EXPLORING THE ISLAMIC PERSPECTIVE OF PEDAGOGICAL CONTENT KNOWLEDGE AMONG TEACHER EDUCATORS IN TANZANIA

Mnyero Janja Ibnu Sheikh Gunda, Nor Hayati Alwi, Fadzilah Abd Rahman & Steven Erick Krauss (Abdul-Lateef)

Faculty of Educational Studies, University Putra Malaysia

Abstract

Pedagogical content knowledge is a generative concept representing professional knowledge base for teaching. This proposed study focuses to explore the Islamic concept of pedagogical content knowledge among Muslim teacher educators in Tanzania. Data will be collected from 10 Diploma in secondary education teacher educators in Dar —es Salaam and Kilimanjaro regions through in-depth interview, observation and documentary review. Modified Interpretive Phenomenological Approach will be employed for thematic data analysis and interpretation. The results are expected to highlight meaning, nature and role of Muslim teacher educators' Islamic perspective of pedagogical content knowledge

Key words: Islamic perspective, Muslim teacher educator, Pedagogical content knowledge

Introduction

Tanzania as many countries is in the midst of implementing reformed curriculum, in favour of learner centred pedagogy against teacher centred tradition (Vavrus, 2009; Tanzania Institute of Curriculum [TIE], 2007). Teacher educators are central to the desired results (Parker & Oliver, 2007), because of being obligated to filter curriculum for effective teachers' training (O-Saki, 2004). For that reason, it is vital to explore teacher educators' knowledge for teaching, in order to appreciate how they learn to teach (Abdul Rahman, 2007). Shulman (1986; 1987) suggests different kinds of effective knowledge base, out of which pedagogical content knowledge (PCK) is widely embraced by researchers as a unique professional knowledge for teaching (Karaman, 2012; Ball, Thames & Phelps, 2008). Since its inception there is ongoing debate about it, with competing perspectives as either it is integrative or transformative in form, nature and operation (Parker & Oliver, 2008). Despite the debate, its core message is that teaching is profession that blends pedagogy and content in a special way to capitalize learners' achievements (Karaman, 2012; Ball, et al. 2008). From this understanding, it is expected that teacher educators with informed PCK can teach the content with engaging examples, analogies, explanations and demonstrations accessible to learners (Shulman, 1987).

Background of the Study

Teachers' Education and Training in Tanzania

There are three types of pre-service diploma in teacher education programmes including, teacher education diploma programme in secondary education, in primary education and in early childhood education (TIE, 2009). In the framework of the Education and Training Policy of 1995, the diploma in secondary education programme is aimed to impart teacher trainees with theories and principles of education psychology, guidance and counseling, principles and pedagogical skills of creativity and innovation, promote understanding of the foundation of the school curriculum, sharpen mastery of selected subjects, skills and technologies and impart assessment and evaluation skills in education (TIE, 2007; Bhalalusesa, Westbrook, Lussier, Sima, Qorro, Katabaro, Matonya, Tiboroha, Nzima, (2011).). The curriculum of diploma in secondary education includes professional studies, academic content knowledge (ACK) and Pedagogical Content Knowledge (PCK) and general courses (TIE, 2007).

Pedagogical Content Knowledge in the Diploma in Secondary Education Programme

PCK is represented as teaching methods course and is clearly interwoven, to instill social constructivist theories of learning (Vavrus, 2009). Upon completion, qualified teachers are expected to display pedagogical improvement, demonstrate commitment to the teaching profession, display ethical standards and help students' meaningful learning (Anangisye, 2010; HakiElimu, 2011). Moreover, they are expected to acquire adequate knowledge and working



skills of learner centred activities to balance pedagogic and content knowledge for active learning in schools (TIE, 2009; Babyegeya & Mushi, 2011). Therefore, there is reason to believe that PCK is adopted in this programme in order to train professional school teachers coherent with the Tanzanian commitments to quality education.

However, research findings report problems among school teachers from predominance of teacher-centred teaching methods, emphasis of rote learning for examination scores against meaningful learning (O-Saki, 2004), fall of teachers' professional commitments, lack of teaching ethics, teachers' lateness, and alcoholism during classroom hours, examination leakage, corporal punishment to unethical dressing (Anangisye & Barrett, 2005; Anangisye, 2010). These research findings suggest that the aligned PCK as a course is practically missed, and result into jeopardizing students' learning (Anangisye, 2010). Researchers suggest lack of better working environment and promising career (HakiElimu, 2011; Towsea, Kenta, Osaki & Kirua, 2002); large classes and few teaching and learning materials (Vavrus, 2009) as the reasons behind those problems. There is no doubt that the said reasons explain the problems (Vavrus, 2009; Katabaro, 2011). However, with the growing concern over non-Western perspectives on teaching, learning and knowing (Merriam & Kim, 2008; Leung, 2008), Islamic perspective of PCK among teacher educators is another dimension that has not received much attention by researchers in Tanzania.

The Need of Islamic Perspective of Pedagogical Content Knowledge

The need for Islamic college tutors' view of PCK is attributed to the following interweaving aspects of defining words of Islamic concept of education, theological view about the nature of human being and the practical reasons, as follows:

Firstly, the Islamic concept of education, teaching as PCK, obligates infusion of divine revelation (Haneef, 2011; Halstead, 2004). It obligates unification of content and pedagogy that acknowledge learners' ethical, moral, spiritual, multi-dimensional balanced human being in theory and practice, in spiritual and physical life (Hussein, 2009; Lubis, et al. 2009). The focus is to succeed in this life and life after death (Al-Attas, 1979). In this way, it can resolve the rising ethical problems among teachers in Tanzania (Anangisye, 2010). Secondly, the theological understanding about the nature of students as human being, from the prophetic saying that every child in this world is born in the state of fitra is another reason. According to Hanson (2001) that word can be interpreted as 'innocence' (p. 14), in the sense all learners are not naturally guilty (Hussein, 2004). Hence, Islamic view of PCK is needed to capitalize learners' misconstructions (Ball, et al. 2008) and balance spiritual and physical being (Hussein, 2004) to appreciate its applicability in actual school setting (Lubis, Mustapha. Lampoh, 2009). Thirdly, evolving nature of PCK magnify the need to study it from different backgrounds (Ball, et al. 2008; Parker & Oliver, 2008). Since PCK is multiplicative in nature, so far it has many conceptions from different people of diverse orientations (Ball, et al. 2008). These observations suggest that Islamic perspective of PCK can also add insights, in favour of holistic integration of reason and revealed knowledge against duality in teaching and learning (Lubis, et al. 2009). In sum, the Islamic perspective of PCK is needed, to train capable teachers to face demanding classroom realities and multiple education reforms (TIE, 2007; 2009) with the focus to balance intellectual and ethical dimensions (Lubis, et al. 2009).

The Problems with Teacher Educators in Tanzania

Findings show that teacher educators have different PCK related problems. *Firstly*, they have blurred unification of theory and practice in actual teaching (Bhalalusesa, et al. 2011). The findings by Anangisye (2010) found several cases of teacher educators' misconduct that mismatch between the theoretical teaching and practice including poor dressing and alcoholism. This problem is due to emptying subject content from infusing professional values and ethics (Ismail & Hassan, 2009). *Secondly*, the curricula generalization of PCK as mere teaching methods (TIE, 2007) is impractical and confusing (Bhalalusesa, et al. 2011). It downplays teacher educators' knowledge about learner's background experiences, misconception and prior knowledge, which are the central aspects in the making of PCK (Ball, et al. 2008). The findings by Vavrus (2009) observe inadequate unification of student teachers' learning experiences in the academic content knowledge and PCK as teaching methods. Teacher educators' failure to capitalize on students'



thinking is the problem because it represents narrow pedagogies that fail learners in school settings (Ball, et al. 2008).

There is also scant combination of teaching and learning techniques and strategies (Vavrus, 2009). The findings by Bhalalusesa, et al. (2011) show that: .. "While educators attempt to talk about learner centred methods, they are constrained in....what appears to be a separation of content and methods" (p 73). This is the conceptual problem about academic content and pedagogical knowledge in practice, which leaves most of newly qualified teachers with little understanding of the concept itself and its application in real schools (Bhalalusesa, et al. 2011). Moreover, there is increasing concern related to inadequate integration of student teachers' classroom practices with authentic school realities. Bhalalusesa, et al. (2011) report that student teachers seems to mimic participatory teaching methods but fail to reflect actual school experiences where students have their own languages and concerns. The findings suggest unreflective and insensitive teachings, which may lead to question professional competence of college teacher educators in Tanzanian context (Anangisye, 2010).

Problem Statement

Whereas the implementation of reformed teacher education curricula may be critical, to the training of professional both diploma teachers in Tanzania (TIE, 2009), little is known about Islamic perspective of PCK, amidst different socio-cultural realities (Vavrus, 2009). This is unusual since intense discussion about knowledge construction, PCK and the need of non-Western perspective of learning and knowing is predominant in teacher education literature (Ball, et al. 2008; Merriam & Kim, 2008; Leung, 2008). Some researchers generalize PCK by Shulman, as the major way to understand it across discipline, culture and education levels (Park & Oliver, 2008) while others are skeptical, because Western education concepts are not value free (Tabulawa, 2003).

Moreover, most studies on PCK normally focus on empirically-informed science and mathematics subjects (Kitta, 2004); language and mathematics teachers (Bhalalusesa, et al. 2011) though ineffective at the integrative teaching framework of reason and revealed knowledge (Al-Attas, 1979). In Tanzanian context, previous studies from the light of PCK found low commitments to teaching profession among teachers in Muslim schools (HakiElimu, 2011), ethical problems among teacher educators in all schools and colleges (Anangisye, 2010; Anangisye & Bartlett (2005) inadequate integration of academic content knowledge and pedagogy, predominance of lecture methods, blurred unification of theory and practice and contingency conception of Western education concepts (Vavrus, 2009). These research evidences suggest the need to refine PCK in order to train balanced and ethical teachers and committed to the fulfillment of competence based curricula (Vavrus, 2009).

To date, however, little is known about how teacher educators' teaching is informed by Islamic view. Besides, research is silent about the nature of teacher educators' Islamic perspective of PCK, amidst researchers' epistemological differences on the concept itself (Parker & Oliver, 2007). In addition, the ways teacher educators use Islamic view of PCK remain unfamiliar, given actual challenging classroom settings (Bhalalusesa, et al. 2011). From the ground of the foregoing studies, therefore, the proposed study attempts to address this gap in the literature by exploring Islamic perspective of PCK among teacher educators of diploma in secondary education in Tanzanian context.

Main Research Ouestion

The proposed study focuses Islamic perspective of pedagogical content knowledge among teacher educators in Tanzania. The main research question is about how Islamic is the teacher educators' perspective of pedagogical content knowledge.

Research Questions

In light of the stated main research question, the proposed study is guided by the following research questions:

i. What components do teacher educators include in their Islamic perspective of pedagogical content knowledge?

141

- ii. How is the teacher educators' Islamic perspective of pedagogical content knowledge constructed?
- iii. What is the use of teacher educators' Islamic perspective of pedagogical content knowledge during planning, teaching and assessment of the lesson?

Significance of the Study

Firstly, the findings will contribute to the field of curriculum and instruction, by identifying what makes teacher educators' Islamic perspective of PCK, amidst its pervasive forms (Park & Oliver, 2008). This knowledge may contribute to fill the gap and add into theoretical knowledge of training teachers. Besides, the findings will inform the processes of constructing teacher educators' Islamic perspective of PCK to appreciate the epistemological differences and learn from diverse constructed knowledge. In this way, teacher educators will reveal their unstated Islamic perspective of PCK. Secondly, the findings will contribute to the policy making by incorporating both reasons and revealed sources of knowledge to understand teacher educators' Islamic perspective towards training balanced individuals. In this way, the findings may improve policy makers' interpretations and develop ability to accommodate multiple options towards training quality teachers (TIE, 2009). Thirdly, the findings may contribute on improving the design and implementation of practices. This is through helping teacher educators to think about what and how they teach in the frame of Islamic perspective of PCK. In this way, the study may motivate teacher educators to practice what they instruct as living role models, and inform professional development programmers the need to respect, individual ownership of constructed knowledge of concepts (Creswell, 1998).

Literature Review

Two basic questions guided the review, firstly, what evidence have those early investigations designed to find perspectives of pedagogical content knowledge found regarding teacher educators. Secondly, what conclusions can the proposed study draw from the various findings of the early investigations in order to train balanced and ethical teachers. Thirdly, the review center on constructivism as an idea about how people see knowledge that has been built up during the course of human history (Phillips, 2000, p. 6-7) and as a social construct regulated by individuals' ideologies or values (Abdul Rahman, 2007). In this case, the study constructivism as a theory will be used alongside considering teacher educators as active learners in the construction of perspective of PCK, since knowledge requires reflection and thinking throughout (Badi & Tajidin, 2011; Abdul Rahman, 2007).

From the reviewed studies it is clear that various researchers have conceptualized PCK from somewhat different angles, between transformative and interactive models (Parker & Oliver, 2008). Some studies appeared to focus on finding regarding pre-service teacher development of PCK (Abdul Rahman, 2007) while others consider the use of PCK to analyze research related with the concept itself (Kind, 2009). To some extent those previous studies have helped to clarify the existing of multiple conceptions of PCK among different research orientations across discipline (Magnusson, Krajcik, & Borko, 1999). However, most studies in general leave aside questions on the Islamic Perspective of PCK to appreciate integration of reason and revealed knowledge for training balanced teachers.

Moreover, continuous debate, refinement, modification and alteration of the original concept of PCK among researchers (Loughran, 2010) make it difficult for teacher educators to grasp its essence. There is also concern that curriculum of diploma in secondary education in Tanzania is divided into academic content knowledge and pedagogical content knowledge as teaching methods, something that sounds as dilemma in practice (Bhalalusesa, et al. 2011) while lack of profession commitment, predominance of lectures, rote learning and increasing ethical problems are evident among teachers and teacher educators alike (Anangisye, 2010; Anangisye & Bartlett, 2005). The analysis of the literature leads to conclusion that the literature about PCK still lacks informative descriptions about what it means by Islamic perspective of PCK and how the Islamic informed perspective is constructed and applied among teacher educators. Therefore, the proposed study intends to fill the gap of knowledge through exploring teacher educators' Islamic perspective of pedagogical content knowledge in Tanzanian context.

740

Methodology

Research Design

The proposed study employs epistemological stance of interpretivism, because it favours individual multiple realities, individuals' viewpoints (Scotland, 2012). It is employed because as human beings teacher educators make multiple meaning of their teaching experiences in the framework of PCK. It also allows respondents' own interpretation of experiences and limits researcher's manipulation of information and generalization of scenario (Bogdan & Biklen, 2003). The ontological stance of the study is subjectivism that acknowledges creation of perspectives from the researched individuals (Creswell, 1998). It uses inductive approach that allows close interaction between the researcher and the researched. The qualitative research method will be used to get a clear picture of the research problem, by analyzing and interpreting what respondents say about the Islamic perspective of PCK in a flexible and contextual manner (Merriam, 2009).

Phenomenological inquiry

The researcher will employ Phenomenology inquiry as one among many qualitative methodological types, which address how individuals' teacher educators' experiences and uncover rich accounts of their processes of knowing PCK (Evans, 2009). This approach may be helpful on exploring teacher educators' insightful accounts of PCK.

Interpretive Phenomenological Analysis Approach

This is an approach within phenomenology inquiry that combines its theoretical assumptions with phenomenology itself, hermeneutics, double hermeneutic and ideography (Smith, Flowers & Larkin (2009). The researcher will use it because it guides analysis of the study, and attends detailed analysis of individual as a unique rather than general case (Smith, 2003). It is also useful to observe double roles of making sense of own world and understanding respondents' world (Smith &Osborn, 2003).

The Researcher as an instrument

In qualitative study, the researcher is an instrument, for data collection and analysis (Merriam, 2009). In this respect, the researcher as an instrument will establish context, access data, craft communication flow, and establish interactions (Creswell, 1998) to make the study trustworthy and credible.

Purposive Sampling Technique

The proposed research will collect data from the urban teachers' training college teacher educators through purposive sampling strategy, in order to gain insight from informative sample (Merriam, 2009). The research will use it to access teacher educator with rich experiences. The sample size of the proposed study will approximately be 10 teacher educators and it is likely to be adjusted based on reaching the saturation point during data collection and analysis (Merriam, 2009; Creswell, 1998). This is the point in data collection when no new information emerges from added respondents (Denzin& Lincoln, 2003. The focus at that point is to explore shared themes and obtain in-depth account of respondents' perceptions (Smith & Osborn, 2003; Smith, 2004). It also ensure researcher to get fine-grained analysis data (Bryman, 2012). To stop at saturation point, is a principle concern in qualitative study (Mason, 2010) and is achieved at a comparatively low level (Moran, 2010).

Data collection methods

The Semi- structured interviews

The study will use in-depth semi-structured interviews principal data collection method, because it allows changes during interview sessions (Gray (2004) and will give chance to discard unnecessary talks (Merriam, 2009). This method will be used because of its flexibility on collecting rich data and rephrasing questions and inspiring respondents to elaborate their original thinking and beliefs in more detail. Transcriptions will be made of the interviews and coded to

749



reflect the components of pedagogical content knowledge. The responses to interview questions and the field notes and checklists from the observations will also be analyzed through using modified phenomenological analysis method to clarify key teacher ideas and beliefs.

Observation

The researcher will use passive participation to reflect observe history tutors' behaviour. This is the type of direct informal observation used by researcher to focus on respondents' presentations (Schram, 2003).

Documentary Review

This will include diaries, autobiographies and personal letters about actions, experiences, memos and beliefs, official documents include newsletters (Bogdan, & Biklen, 1998). The researcher expects to reflect teacher educators' lesson plans, lesson notes and scheme of works. The researcher is aware of its limitation and will capitalize on rapport to review teacher educators' documents, text and reference and will also visit teacher training colleges' libraries as integral to teacher educators' learning.

Data Analysis

The researcher will employ thematic analysis research insights to encode qualitative information and interpret the concept under investigation with inquiry mind (Smith, 2003). The main reason is to make sense and analyze transcripts to increase understanding (Merriam, 2009). Among the following procedures of Interpretative Phenomenological ideographic (IPA) will be included, looking for initial themes in the first case, transformation of initial themes into abstraction, connecting the themes, continuing analysis with other cases.

Validating Findings

The researcher will employ terminologies such as credibility to internal validity, transferability to external validity, dependability to reliability and conformability to objectivity (Denzin & Lincoln, 2003). The researcher will employ commended terms to authenticate the study findings since qualitative research is legitimate and independent methodology in interpretive paradigm.

Credibility

This stage is about establishing research accuracy. It explains behaviours, events and precise understanding of research participants' thinking and opinions (Patton, 2002), achieved through the followings:

Long term observation or prolonged time in the field

The researcher will use this strategy to get remain in the field for a considerable time in order to develop in-depth understanding of the phenomena and the people. The more the researcher's time in the field the more the researcher's get rich information and get to know research participants (Creswell, 1998)

Triangulation and Member Checking

The researcher will use this strategy to establish internal validity from different angles, According to Creswell (1998) triangulation establish internal validity through the use of multiple data sources and methods of data collection from multiple aspects of a given phenomenon. The researcher will use this strategy by requesting feedback on emerging findings (Patton, 2002) from interviewed teacher educators. The main idea is to capture their refined perspectives, and spotlight un-reflected researcher's bias (Merriam, 2009).

Peer Examination and Audit Trail

The researcher will consistently consult members of supervisory committee to share experiences and highlight data deficit. Their constructive suggestions will be incorporated to maintain a direct link of all study sections. This strategy will be employed to detail data collection, processing and analysis processes. Regarding accuracy of transcriptions, the researcher will link research



questions and data, steps in data analysis, and focuses on overall interpretations of the study findings (Creswell, 2005).

Thick Description, Transferability and Consistency

This strategy will be employed during the preparation of the final document with the focus to production of rich interpretive text reflecting teacher educators' Islamic perspective of PCK in a credible manner. Transferability is about the applicability of the findings to other contexts. The researcher will focus on thick description and careful selection of sample and research site that facilitates readers' judgment. Moreover, consistency is used to link research results and collected data. In this case, the researcher will constantly reflect research transcripts and notes to question decisions along data collection phase and during data interpretation to validate analysis and the study.

Conformability

The researcher will recheck data as a procedure to detect contradicting findings and ensure conformability. The final text will be attached with sample copies of observation notes and interview transcripts as appendices to clear doubts. In sum, the researcher will link credibility, transferability, consistency and conformability for trustworthiness of the study.

Ethical Issues

The researcher will focus moral rules and professional code of conducts, by seeking informed consent and confidentiality. For that reason, the researcher will seek informed consent by requesting history educators to give consent in the research process. The researcher will also pledge privacy to establish ground for credible study without compromising individual morality, and avoid to record and use teacher educators' real name.

References

- Al-Attas, S. M. N. (1979). Preliminary Thoughts on the Nature of Knowledge and the Definition and Aims of Education, in: S. M. N. Al-Attas (ed) Aims and Objectives of Islamic Education (London, Hodder & Stoughton), 19-47
- Abd Rahman, F. (2007). Assessing Pre Service Teachers 'Pedagogical Content Knowledge Development: The Employment of Bricolage Approach, Unpublished Doctoral Dissertation, University of Sheffield
- Anangisye, W. A. L. (2010). Promoting Teacher Ethics in Colleges of Teacher Education in Tanzania: Practices and Challenges. *African Journal of Teacher Education*, 1, (1), 64 77
- Anangisye, W. A. L. & Barrett, A. (2005). Professional identity and misconduct: Perspectives of Tanzanian teachers. Southern African review of education (SARE) with education with production (EWP), 11, 5-22.
- Ball, D.L., Thames, M.H., & Phelps, G. (2008). Content knowledge for teaching: What makes it special? Journal of Teacher Education, 59(5), 389-407.
- Badi, J & Tajdin, M. (2011). Creative Thinking: An Islamic Perspective. IIUM Press
- Bhalalusesa, E., Westbrook, J., Lussier, K., Sima, R., Qorro, M., Katabaro, J., Matonya, M., Tiboroha, J., Nzima, I. (2011). Teacher Preparation and Continuing Professional Development in Africa (TPA): The Preparation of Teachers in Reading and Mathematics and Influence on Practices in Tanzanian Primary Schools, www. Sussex.ac.uk/cie/documents/report-tanzania pdf. Accessed 20/02/2012
- Babyegeya, E. B & Mushi, H. M. K (2011). In-service Development of Teachers in Tanzania: Critical Analysis of Trends, Challenges and Possibilities, in Mtavangu, A. J & Mtana, N. J. (eds), Teacher Professionalism in Tanzania: Trends, Challenges and Possibilities,
- Creswell, J. (1998). Qualitative Inquiry and Research Design: Choosing among five Traditions. Thousand Oaks, CA: Sage
- Denzin, N. and Lincoln, Y. (2003), "The Discipline and Practice of Qualitative Research", in Denzin, N. and Lincoln, Y. (eds.) Collecting and Interpreting Qualitative Materials, 2nd ed. California. SAGE Publications, Inc., pp. 1-45.



- Finlay, L. (2008). A dance between the reduction and reflexivity: Explicating the Phenomenological psychological attitude. *Journal of Phenomenological Psychology*, 39, 1-32
- HakiElimu (2011). Are our Teachers Qualified and Motivated to Teach? : A research Report on Teachers' Qualifications, Motivation and Commitment to Teach. Dar es Salaam
- Hussain, A. (2004). Islamic Education: Why is there a need for it? Journal of Beliefs & Values in Religion & Education. http://dx.doi.org/10.1080/1361767042000306130. Accessed 10/09/2012
- Halstead, M. (2004). An Islamic Concept of Education, Comparative Education. http://dx.doi.org/1080/030500604200028451, Accessed on 10/07/2012
- Karaman, A. (2012). The Place of Pedagogical Content Knowledge in Teacher Education. *Atlas Journal of Science Education*, 2(1), 56-60
- Kitta, S. (2004). Enhancing Mathematics Teachers' Pedagogical Content Knowledge and Skills in Tanzania. Enschede: University of Twente.
- Katabaro, K. J. (2011). The Adequacy in Teacher Training for Secondary Schools: Challenges and Options Ahead in Mtavangu, A. J & Mtana, N. J. (eds), Teacher Professionalism in Tanzania: Trends, Challenges and Possibilities, Dsm
- Lubis, M. A., Mustapha, R., Lampoh, A. A. (2009). Integrated Islamic Education in Brunei Darussalam: Philosophical Issues and Challenges. Journal of Islamic and Arabic Education, 1 (2), 2009, 51-60
- Leung, F. (2008). Chinese Culture, Islamic Culture, and Mathematics Education in P. Clarkson, N. Presmeg (eds.), *Critical Issues in Mathematics Education*, 135 C Springer Science Business Media, LLC 2008
- Magnusson, S., Krajcik, J., & Borko, H. (1999). Secondary teachers' knowledge and beliefsabout subject matter and their impact on instruction. In J. Gess-Newsome and N.G. Lederman (Eds.), *Examining pedagogical content knowledge* (pp. 95–132). Dordrecht: Kluwer Academic.
- Merriam, S. B., & Kim, Y. S. (2008). Non-Western Perspectives on Learning and Knowing. New directions for adult and continuing education, no. 119, Fall 2008 Wiley Periodicals, Inc. Published online in Wiley Inter Science (www.interscience.wiley.com) DOI: 10.1002/ace.307
- O-Saki, K. M. (2004). Reflections on the state of science education in Tanzania. In K. O-Saki, K, K. Hosea and W. Ottevanger (Eds.), Reforming science and mathematics education in Sub-Saharan Africa: Obstacles and Opportunities (pp12-26). TEAMS Project: University of Dar es Salaam.
- Park, S & Oliver J. S. (2007). Revisiting the Conceptualisation of Pedagogical Content Knowledge (PCK): PCK as a Conceptual Tool to Understand Teachers as Professionals. Springer Science + Business Media B.V.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. Educational Researcher, 15(2), 4-14.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57, 1-22.
- Smith, J.A. (2007). Hermeneutics, human sciences and health: Linking theory and Practice. *International Journal of Qualitative Studies on Health and Well-being*, 2(1), 3-11.
- Smith, J. A. & Osborn, M. (2003).Interpretive Phenomenological Analysis, in J A. Smith (Ed) Qualitative Psychology: A Practical guide to research methods: London: Sage.
- Segall.A (2004). Blurring the Lines between Content and Pedagogy. Social Education, Nov-Dec
- Sifuna, D. N. (2001). African Education in the Twenty-first Century: The Challenge for Change.CICE Hiroshima University, *Journal of International Cooperation in Education*, 4(1), 21-33
- Turner- Bisset, R. (2001). Expert Teaching: Knowledge and Pedagogy to Lead the Profession. David Fulton Publisher Ltd. London
- TIE (2007). Curriculum for Diploma in Teacher Education Programmes in Tanzania. Dar es Salaam
- TIE (2009). Curriculum for Certificate in Teacher Education Programmes in Tanzania, Dar es Salaam.



GRADUATE RESEARCH IN EDUCATION (GREDUC 2013)

- Tabulawa, R (2003). International Aid Agencies, Learner-centred Pedagogy and Political Democratisation: A critique, Comparative Education, 39:1, 7-26,
- Vanessa Kind (2009): Pedagogical content knowledge in science education: perspectives and potential for progress, *Studies in Science Education*, 45:2, 169-204
- Vavrus, F. (2009). The cultural politics of constructivist pedagogies: Teacher education reform in the United Republic of Tanzania, *International Journal of Educational Development*, 29, 303–311