little access, if any, to experiences outside of their local communities. Furthermore, she asserted that such students will not learn much from one another using methods consistent with social constructivism, such as group work, because they have very similar life experiences and cultural understandings. Nykiel-Herbert suggested that LCP can be a "destructive weapon" that encourages an "uncritical acceptance of what they [students] know as inherently right and valid," thus creating watered-down learning activities, standards, and accountability (2004, p. 262). This critique is particularly important because it runs counter to the wide body of literature on the importance of utilizing students' prior knowledge as a foundation for learning. It also raises the question of how teachers can guide students to discover knowledge beyond their local context.

Other scholars have raised questions about the connection between learner-centered pedagogy and political change. They posit that international aid agencies have emphasized the pedagogical superiority of LCP to disguise other motives, such as pushing neo-liberal globalization and liberal democracy in sub-Saharan Africa (Biraimah, 2008; Tabulawa, 2003). Others contend that African policymakers' support for LCP is due, in part, to their lack of understanding of its principles and/or a desire to appease foreign

donors (Chisholm and Leyendecker, 2008; Tabulawa, 2009). Still others have noted a persistent belief among teachers that LCP is not consistent with sociocultural norms about intergenerational relations of authority, including the view that authoritative knowledge should be 'transmitted' from teacher to student rather than co-constructed by them (Vavrus, 2009). This widespread view of the relationship between knowledge and authority is reflected in the preponderance of national exams based on memorization and recall of a body of knowledge established by official education experts, not by teachers and students.

Finally, the economic rationale for learner-centered pedagogy has critics who believe that economic growth will not necessarily proceed from LCP. Tabulawa (2009), for one, challenged the assumption that LCP creates flexible and creative workers who will contribute to the national development and growth of GNP. Using Botswana as an example, he noted that in countries where the economy still relies heavily on mining or manufacturing, it is not necessary, or encouraged, for students to embody creativity or critical thinking skills. In this case, the extant economic conditions may neither benefit from nor support the cultivation of LCP. Additionally, others have pointed out that passing the national examinations, especially at the secondary level, is still the gateway to higher education and an opportunity for economic advancement; if teachers do not 'cover' all of the topics in the syllabus but rather engage students in deeper analysis of a few of them, students may perform poorly on these high-stakes exams and be denied the chance to improve their economic circumstances (Leyendecker et al., 2008).

Implications for planners and policymakers

There are several key implications that stem from both the rationales for learner-centered pedagogy and the critiques of it. First, teaching is complex (Shulman and Shulman, 2004). As such, educational policies and professional development programs that

treat teaching as a specific set of easily transferable methods and techniques ignore the contextual nuances that teachers need to understand and address when they put their training into practice. Therefore, neither LCP nor other approaches to teaching should be presented as though one can master them once and for all without continuously reflecting on their viability in new contexts and with new groups of students. Second, each teacher interprets LCP somewhat differently, and this is expected because it draws upon constructivism and utilizes numerous teaching methods. Yet the breadth of possible interpretations of LCP does not mean that 'anything goes' or that it is sufficient to employ some methods, such as group work, associated LCP without embracing the perspective that students should actively construct knowledge by engaging in critical inquiry about it (Barrett and Tikly, 2010). Moreover, the claim by teachers, school heads, or policymakers that classroom practices are learner-centered does not necessarily mean that high-quality teaching is taking place. Some teachers have attempted to utilize LCP approaches, such as encouraging students to provide any answer they can to a question without guiding students to understand how one can discover the most accurate information. Discussion and dialogue are intended to stimulate inquiry and critical thinking, but putting students at the center of the learning process does not mean that all opinions and answers they provide should be accepted as equally valid or correct (Bartlett, 2009). It is necessary, therefore, for teacher education curricula and educational policies to explain carefully what is meant by 'quality teaching' and not reduce LCP to students working in groups and giving their opinions in class. There may, in fact, be situations where more teacher-centered methods are appropriate and can be used while still maintaining the commitment to student learning as the centerpiece of teaching (Barrett, 2007; Vavrus, 2009). Table 3.1 summarizes some of the most important conditions for quality teaching to take place, which may incorporate a range of teaching methods:

Table 3.1: Conditions for quality teaching

- School environment that allows children to feel safe and supported in their learning
- Classrooms where teachers demonstrate care and concern for students
- Well-organized lessons that help students understand instructions, expectations, and strategies for successful learning
- Opportunities for feedback from peers through group work and pair work
- Learning activities that connect abstract concepts to practical, real-life activities
- Reinforcement of content across subject areas
- Constructive relationships between teachers and parents
- Consistency in goals and expectations throughout the school

(for details see Brophy, 1999)

To promote quality teaching and learning, it is important for planners and policymakers to consider pedagogical approaches as occupying different points along a dynamic spectrum rather than as dichotomous categories that rigidly divide learner-centered from teacher-centered approaches. This metaphor of a spectrum recognizes that teachers change their practice throughout the course of their careers and even in a single lesson as when some direct, teacher-led instruction is accompanied by inquiry-based activities (Schuh, 2004). Moreover, the spectrum idea recognizes the importance of teachers' professional judgment about the situated nature of teaching and learning. Although it may be valuable to assess the extent to which teachers are using LCP, such assessments should not reduce a complex philosophy of knowledge—constructivism—and its attendant pedagogical

methods to a rigid inventory that teachers must use to receive high marks from school inspectors. Instead, continuous, authentic, formative, and robust assessments for teachers and students would be more consistent with the values and commitments central to LCP.

In sum, the rationales favoring LCP are not universally embraced; however, there is general agreement among scholars and policymakers that the quality of education needs to improve. A focus on African teachers' perspectives and practices related to LCP appears to be one of the best places to begin with this critical educational reform.

IV. Case study of learner-centered pedagogy in Tanzania

Relevance of the Tanzanian case

The pedagogical paradigm shift from more teacher-centered to more learner-centered approaches is evident across sub-Saharan Africa. Although each nation has a unique educational system and its own cultural, economic, and political contexts affecting LCP, similarities in policy formation and implementation definitely exist. It would be unfortunate, therefore, to not benefit from the experience of one nation's attempt to institute LCP in its primary and secondary schools as well as in teacher education. In this chapter, the case of Tanzania will be examined to better conceptualize the policy and pragmatic issues associated with pedagogical reform. It will highlight challenges and strategies in this particular case that are addressed in the broader African context in the following two chapters.

The similarities between Tanzania and a number of other African nations is evident. First, Tanzania has a highly centralized education system. Teachers in Tanzania are trained, hired, and paid by the national government (except those teaching in private schools), and the government also oversees the development of national curricula and the National Examinations Council, an organizing body that supervises the compulsory national exams taken by all primary and secondary school students at the end of terminal school years. This high degree of centralization has a profound effect and influence on the educational practices of teachers, including the pedagogies they use in the classroom.

Second, Tanzania, like some other African countries, sought to achieve universal primary education and boost adult literacy rates during the 1960s and 1970s. The country was very successful in these efforts, earning it the honor of the highest rates in these two areas in SSA by the early 1980s (Woods, 2007). However, achievements in primary schooling and literacy were compromised by the middle of the 1980s, the so-called

'lost decade' for African development, when school fees were reinstituted and teaching materials were in scarce supply. Since the beginning of the 21st century, Tanzania and many of its neighbors have reversed decisions on school fees and have reintroduced free primary education.

Although increases in access at both the primary and secondary levels have allowed greater participation in schooling, they have also affected the overall quality of education as classrooms are greatly overcrowded. For instance, net enrollment at the primary level increased from 59 per cent to 91 per cent between 2001 and 2004; at the secondary level, enrollment more than doubled between 2004 and 2008 (Wedgewood, 2007; World Bank, 2010). Thousands of classrooms have been built to try and accommodate these new students, but there are not enough teachers or teaching materials to support this rapid expansion (World Bank, 2010). Tanzania has followed the lead of other African nations in seeking to expand secondary schooling, which has necessitated a large increase in the number of teachers with diplomas and degrees to teach at this higher level. However, this tremendous growth has also compromised quality: The Ministry of Education and Culture, later renamed the Ministry of Education and Vocational Training, itself has admitted that secondary schooling in Tanzania has suffered from "poor teaching abilities" owing to the need for many more teachers, particularly in the sciences (Ministry of Education and Culture [MOEC], 2004a, p. v; see also World Bank, 2010). Fortunately, the government recognizes the importance of improving educational performance and has invested a large percentage of the national budget in the education sector. Public funding for education as a per cent of GDP, for example, increased from an estimated 2.2 per cent in 1999 to 6.8 per cent in 2008 (UNESCO, 2010b). Though slightly higher than some countries, this percentage is similar to others, with at least 10 African nations investing between 7.9 per cent (Swaziland) and 4.1 per cent (Rwanda) in 2008 (UNESCO, 2010b).

Tanzanian attempts to improve educational quality through LCP

Educational reform is not new in Tanzania. Efforts to improve the quality of teaching and learning have been attempted since before independence in 1961, as outlined, for instance, in the Five Year Education Development Plan of 1956-1961 (Mushi, 2009). Among the most significant changes since independence was the Education for Self-Reliance policy instituted by President Nyerere in 1967. While this reform primarily focused on the development of practical skills to meet the needs of Tanzania's agrarian and nascent socialist society, more recent reforms have focused on pedagogy. The goal of improving learning by moving away from strictly teacher-centered methods has been included in government documents since at least 1982. For instance, recommendations from the 1982 presidential commission on education included the following: "Many teachers in our school system use the lecture or teacher-centered approach to teaching. Because of this problem, many students fail to understand the concepts and lessons taught" (United Republic of Tanzania, 1984, p. 26). Unfortunately, the early recognition of this situation has not led to any widespread change in the ways teachers teach. A 2004 report by the Ministry of Education and Culture noted that "teaching and learning in secondary schools has remained traditional for a long time," and "most teachers have not been exposed to modern teaching and learning practices consistent with current theoretical developments in teaching and learning" (MOEC, 2004b, p. 15). Other scholars have confirmed that teaching in Tanzania has generally been characterized by didactic and teacher-centered approaches that use rote memorization as the primary approach (Barrett, 2007; Stambach, 1994; Vavrus, 2009).

In response, the government has recently implemented new approaches to encouraging and institutionalizing learner-centered pedagogy. For example, a set of revised curricula for secondary schools was produced in 2005 that contains many references to the use and promotion of LCP. According to these subject-specific

guides for teachers, the government desires "to make the teaching and learning process…more interactive and learner-centered" (MOEC, 2005, p. iii). As a means to implement this new approach, teachers in Tanzania are now "strongly advised to use only those participatory and learner-centered strategies in order to enhance the teaching/learning process" (MOEC, 2005, p. v).

This explicit support for learner-centered pedagogy is not only evident in national curricula; it is also included in documents to support the development of student teachers. For example, the physics diploma syllabus used in pre-service teacher education programs notes that teachers must, by the end of the two-year program, be competent in their ability to "apply participatory approaches in teaching and learning physics" (MOEVT, 2009b, p. 3). The syllabus for English teaching methods similarly states that it "focuses on developing the student teachers' pedagogical knowledge and skills to cope up with competence based teaching and learning, including cross-cutting issues" (MOEVT, 2009a, p. v). The stated goal of teachers using participatory and competence-based approaches in the national curriculum for teacher education highlights one of the primary means by which the Tanzanian Ministry of Education and Vocational Training intends to institute this pedagogical reform.

A radical shift in the skills and competences of Tanzanian students is supposed to result from these changes to national curriculum, pre-service course syllabi, and policy. It falls to primary and secondary school teachers to meet the challenging task of cultivating a complex set of knowledge and skills in their students to prepare them for the 21st century. For instance, the government asserts that quality education is the "pillar of national development" and creates a "strong and competitive economy which can affectively cope with the challenges of development … and easily and confidently adapt to the changing market and technological conditions in the region and global economy" (United Republic of Tanzania, n.d., para. 1). As a means to compete in the global market, the Ministry

of Education and Culture (2004b) has generated an ambitious list of skills that teachers should strive to foster in their students in the belief that they will lead to improved economic growth:

1. Develop positive attitudes towards challenges of work, entrepreneurship and self-employment. (p. 2)

2. Develop critical and creative thinking skills;

3. Develop an understanding of how knowledge is created, evaluated, refined and changed within subject areas;

4. Promote intuitive and imaginative thought and the ability to evaluate ideas, processes, experiences and objects in meaningful contexts;

5. Act on things learnt, to perform practical tasks, to use tools and equipment, to measure things, to see what action should be taken on the basis of knowledge and experience, and to act creatively, considerately and responsibly;

6. Think for themselves, to recognize the limits of individual reflections and the need to contribute to and build upon mutual understandings. (p. 3)

7. A positive disposition to life long learning. (p. 4)

According to the Ministry of Education and Culture, LCP is the best approach for helping students to realize these skills. Nevertheless, the fact that LCP is mandated in curricula and policy does not mean that Tanzanian teachers are prepared to implement it.

Teaching in Action: A program to promote LCP

There are many reasons why teachers in sub-Saharan Africa may not utilize learner-centered pedagogy, and these general reasons are discussed in the next chapter. In this section, a program designed to enhance understanding and use of LCP in a Tanzanian university college of education and in the country's secondary schools is discussed. It highlights challenges for these groups of educators as well as strategies that may be useful for other African contexts (see Thomas and Vavrus, 2010).

Teaching in Action is an in-service professional development program that aims to provide a supportive and informative venue for Tanzanian teachers, at both the secondary and university levels, to learn about and practice ways to implement LCP in their classrooms. The program has three primary components: (1) professional development for lecturers at a university college of education; (2) professional development for secondary school teachers who work in government or private schools; and (3) the establishment of networks for sharing teaching and learning resources.

Tanzanian tutors at the participating college of education benefit from the program by engaging with scholars and educators from different countries. Through peer-led "Faculty to Faculty" sessions, they have discussed topics relevant to LCP in higher education contexts, such as how to facilitate dialogue in large lecture classes, how to form professional learning communities, and how to conduct qualitative, classroom-based research. The topics are suggested by the Tanzanian tutors and co-facilitated by faculty from Tanzania and the United States. One recent session focused on using critical thinking in the university classroom and required participants to analyze, critique, and evaluate their own teaching as well as to use 'brainstorming' to devise ways for increasing active inquiry among their students. These sessions are vital for the development of improved teaching at the university level because they provide tutors with an opportunity to discuss, explore, and practice new pedagogical methods in a comfortable and supportive professional environment.

A similar opportunity is provided for secondary school teachers during an intensive week-long professional development program at the college of education. Each morning is filled with participatory activities that help teachers use critical-thinking approaches in the classroom. The morning sessions focus on pedagogical theory related to LCP, examples of how teachers have implemented LCP in their classrooms, ways to find local solutions

for problems like shortages of teaching aids and utilizing locally-available resources, the obstacles to inclusive education and gender-sensitive schooling, and the challenges of active, participatory teaching in large classes. The primary goal of these sessions is to help teachers understand the principles of LCP and to create a collaborative learning environment in which to think critically about ways to improve teaching and learning in Tanzania.

The afternoon sessions are complementary and focus on the application of learner-centered pedagogy to teachers' specific subject areas. The teachers are separated into content-specific groups (English, history, physics, etc.) and paired with tutors and faculty who are experts in these fields. During these smaller sessions, the teachers develop and teach model lessons that utilize critical thinking activities aligned with LCP. They receive extensive feedback from faculty, tutors, and fellow teachers, which is the first time many of them have engaged in a structured process of reflection on their pedagogy. This 'circle of critique' allows teachers to hear valuable comments and suggestions about how best to infuse their teaching with LCP and how to develop critical thinking skills among their students.

The third component of the Teaching in Action Program is the development of an extensive resource network for the secondary school teachers. Teachers receive a comprehensive booklet of information with culturally-relevant teaching strategies, classroom activities consistent with LCP, and subject-specific resources. They also obtain a list containing contact information for the other teachers who attended the workshop, the schools where they teach, and the resources they have at their schools that could be shared by teachers in the vicinity. Generating communication and collaboration among teachers is a crucial step toward helping implement LCP in Tanzania by encouraging professional learning communities (discussed in the final chapter). Establishing such networks is particularly important for teachers who may be the only persons teaching a specific subject at a school (i.e., the lone physics

teacher) or who may not have colleagues with whom they can comfortably discuss their teaching strategies. Box 4.1 contains excerpts from interviews with teachers in the 2010 Teaching in Action program (see Appendix A for a list of interview questions). These excerpts indicate how this program has helped them utilize LCP but also serve as reminders of the obstacles they face.

Box 4.1: Teachers' responses

The importance of professional development opportunities for teachers seeking to implement LCP is evident from interviews with participants in the Teaching in Action program:

- One teacher said that the program helped him to realize the value of "asking students what they know before. [Prior to the workshop] we thought that students are empty-headed, that they know nothing, so you have to start, 'this is called…, this is called….'"

- Other teachers explained that they now recognize the potential of LCP to "involve the student in…the whole process of learning," "motivate more students to learn," "bring a lot of changes in the education system," and encourage the "student to be creative…because it's more effective."

- An older teacher noted that he benefited from this rare opportunity for professional development: "It has affected much… because of my age, it will affect me to my grave because I will use it to the last because it is good."

Yet teachers also mentioned the difficulties facing those who want to utilize LCP:

- A math and geography teacher complained: "How to apply those strategies, those methods of teaching with the challenges we are facing, including teaching materials, teaching aids, number of students in class, condition of work for teachers?"

- Another teacher pointed out the misalignment between LCP and the curriculum: "So, the big challenge that this method is good but is not compatible with the curriculum of Tanzania. They are not matching."

Implications for planners and policymakers

Several lessons can be learned from the Tanzanian case study discussed in this chapter. First, pedagogical reform takes time and requires significant unification of policies and programs. For example, the government noted in 1982 and 2004 that teachers were using teacher-centered methods even though an alternative was advocated. This shows the resilience of teacher-centered approaches and methods. Teaching has largely been didactic even though the content of the curriculum in Tanzania has become more African-centered, and efforts were made during the Education for Self-Reliance period to engage students in more active, relevant learning. The shift towards LCP may take considerable time for teachers because they may not understand the rationale for it or how it fundamentally alters the view of student from 'receiver' of information to 'co-creator' of knowledge. Moreover, older teachers, in particular, may not have a clear sense of how to change their teaching methods, having gone through TTCs during a different era. Providing high-quality in-service programs and ongoing school-based mentoring for practicing teachers may be one of the best ways to evoke change in the direction of LCP.

Second, in-service teacher education programs are needed for practicing teachers to understand and implement changes in policy and curriculum, and to discover how to use learner-centered pedagogy in overcrowded classrooms with limited teaching aids. Tanzania is attempting to better align the various levels of education and training to support LCP, and the interviews conducted in 2010 by the authors reveal that some teachers are using or attempting to use LCP in their classrooms. However, the overall picture one sees is of teachers not understanding LCP and not using it because of its limited integration into the curriculum and the national exams. One also finds teachers seeking ways to adapt LCP to mesh with the contexts in which they teach, namely, in classrooms with

many students and few desks; with limited or no access to library books and computers; and with little training in how to utilize locally-available resources as teaching enhancements. Without sufficient professional development opportunities to learn how to make these changes, teachers will continue to rely on more familiar and functional approaches and methods, which makes pre-service and in-service professional development to facilitate change critically important. Teachers in Tanzania and elsewhere in SSA are under immense pressure to simultaneously improve the learning outcomes of ever more students, cover a crowded curriculum, and prepare students for national exams that emphasize rote learning. Until teacher education programs, curricula, and examinations are coherently organized, it is unlikely that teachers will fully embrace LCP. This issue will be addressed in greater detail in the following chapters.

V. Challenges facing teachers in using learner-centered pedagogy

Teachers are the product of the education systems they teach in. Where these systems are of low quality it is even more important for teachers to receive effective training and support throughout their careers. Teachers need to understand the content of the curriculum and be able to communicate it to students of varying ability. In many countries, initial training is not good enough to develop these skills.

<div align="right">--UNESCO Global Monitoring Report, 2010a, p. 118</div>

The previous chapters show that there are multiple challenges facing teachers in using learner-centered pedagogy. The quotation above identifies what is perhaps the most stubborn: Without high-quality initial training, teachers largely teach the way they were taught. Teachers need improved pre-service and in-service programs. At the same time, tutors deserve greater opportunities for professional development. Further, pronounced policy and planning challenges must be addressed before African teachers and teacher educators are likely to use LCP more extensively. Chapter Four depicted some of these challenges in the specific case of Tanzania. This chapter broadens the scope by examining three sets of interrelated issues that warrant further exploration in contexts across sub-Saharan Africa: 1) teacher educators' limited use of LCP; 2) teachers' philosophical concerns about LCP; and 3) teachers' pragmatic concerns about LCP. The chapter concludes by addressing implications of these issues for policymakers and planners, which will also be discussed in the following chapter when strategies for action are presented.

Teacher educators' limited use of LCP

The philosophies of knowledge introduced in Chapter One help to explain the differences between the approaches to teacher education found throughout the world. The 'technical rationality' approach based on a behaviorist view of teaching and learning results

in teacher educators 'transmitting' knowledge about the content of their subject and the 'correct' ways for teaching it to student teachers (Schön, 1983). Student teachers are then evaluated on the extent to which their lesson plans, methods, and techniques demonstrate these technical skills. In contrast, the 'reflective practitioner' model reflects a constructivist perspective in that tutors aim to create conditions for student teachers to think critically about the authoritative knowledge in their fields, inquire into and discuss various ways of teaching content for different contexts, and develop their own pedagogical style "in a way more akin to artistry" (Stuart, 2002, p. 368).

With few exceptions, teacher education programs in sub-Saharan Africa utilize the technical rationality model more often than the reflective practitioner model, even as they instruct student teachers to use active learning strategies. For example, observations from the MUSTER study at several TTCs found that tutors primarily lectured, asked fact-based questions, and discouraged debate. Tutors rarely modeled participatory methods, and as a result "very seldom did [student teachers] actually experience the kind of student-centered methods that were preached" (Lewin and Stuart, 2003b, p. 76. During a study in one of Mozambique's 24 teacher training institutions, the researchers found that lecturers could define and discuss LCP, but they did not use it (Guro and Weber, 2010). Often tutors know little more about LCP than the student teachers they are supervising, according to findings from studies of Namibia's Basic Education Teacher Diploma (van Graan, 2004), the Aga Khan Foundation-supported Dar-es-Salaam Primary Schools Projects (Anderson, 2002), and Botswana's University-Based Teacher Education Model (Craig, Kraft, and du Plessis, 1998; Hopkin, 1997). The tutors at TTCs and university departments of education are often not given adequate professional resources to learn about this alternative approach and to integrate appropriate methods into their teaching. The 'transmission' methods used at

the tertiary level seldom differ from those used at the primary and secondary level. From their review of the literature, du Plessis and Muzaffar concluded, "While the effects of reform are not completely unnoticed, most observers of African education have found a narrow range of teaching strategies in use in college classrooms" (2010, p. 12).

A second problem is the lack of classroom experience among tutors in colleges. For instance, Stuart's (2002) comparison of tutors at TTCs for primary teachers in Ghana, Lesotho, and Malawi found that the vast majority of tutors in Lesotho had bachelor's degrees and nearly a third master's degrees but less than half had been primary school teachers. The situation in Malawi was nearly the reverse: the majority of older tutors had primary teaching experience but only held diplomas, not bachelor's or master's degrees. In Ghana, most tutors have completed their bachelor's degrees and some also a master's degree, but this coursework was not designed to prepare them to be teacher educators. In general, these tutors "were not specifically trained as teacher educators since it was assumed that anyone graduating in education would be capable of teaching at a college" (p. 371). Universities may select tutors on the basis of academic credentials or subject expertise rather than teaching proficiency. Further, TTCs are not held accountable to primary and secondary schools or even (at times) to the Ministry of Education (Verspoor, 2008). These disconnections too often lead to poor preparation of teachers at TTCs.

In other cases, tutors at TTCs and university faculty may have expertise in education, which includes theories of learning, materials development, and teaching methods, but not in specific academic subjects. This division between content and pedagogy expertise is reinforced by the structures of teacher education institutions, which often divide faculty into different departments—humanities, science, education, for example—rather than infusing every content-based subject with a strong

pedagogical focus. Thus, tutors may have excellent knowledge of the content of their courses, such as history or chemistry, but have limited understanding of how to teach content using methods appropriate to their subjects, especially methods aligned with LCP (Guro and Weber, 2010; Schwille and Dembélé, 2007).

Pedagogical content knowledge

The term pedagogical content knowledge (PCK) brings together these two critical elements of teaching—content and pedagogy—to describe the understanding and skills teachers and teacher educators need to transform the conceptual, factual, and theoretical knowledge about a subject into a language filled with appropriate examples, metaphors, and applications for a particular group of students (see Table 5.1). The research carried out by Shulman and colleagues from which the notion of PCK arose sought to answer a number of questions about how new teachers develop professional expertise over time. These include how they "employ content expertise to generate new explanations, representations, or clarifications" and where they find "sources of analogies, metaphors, examples, demonstrations, and rephrasings" (Shulman, 1986, p. 8). Without PCK, it is argued, teachers' expertise in their content areas may not be fully utilized in the classroom because they have not learned a variety of ways to teach their subject, how to address students' misunderstandings of certain topics, or how to adjust for areas of particular difficulty in the curriculum (du Plessis and Muzaffar, 2010).

Table 5.1: Three types of knowledge for teachers

Content Knowledge

• Knowledge of the content of the subject including factual information
• Knowledge of how the subject is built up
• Knowledge of processes of inquiry and verification, technical skills and procedures

Pedagogical Knowledge

• Knowledge of general teaching and assessment strategies
• Knowledge of child development and theories of learning
• Knowledge of classroom management, planning, and lesson structure
• Knowledge of teaching and learning materials

Pedagogical Content Knowledge

• Knowledge of how to teach a particular subject or topic
• Knowledge of students' perceptions and misconceptions
• Knowledge of strategies to use to teach particular topics
• Knowledge of what topics are difficult or easy and why
• Knowledge of ways to represent topics for ease of learning

Source: du Plessis and Muzaffar, 2010, p. 26

Learner-centered pedagogy is a critical element in the development of teachers' and tutors' pedagogical content knowledge because student learning depends to a large extent on teachers' ability to transform their subjects into lessons that their students can comprehend. This is a prerequisite for the higher-order thinking skills of analysis and critique because students must first understand key terms and concepts, and it is a process fostered by discovery- and inquiry-based activities. If student learning is the center of the pedagogical endeavor, then tutors themselves need to learn how to bridge the divide between expertise in one's discipline and in pedagogy and to model it in their classes regardless of the subject.

Teachers' philosophical concerns about learner-centered pedagogy

The limited use of learner-centered pedagogy in most TTCs and university teacher education program helps to explain some of the philosophical concerns of teachers about its merits, and the challenging material conditions in which many teachers find themselves may further limit the viability of certain methods. In this section, these philosophical and pragmatic challenges are addressed to aid in considering strategies to overcome them in the next chapter.

One of the principal philosophical challenges lies at the heart of learner-centered pedagogy: the notion that knowledge can be co-constructed by teachers and students. The assumption may engender cultural conflict because it challenges the authority vested in teachers as the person in the classroom who possesses knowledge. The behaviorist model of teaching discussed in previous chapters leads to the 'talk and chalk' method in which teachers 'transmit' information through lecture and notes on the board while students listen and 'receive' it (Chisholm and Leyendecker, 2008; Stambach, 1994). In general, across SSA the teacher is seen as the bearer and sharer of knowledge, providing an important source of power and prestige. Therefore, it is understandable that LCP, which is grounded in a constructivist view of knowledge, generates confusion and apprehension among some teachers (Leyendecker et al., 2008). One critic of LCP, Richard Tabulawa from the University of Botswana, argued that teachers in his country struggle with this approach because its values are incongruous with the context: "[I]t is value-laden and embeds epistemological assumptions that may not be congruent with the sociocultural context of Botswana, making it difficult for teachers to adopt it" (2009, p. 98). He further suggested that if policymakers actually understood these assumptions, they would realize that the "behaviorist objectives" in the country's curricula are at odds with the LCP espoused in national policy (p.

99). This, he contended, has led to further confusion on the part of teachers because they do not know whether to teach discrete, factual, "pre-packaged chunks of knowledge" as found in the curriculum and on national exams, or to encourage students to discover and create together their own understandings and to think critically about the authoritative knowledge in textbooks and other materials (p. 101).

Even when teachers report using learner-centered pedagogy and curricular reforms aligned with it, teachers often have a limited understanding of what it actually means to encourage co-construction of knowledge, student reflection, and critical thinking. For example, the 2005 curriculum reform in South Africa clearly supports LCP, but researchers have still found a gap between what teachers profess to know and what they do in their classrooms (Chisholm and Leyendecker, 2009). This gap was also noted in a study of student teachers at a TTC in Tanzania that made active, participatory learning central to its mission: Most students in an English teaching methods class continued to use teacher-centered methods even though they believed these ways of teaching were consistent with LCP (Vavrus, 2009).

Other studies in SSA have documented that teachers embrace the form but not the content of the pedagogical approach (Brodie, Lelliot, and Davis, 2002). In their review of LCP on the continent, Leyendecker et al. (2008) found that teachers embraced "the form rather than the spirit and content" of pedagogical reforms; as a result, the "involvement and participation of students in the instructional process was rather understood in procedural terms than as something that promotes learning," with change "limited to symbolic displays without resulting in the intended learning" (p. 45). Group work, in particular, has become an important signal of LCP, but students might be seated in groups without disturbing teacher-centered instruction. Leyendecker et al. (2008) reported a similar

challenge when it comes to introducing practical experiments. Such ways of encouraging discovery and inquiry are central to LCP, but these methods may be used by teachers to reinforce factual knowledge already presented in class or merely to 'drill' for exams, including practical assessments:

> *Practical work initially meant as investigative practice is very often understood in the sense of physical or manual practice. In sciences, it is often limited towards preparations for practical exams. Where students may do practical work, it seems to be more in the line of re-producing a given experimental schema (more or less equal to reproducing facts), and less on the actual application of an experimental methodology. Instead of contextualising learning or engaging students with learning, it is often executed as rote repetition of given practical experiments, which does not necessarily lead to the acquisition of higher cognitive skills. (Leyendecker et al., 2008, p. 45)*

Significant cultural change is required for teachers educated in school systems grounded in behaviorism and in teacher-centered classrooms to understand and embrace the philosophy and methods of learner-centered pedagogy. If this presents a challenge for teachers with the benefit of a university degree or diploma from a TTC, it will be especially difficult for the large number of primary school teachers in many countries who have had little or no initial training. Findings reported in the Teacher Training Initiative for Sub-Saharan Africa (TTISSA) study are sobering: Although some countries, including Botswana, Kenya, Tanzania, and Zambia, reported that two-thirds or more of their primary school teachers have had two years of initial training, there are others, such as Mauritania and Togo, where more than half of the teachers have had less than one year on initial training (UNESCO, 2010a). It is difficult to imagine how teachers with very limited preparation for the classroom

could develop an understanding of LCP in such a short period of time because it is not enough to present student teachers with a definition of LCP without ample opportunity to practice and reflect on its concomitant methods. As Elmore argued, "For learner-centered education to take root in local African contexts, teachers need to understand the underlying idea, be motivated to change practice, adapt and apply appropriate pedagogies, and have the capacity to do it" (2001, p. 16). This statement suggests that teachers must grasp the conceptual underpinnings of LCP and its attendant methods, and possess sufficient pedagogical content knowledge to modify methods for different subjects and contexts.

Teachers' practical concerns about learner-centered pedagogy

In addition to the significant philosophical challenges to teachers embracing learner-centered pedagogy, especially in short initial teacher education programs, there are also a number of pragmatic considerations. These can be divided into the issues of school-based professional support, conditions of teaching, medium of instruction, and examinations. Each of these areas presents particular challenges for teachers with limited pre-service preparation who must simultaneously try to understand the rationale and methods of LCP as they grapple with additional difficulties.

Support for teachers' professional development at the school level generally comes from either the school head, fellow teachers, or both. There are certainly headmasters and headmistresses who are committed to and involved in professional development of teachers at their school, as researchers discovered in analyzing a mixed mode (TTC and school-based) model of teacher education in Malawi (Kunje, 2002). Yet even with this innovative model, school heads found it very taxing to supervise teachers and carry out their other duties, which confirms findings

from the TTISSA study that reported high rates of head teacher absenteeism and a lack of supervision of teachers even when the head teachers were present in school (UNESCO, 2010a).

Although school heads may be involved in 'supervising' teachers, it does not mean that they are well prepared to serve as mentors in teachers' developing use of learner-centered pedagogy. Often, head teachers have rigid notions of what constitutes a disciplined classroom or an effective teacher. If an effective teacher is seen as one whose students are quietly copying notes from the chalkboard, then the noise generated by group discussions or debates may not be welcome. Teachers and school heads in secondary schools in SSA report feeling frustrated by the problem of student discipline, and LCP may, in fact, compound this problem unless teachers prepare students for a different classroom dynamic:

> *Problems arise if students are not gradually directed towards the opening up of classrooms, and if teachers do not succeed in motivating students and getting them to accept their new responsibility. The unwelcomed result seems to be a laissez-faire classroom, which amalgamates with the changed societal perceptions on discipline, and amounts to confusion and even lower-level learning. (Leyendecker et al., 2008, p. 45).*

Student teachers in Tanzania reported these very concerns, noting that students might question their competence if they begin a lesson by eliciting learners' prior knowledge, and they might be considered an undisciplined teacher if their students make too much noise during group discussions (Vavrus, 2009).

The conditions of teaching in many schools in sub-Saharan Africa also pose serious practical concerns for teachers seeking to implement learner-centered methods. For instance, the noise mentioned in the previous paragraph becomes an issue for teachers when classrooms have no windows to contain the sound

of 50 or more students talking simultaneously (Vavrus, 2009). Moreover, overcrowded classrooms prevent students from moving their desks into groups and hinder teachers from doing inquiry-based activities that require students to move about the classroom. The typical school environment also mitigates against the formative, competency-based assessments advocated by LCP because the sheer number of students makes it difficult for teachers to administer multiple, multi-modal assessments to large number of students over the course of the school year.

In addition to these conditions of teaching, the medium of instruction (MoI) policies in many African countries present another practical challenge for teachers seeking to implement LCP (Leyendecker et al., 2008). Because this approach relies heavily on critical thinking and dialogue, students and teachers need not only adequate space for discussions but also the linguistic skills in the MoI to express complex ideas and to ask critical questions. Thus, LCP places significantly higher linguistic demands on teachers and students than teacher-centered approaches. Brock-Utne's (2007) research on MoI in African schools suggests that the predominant teaching style may, in part, reflect the difficulties of teaching and learning in a second or third language:

> *Teachers are asked to abandon a teacher style where students just copy notes from the blackboard, learn their notes by heart and repeat them at tests. Little thought has been given to the fact that this teaching style might be the only one possible when neither the teacher nor the students command the language of instruction (p. 512).*

With the growing recognition in SSA that bilingual education and/or instruction in the vernacular in lower primary school would be advantageous for learning, it may be easier for teachers in these classes to utilize more linguistically-demanding teaching methods like those consistent with LCP because students will have the language skills to engage in dialogue and

debate (African Union, 2009, Barrett and Tikly, 2010). However, the shift to bilingual education will place further demands on teacher training, as teachers will need to learn specific methods to support the bilingual development of students.

Teachers will continue to find it challenging to use learner-centered pedagogy, regardless of the medium of instruction, if national examinations are based on behaviorist assumptions about knowledge. These assumptions treat knowledge as discrete, sequential, and unambiguous such that correct and incorrect answers can be easily distinguished. While direct, teacher-centered instruction and dichotomous assessment may be appropriate for teaching and testing certain kinds of knowledge and lower-order thinking skills, they do not lend themselves to building and appraising students' ability to analyze, evaluate, and think critically about subject-matter content. For instance, the authors of the Educational Quality Improvement Program report have argued that when "tests are aligned less with active learning and more with direct instruction, they push the teaching practices to be more teacher-centered. Under such circumstance, the changes introduced in instruction and curriculum to promote learner-centered education are less likely to bear fruit" (du Plessis and Muzaffar, 2010, p. 67). In addition, the curriculum in many African countries is fractured into many different subjects, each with a different teacher and with little integration of disciplines even when interdisciplinarity is specified in national policy (Guro and Weber, 2010; Verspoor, 2008). Thus, teachers often feel intense pressure to 'cover' an ambitious syllabus in their subject in preparation for examinations based primarily on the recall of factual information in their discipline. Under these pressures, it will be difficult for teachers to justify spending class time having students engage in experiments to discover principles for themselves or debate the reasons for an event from different perspectives when they will only need to be able to define the principle and restate conventional reasons to pass the exam (Mtika and Gates, 2010).

Implications for planners and policymakers

This chapter has laid out several major challenges to the implementation of learner-centered pedagogy despite requirements for its use in curriculum and policy reforms. If LCP is to move from paper to practice, policymakers should consider some of the following options. First, teacher preparation at TTCs and universities needs to be reorganized so that tutors and faculty, respectively, integrate LCP into their courses across all subjects and become models of its use in their own classes. Student teachers begin learning how to become teachers through an "apprenticeship of observation" (Lortie, 1975, p. 61), which starts at the primary level and continues throughout their teacher education programs. Therefore, it is essential that teacher educators with limited understanding of pedagogical content knowledge and LCP receive professional development opportunities at their colleges and universities or through high-quality workshops and short courses offered at other institutions. However, it is not only limited knowledge of PCK and LCP that may prevent some tutors from modeling new ways of teaching; there are also significant practical challenges of doing so in large classes of student teachers with limited material resources. In addition, tutors may be required to supervise many students at distant schools during their teaching practicum, which limits their ability to provide continuous and careful mentoring to them (Robinson, Vergnani, and Sayed, 2002). Policy decisions about the funding of TTCs affect the size of the student body and faculty/student ratios and the possibility of hiring of contract tutors to assist in teacher mentoring during teaching practice periods.

A second set of policy decisions concerns the content and length of study for initial teacher education and opportunities for continuing professional development through in-service programs. This chapter and the preceding ones have emphasized that LCP is grounded in constructivism, which makes very different assumptions about the source of knowledge than positivism and

calls for a much more dialogical and less hierarchical relationship between teachers and students than behaviorism. When teachers have had little or no teacher education before entering the classroom, it will be extremely difficult for them to teach in any way other than what they experienced and observed as students. Even when pre-service programs extend to one to two years, it is important that they include ample opportunity for students to discuss, debate, practice, and reflect upon LCP to help them make wise professional decisions about how to use its attendant methods in different classroom contexts.

The third set of policy considerations relates to the pragmatic challenges faced by teachers who may fully understand the merits of learner-centered pedagogy but who nevertheless see their primary responsibility as preparing their students for high-stakes national exams. Although policy reforms to encourage the use of LCP have occurred in many African countries, curricula and national examinations continue in most cases to be based on behaviorist objectives that largely test students' ability to recall factual information rather than think critically and analytically about it. Policymakers across ministries of primary, secondary, and higher education have taken the initiative in many countries to express the goals of reform using the language of LCP, but the actual learning objectives in many subjects do not align closely with this approach. It is not enough to suggest in revised curricula that teachers include brainstorming and group work into their lessons if, in the end, these techniques are still directed at recalling pre-defined content rather than inquiring more deeply into it. Therefore, policy reform across the education system needs to show how, specifically, LCP infuses the curriculum and the national examinations. This may also lead to rethinking some elements of the policy on medium of instruction to facilitate meaningful discussion and debate, and it will almost certainly necessitate the consideration of a much fuller range of assessment mechanisms than currently used in most countries.

VI. Strategies for action

The preceding chapters support the argument that the widespread use of learner-centered pedagogy in sub-Saharan Africa will require altering the content and methods in teacher education programs and instituting a systemic realignment of policy across ministries, curriculum development bodies, and national examination boards. In many countries, changes are underway in one or more of these areas, but comprehensive reform across sectors is essential to ensure teachers have the knowledge, skills, and support they need to make the transition. This final chapter focuses on two principal areas for reform—teacher education and systemic realignment—and some of the most important considerations within each of these areas. The two are discussed separately, but the primary argument remains that reform in one domain alone will not be sufficient to foster the use of LCP.

Teacher education

There are numerous strategies that could be used to improve pre-service and in-service teacher education, but the recommendations below relate specifically to the implementation of learner-centered pedagogy.

1. *Provide professional development opportunities for teacher educators.* Tutors at TTCs may not have the knowledge or experience required to teach students about the philosophical and practical elements of LCP and how to utilize them in different content areas. Faculty in university departments of education are much more likely to have studied the historical and theoretical dimensions of LCP, but they, too, may not have experience with its methods or fully embrace its assumptions about student-teacher relationships and the co-construction of knowledge. When tutors and faculty do not use LCP even though they may lecture about it, student teachers gain little understanding of its unfamiliar methods and the reasons why

they should use them when their tutors do not. Although tutors are often former teachers, they may not have taught in the primary or secondary school classroom for many years, which makes it challenging for them to understand the obstacles their students face in trying to implement LCP. Strategies for action might include:

- *Professional development workshops for faculty and tutors.* These could be facilitated by peers from the country's own universities or those of peer institutions in other countries who do have expertise in LCP through their doctoral programs or research. Peer-to-peer education seems the most appropriate way to work with current faculty and tutors, with incentives put in place to encourage their attendance in programs that are voluntary but strongly encouraged by the institution (in the case of tenured faculty). For college tutors, ongoing professional development could be made a condition of employment, though wise management would find ways to attract tutors to high-quality professional development opportunities rather than punish those who do not attend.

- *Professional learning communities for faculty and tutors.* These communities would be comprised of tutors and faculty who come together to improve their understanding of LCP, discuss how to use it in relevant local contexts, and build an institution-wide culture of reflective practice. In one of the most comprehensive studies of such communities in teachers colleges, du Plessis and Muzaffar point out: "Learning is integral to our life, and, if we view learning in this way, professional lives require creating and sustaining 'communities of practice' in which teacher educators can 'live and learn' as professionals. Such communities, then, become valuable tools for learning, growth and development" (2010, p. 3). Professional learning communities provide

peer support, not assessment, for continual growth as teacher educators. They involve interested and committed faculty who set aside time to meet together on a regular basis and could involve peer observation and discussion of efforts to use LCP, discussions of literature on LCP from other contexts and countries, and critical conversations about how to use LCP in supervising student teachers during teaching practice.

- *Professional outreach to area primary and secondary schools and assistance from schools in developing locally-relevant methods for promoting LCP.* The MUSTER project discussed in previous chapters found that the TTCs in the countries they studied did not have "strong and free-flowing professional links with schools" (Lewin, 2004, p. 7). If such links were forged, tutors and faculty could serve as better mentors and models for in-service teachers, and they would also have a more realistic understanding of the challenges facing new and experienced teachers as they begin to use LCP. In many countries, opportunities for teachers to attend in-service workshops are very limited. For example, less than half of teachers in private and public schools in Tanzania reported having attended any in-service programs during the previous five years (Lassibille, Tan, and Sumra, 2000). Tutors, in particular, could be encouraged to teach periodically in schools and use this experience as the basis for classroom-based research, thereby improving the tutor's practical knowledge of current classroom conditions and providing them with an opportunity for professional growth. Exemplary studies could be published annually by the Ministry of Education or another appropriate body to be used in the country's teacher education programs.

2. *Revise the pre-service curriculum.* A number of countries are already making pre-service reforms a high priority. Guinea, for instance, has made strides in using LCP in its colleges (Dembélé and Miaro II, 2003), and Mauritania has created guides for student teachers as they begin their careers to help them identify areas where they are doing well and where they would benefit from further guidance (Moulton, 2003). Nevertheless, most studies of the curriculum at TTCs reveal that conflicting theories of learning are taught and used in classes, such as introducing the importance of critical thinking while teaching in a transmission mode. In addition, pedagogy is approached theoretically with a lack of connection between learning about content areas and how to teach these subjects, especially using LCP. To improve this situation, TTCs can make concerted efforts in the following areas:

   • *Redesign of content and educational foundation courses so that pedagogical content knowledge is not divorced from content knowledge.* According to one estimate, in some countries as much as 75 per cent of the bachelor's degree curriculum for teacher trainees focuses solely on content rather than pedagogical content knowledge (Mulkeen, 2010). To address this gap, tutors and faculty would make explicit how different topics in the syllabi for primary or secondary schools could be taught using LCP, and they would model these methods in their content courses to help student teachers understand how they, too, might enact LCP in their biology, history, or physics classes. This redesign also includes foundational courses in education, such as educational psychology and sociology, so that they, too, align with LCP both in terms of content and method. When discussing theories of learning (in psychology) or theories of socialization and intergenerational relationships (sociology), for example, LCP would be fully incorporated into discussions and debates to help student teachers think critically about its use in African contexts.

- *Restructure the timetable to allow more structured opportunities for teaching practice using LCP.* College and university education programs, in general, have not created sufficient time for student teachers to try out methods based on LCP and to receive constructive feedback from tutors and peers. Moreover, such practice should include time for reflection on practice as recommended above for tutors themselves. Some researchers have termed such opportunities 'pedagogies of enactment' or 'approximation of practice' (Grossman et al., 2009). To 'enact' and 'approximate' new ways of teaching, more time in the pre-service curriculum could be devoted to the design of learner-centered lessons, the practice of them while being videotaped (whenever possible), and the review of the tapes with peers and tutors while receiving constructive criticism (Leyendecker et al., 2008). After these sessions, student teachers would reflect in writing or in dialogue with classmates on these sessions and use this feedback to improve their pedagogy.

Systemic realignment

Rethinking current pre-service and in-service structures implicates policymakers in the realignment of teacher education but so, too, in the ways that teacher education intersects with the processes of curriculum and examination development at the primary and secondary levels. This final section proposes several ways in which curricula and examinations could be redesigned to align more closely with LCP and with the abovementioned proposals for TTCs and university departments of education.

1. *Restructure the curriculum development and implementation processes.* One of the fundamental premises of learner-centered pedagogy is that knowledge is constructed through active engagement with others during a process in which prior experiences are brought to bear on an analytical task. This

perspective can be applied to the curriculum development process to include a wider range of participants with different experiences in the educational system. It is common for countries to have units within an educational ministry or a parastatal organization to write school curricula and syllabi for different subjects. These units are frequently distinct from teacher education institutions and other relevant bodies involved with implementing changes in the curriculum (Leyendecker et al., 2008).

An alternative to this structure would be for curriculum development and implementation to utilize teams comprised of current or recently retired expert teachers, tutors from TTCs, university faculty, and curriculum development personnel from ministries or parastatals. Ideally, these teams would also involve school inspectors, school heads, and parent representatives. Curriculum development would continue to be informed by LCP, but methods recommended for particular subjects would reflect the curriculum-in-use, or the actual curriculum that teachers use in the classroom, rather than the official curriculum designed by experts who may have minimal experience with current classroom environments. Curriculum implementation would thoroughly involve TTCs and universities in that changes to the primary or secondary school curricula would occur together with changes in teacher education: There would be no changes in the national school curricula without a concomitant change in pre-service and in-service programs. Curriculum development units would have personnel consulting with or simultaneously working for the ministries responsible for teacher education. The work done in Namibia to link school curriculum reform to teacher education provides a model for how to make the process more coherent (Dembélé and Miaro II, 2003).

2. Align national assessments with learner-centered pedagogy. The previous chapters indicate the challenges teachers face in using LCP when national examinations continue to assess students' ability to recall factual information. Thus, even in countries where

the national curriculum specifies LCP, the skills of analysis, synthesis, and critical thinking are rarely tested, especially through inquiry-based questions. The continued emphasis on the 'right' facts and format for answers on high-stakes national exams inhibits many teachers in SSA from using approaches that develop important inquiry skills when they are not formally assessed.

An important systemic realignment to consider is streamlining the curriculum development and national examination units. As noted above, it would encourage teachers to use LCP if the development and implementation of curricula were coordinated across curriculum development and teacher education institutions. Similarly, there would be a far greater incentive for teachers to utilize LCP if the approaches to teaching called for in the curriculum informed the questions on national exams. In some countries, the units in charge of curriculum development and exams are part of a single institution; in other cases, they are conspicuously separate (Leyendecker et al., 2008). Although there is likely to be resistance from staff to consolidation or greater coordination of activities, it is critical for policymakers to consider the consequences for educational reform around LCP if the development of teaching guidelines and the development of student assessment remain distinct.

Related to the coordination of curriculum development units and examination bodies is the content and format of the examinations themselves as well as their weight in the student assessment process. The assessments used in most African countries reflect behaviorist assumptions about knowledge as discrete, sequential, and classifiable into correct and incorrect categories. Therefore, teaching means transmitting the correct knowledge from teacher to student to prepare for a summative assessment at the end of the week, term, or year when pupils were to have learned this fixed body of knowledge (du Plessis

and Muzaffar, 2010). In contrast, LCP demands a different way of assessing students because learning is equated with far more than acquiring facts and figures. Students should be able to demonstrate their ability to comprehend concepts and not only restate them, to apply theories to different settings, and to analyze novel problems critically by themselves and with others (Mtika and Gates, 2010).

The content, format, and weight of assessments will need to be reconsidered for learner-centered pedagogy to have an impact on teaching and learning. There are several points to keep in mind when considering how best to align LCP with assessment:

- Assessments should be formative rather than only summative. This means assessments should occur throughout the term as a form of feedback. Student assessments should also inform teaching so teachers can change the pace of a class as needed for the majority of students. Formative assessment also includes initial estimations of students' prior knowledge of a topic before embarking on a new unit to determine the most appropriate level at which to begin and to help ensure students will be able to engage with the material because it is not too easy or too difficult for them.

- Assessment should be continuous without continuous testing. Formative assessment implies that no single assessment should form an unduly large part of a student's overall mark for a class, thereby necessitating assessment throughout the term. However, this does not mean that students should be tested continuously but rather that a variety of assessment mechanisms would be used throughout the term or year. There may be performance assessments (see below) along with more traditional paper-and-pencil tests, but even these tests would be based on

tasks demanding higher-order thinking skills and "robust understanding" of subjects (du Plessis and Muzaffar, 2010, p. 71). In addition, continuous assessment suggests that tasks performed later in the term would carry more weight than those performed earlier to demonstrate learning over time.

- Assessments should include authentic learning tasks. There are a number of different kinds of tasks that fall under the heading of 'authentic,' but they share the assumption that knowledge is complex, enacted, and grounded in real-world experiences and problems. The following types of performance assessment generally fulfill these requirements:

  - Experiments using substances and materials with which students are familiar, e.g., testing the ph-level of common acids and bases;

  - Demonstration of skills in real-world contexts, such as using a foreign language to write a letter to a pen-friend or to interview a visiting teacher;

  - Research project involving multiple steps in the planning process and multiple sources of information;

  - Role playing, skits, songs, and dramatic interpretations of phenomena or events, i.e., acting as different parties at an historic meeting, writing and performing a song about environmental protection, or enacting a process like cell division.

    Such authentic tasks call on students to be active, creative, and critical in thinking about how principles and concepts learned in class could be applied in different contexts, and they also require teachers to use different tools for assessment. Two of the primary ones are checklists, which teachers and peers usually complete during a performance or shortly after an activity to provide

quick, immediate feedback to the student, and rubrics, whereby teachers indicate broad categories for assessment that together give a more complete picture of the student's work than a single grade for an entire project (du Plessis and Muzaffar, 2010). These tools can be used to provide students with more holistic feedback on their work without creating an unnecessary burden on the part of teachers.

Conclusion

The strategies in this final chapter are derived from the analysis of learner-centered pedagogy presented in this booklet. One of its principal messages is that the implementation of LCP is complex and requires careful planning across different sectors in the education system. The coordination of reforms in the examination system, in the development of curricula, and in teacher education at both the pre-service and in-service levels is essential to the success of any policy aimed at getting teachers to use LCP in the classroom. One of the main barriers to the use of LCP is its lack of alignment with current examination structures, and policymakers need to take a close look at whether the system as a whole is ready to support the changes necessary for LCP to move from policy to practice.

This booklet has also sought to explain some of the reasons for the use of teacher-centered, transmission models of teaching in sub-Saharan Africa and some of the major rationales for a learner-centered approach. The chapters highlighted different approaches to the restructuring of teacher education on the continent to show that there is no 'right way' to institute changes in the direction of LCP. They also introduced the concept of a spectrum of teaching rather than a dichotomy to suggest that teachers should be encouraged to develop a repertoire of methods to use in the classroom and should draw upon their professional knowledge in determining when more teacher-centered or more learner-centered methods are appropriate. However, the importance of quality teaching cannot be overlooked because safe, supportive classrooms and an ethics of concern for students are not pedagogical options but need to be present in every school and every institution that prepares future teachers.

It is crucial for policymakers and planners to consider the potential for learner-centered pedagogy to help students become more critical, creative thinkers and more engaged citizens. Whether LCP actually results in these outcomes will require further research in a range of contexts as teachers develop their understanding of this approach and their ability to use appropriate methods to support it. The goals of LCP are widely shared around the world, even though the rationale for supporting them may vary. It is only through the continued study of this transition in teaching and learning that we will know whether this approach goes beyond rhetoric to achieve its stated aims of improving the quality of teaching and learning.

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Appendix A

Interview Questions: Teaching in Action

1. What secondary school did you attend for O-levels and where is it located?

   a. What was the highest form you completed at that school?

   b. What was your combination [three-subject concentration]?

2. What secondary school did you attend for A-levels and where is it located?

   a. What was the highest form you completed at that school?

   b. What was your combination?

3. Do you hold a diploma or a degree?

4. What college or university did you attend?

   a. In which region is the college/university located?

   b. How many years did you attend the college?

   c. What were your one or two principal subjects?

5. In addition to primary and secondary school and college or university, have you had any other formal education?

   a. [if yes, ask the interviewee to tell you the name of the school/college, the subject(s) studied, and the number of years attended; record in space below]

6. How many years have you been teaching at the secondary level?

   a. How many years have you been a teacher at [name of current school]?

b. [if #6 and #6a are different, ask the interviewee to list the other schools and number of years s/he taught at each school]

7. What subjects and forms do you teach at [name of current school]? How many students are in each class?

8. How many hours, in total, do you teach per week?

9. In addition to teaching, what other responsibilities do you have at [name of current school]? [probe to find out whether s/he is the second master, discipline master, matron, etc.]

10. If you think back to when you were a secondary school student, what did you hope to do upon completion of your secondary education?

11. When you were in teacher training college/university, what was a typical day like for you as a student?

12. Describe your favorite course at college/university.

13. Describe your least favorite course at college.

14. I would like to know more about the courses on how to teach that you had at college. What courses on how to teach did you have in college?

15. If you compared the courses you took on how to teach to your courses in your principal subject area at college/university, how were they similar?

16. If you compared the courses you took on how to teach to your courses in your principal subject area at college/university, how were they different?

17. In general, what teaching methods did your teachers at college/university use?

18. Describe for me an example of when one of your teachers at college/university talked about learner-centered pedagogy or participatory teaching methods.

19. Could you tell me about the best example you recall from college/university in which one of your teachers demonstrated or used a learner- or student-centered method?

20. Could you give me an example when a teacher from college/university demonstrated or used an activity to promote critical thinking?

21. Now I would like to know more about your experiences as a student teacher.

    a. How many times during your college/university did you do block teaching practice [BTP]?

    b. During which year(s) in your program did you do BTP?

    c. How many weeks was BTP?

    d. How often were you observed by a teacher from your college/university?

    e. For how many periods did s/he stay and observe you?

    f. Describe for me how you received feedback from this teacher about the observation.

    g. In as much detail as possible, I'd like you to describe your experience the first time you did BTP.

22. The Tanzanian government is now requiring teachers to use student-centered approaches to teaching. How would you describe student-centered or participatory teaching methods?

23. In your opinion, why does the Tanzanian government now require teachers to use student-centered or participatory pedagogy?

24. A number of different teaching methods were demonstrated during the workshop. Compare the ways of teaching and learning used at the workshop with the ways of teaching and learning at the college/university you attended.

25. Compare the ways of teaching and learning described during the workshop to the ways of teaching you generally use in your classroom.

26. You saw many methods and activities during the TIA workshop. Have they affected your teaching? If yes, how? If not, why not?

    26a. The workshop discussed tailoring your instruction to address multiple intelligences. Do you plan to use this approach? Why/why not?

    26b. The workshop discussed promoting critical thinking. Do you plan to use this approach? Why/why not?

    26c. The workshop addressed tailoring instruction to different ability levels. Do you plan to use this approach? Why/why not?

    26d. The workshop discussed varying forms of assessment. Do you plan to use this approach? Why/why not?

    26e. The workshop discussed supporting English across all subject areas. Do you plan to use this approach? Why/why not?

    26f. The workshop presented various strategies to promote the inclusion of girls in school. Do you plan to use these strategies? Why/why not?

    26g. The workshop discussed ways to include people of mixed abilities in your classroom. Do you plan to use these strategies for inclusion? Why/why not?

    27. Some of these ways of teaching and learning used at the workshop are quite different from those used in most Tanzanian schools. What difficulties do you think you might have if you were to use these methods in your classroom?

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The booklet

Learner-Centered Pedagogy and Teacher Education in Africa examines the global trend toward learner-centered pedagogy with a focus on sub-Saharan Africa. The booklet explores the history of pedagogy and teacher education on the continent, the rationales for a learner-centered approach, challenges to its use in teachers' colleges and schools, and strategies for action. It is intended primarily, though not exclusively, as a guide for policy-makers and planners in ministries of education, institutes of curriculum development, and national examination councils to enable informed decision-making about systemic realignment in the education system necessary for learner-centered pedagogy to be fully implemented.

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