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# TEACHERS' CONCEPTION TOWARDS THE USE OF SOCIAL NETWORKS AS A TOOL FOR PROFESSIONAL DEVELOPMENT IN TANZANIA GOVERNMENT SECONDARY SCHOOLS: THE CASE OF DODOMA MUNICIPALITY, TANZANIA

Charles Manyama<sup>1i</sup>, Placidius Ndibalema<sup>2</sup>

<sup>1</sup>MA, Mugombe Secondary School, Kibondo, Kigoma, Tanzania <sup>2</sup>PhD, Department of Educational Foundations and Continuing Education, The University of Dodoma, Tanzania

#### **Abstract:**

The study sought to assess teachers' conception towards the use of social networks as a tool for professional development in Tanzania government secondary schools in Dodoma Municipality. Thus, the specific objectives of this study were to assess teachers' conception on the available social networks opportunities that can support professional development, and to examine the limitations that hinder teachers' use of social networks available for professional development. The paper is guided by the social-cognitive theory which stresses that learning takes place in a social environment. A cross-sectional research design was used to collect data that involved 84 teachers from ten secondary schools, six heads of schools, three quality assurers and one respondent from District education office. Qualitative data were analyzed through content analysis and quantitative data were descriptively analyzed through SPSS Version 20 of which the mean score was obtained. The survey results indicated teachers had positive conceptions towards the use of social networks as a tool for professional development. Furthermore, the findings revealed that teachers faced several challenges which include lack training on how to integrate SNs in TPD and high costs of the internet bandwidth, just to mention a few. Finally, the researchers recommend that, teachers should be exposed to professional development programmes that empower

 $<sup>{}^{\</sup>scriptscriptstyle 1} \, Correspondence: email\, \underline{charles marwa@hotmail.com}, \underline{ndibaplac@yahoo.com}$ 

them to develop various pedagogical skills and understand a variety of learning environment that can improve their practice through collaborative online social networks. Again, teachers should be provided with opportunities to use the available SNs to create professional learning networks in their local context and globally.

Keywords: teachers' professional development, social networks, pedagogical tool

#### 1. Introduction

The prevailing ICT framework for teachers in Tanzania emphasizes on improving teachers' teacher's pedagogical skills, collaboration and school innovation using ICTs (URT, 2015). This aligns with the need to meet the international goals such as the Millennium Development Goals [MDGs], Education for All [EFA], and Sustainable Development Goals [SGDs] which stress on the need to harness the use of ICTs to strengthen education systems, knowledge dissemination, information access, quality and effective learning, and more effective service provision. On this ground, the need of different technological innovations to improve teachers' pedagogical skills is even more vital. Innovations such as Social Networks (SNs) have been in place, but their contribution to teachers' professional development is still not well known through research.

As there has been a delightful increase in accessibility of digital technologies which places the need for severe change in the way that teachers socialize, learn and communicate. The way that teachers use digital technologies for improving their professional skills, should challenge the educational community to rethink of the nature of learning. In view of this, education authorities should seriously consider reviewing strategies in their effort to integrate social network in teachers' professional development. Education today takes place in a broader context than it confines to school walls or traditional curricula. Effective teachers' professional development depending on the use of ICT requires not just content, technology, and pedagogy, but also teachers' knowledge and capabilities to enhance desired social interaction using their relationship (Kihoza, Zlotnikoval, Bada & Kalegele, 2016). Although there has been a rapid growth of new technological innovations, there is limited research about the professional learning opportunities from ICT.

#### 2. Background to the Problem

With the rapid increase in the use of the Internet, there has been a more flexible and dynamic learning environment beyond the traditional book-teacher model which regarded classrooms as the only dominant environment for formal education (Felvégi & Matthew 2012). Today, we find many studies examining the use of social network sites as a tool for teachers' professional learning and knowledge-sharing (Titus and Mselle, 2015, Bissessar, 2014). Teachers use different forums on the Internet, such as, Twitter, Web sites, personal blogs, Whatsup, and Facebook, as resources to share and develop the pedagogical skills and mentor each other (Ndibalema, 2016). Thus, there is a need not only to teach, teachers use certain software products and services in their work, but to form an understanding of the society development trends and their own willingness to learn new technology. Additionally, the study of Countinho and Lisboa (2013) state that, in Portugal social networks are powerful tools not only for social, political and business ends, but also for educational purposes, particularly for the professional development of teachers (PDT), an ongoing process in which the importance of lifelong learning in formal, non-formal and informal settings are widely recognized.

The research indicates that a variety of approaches to teacher professional development through ICT has been adopted over the years, but still the impact has been fully realized. This is based on the researchers' concerns that even though the technology has been in place still there are challenges of what a teacher should do. Consider an example the study by Gu, Xiaodong, Qin and Lindberg (2012) in China who identified that, there are different technologies used by teachers to improve professional development. The study addresses that introducing new technology alone is not enough, due to different barriers which are top-down decision-making, lack of ownership of the professional development process, inaccessibility of professional development opportunities and providing little or no support in transferring professional development. This study is similar to the study by Kushnir, Osipova, Vako, and Litvinenko, (2016) in Ukraine, which identified the major reasons of teachers' unpreparedness for using ICT in learning. They include lack of motivation for using ICT, lack of complexity, learning computer skills only without the support of innovative educational technologies, ignoring the characteristics of adult education, neglect of interactive teaching methods, insufficient integration of knowledge, skills of students from different academic disciplines and insufficient information of Computer Science and teacher's skills.

Khan (2014) asserts that, many countries in the world, including Bangladesh have acknowledged the significance of ICT in professional development, but still the country is far behind from the integration of technology in education due to the complexity and inappropriate training of teachers. Economic Commission for Africa has indicated that the ability to access and use information is no longer a luxury, but a necessity for development. Unfortunately, many developing countries, especially in Africa, are still low in ICT application and use (Serah 2014). Also, the study by Uyouko and Wang (2015) in Nigeria revealed that, teachers have a positive conception toward the use of ICT in professional development, but they lack adequate ICT resources and infrastructure in schools and lack of basic skills in ICT integration were the main obstacles impended the utilization of ICT in teachers' professional development. Additionally, the study by Buabang-Andoh, (2012) in Ghana show that, among the factors that influence the successful integration of ICT into professional development is teachers' conception and beliefs towards technology. If teachers' conceptions are positive towards the use of educational technology, then they can easily provide useful insight about the adoption and integration of ICT in teachers' professional development.

In Tanzania, there have been several on-going initiatives that have been integrating ICT in enabling teachers' professional development which include the following: the government of Tanzania in collaboration with Sweden via International Development Cooperation Agency (SIDA) established an ICT Implementation in Teachers' Colleges in 2005. The Ministry of Education and Vocational Training (MoEVT), and IICD partnership, collaboration project on Teacher Professional Development using ICT, implemented through the Bright Education Trust Fund (BETF), to develop school-based capacity in ICT-supported teaching and school administration, (Hooker, 2016).

The ICT-Connect and National Teacher Education Department partnership project that has enabled informal professional learning opportunities and communities of practice through connecting the teacher training college network to a platform for mutual activities (Hooker 2016). The multi-partner collaboration between the MoEVT, the Open University of Tanzania (OUT), the University of Dar-Es-Salaam (UDSM) and the Mid Sweden University (MiUn) on a m-learning secondary teacher education project that provides access to pedagogy and subject-specialized education training (Bakari, Nykvist, 2009; Hooker 2016). The 'Badiliko' British Council and Microsoft project that uses a Digi-hub model to provide resource outreach and a professional

development cascade program for educators to hundreds of schools (British Council, 2015).

In this context, the government has made efforts to describe a roadmap for streamlining the multiple ICT in teacher education initiatives. In 2009, the MoEVT, with assistance from GeSCI, facilitated the development of a Framework for ICT Use in Teacher Professional Development in Tanzania elaborating a development path with vision, goals, resource requirements, and outcomes for ICT integration in teacher education. In 2013, the partnership facilitated a multi-stakeholder development of the Tanzania beyond Tomorrow strategy (E-Learning Africa, 2015) with a human resource development component that clarifies the need for a clear framework for pre-service, induction, and in-service ICT professional development of teachers. Kafyulilo, Fisser, and Voogt (2015) in their findings on teachers' knowledge and skills revealed that inservice teachers from school were confident about their ICT knowledge and skills, however, reported the need for additional practice to update their knowledge and skills, before they engage in the design of technology-enhanced lessons. The study indicated that teachers are given knowledge about the use of ICT but most of them are not using it in their working area. Lack of technological tools seemed to be the one of challenge that hinders teachers' from using technology in teaching.

Although different ICT programs and Governmental policies are integrated in the education sector, there are still challenges and gaps in implementation. Those initiatives do not offer a viable alternative for professional development due to prices of purchasing SNs facilities being unaffordable, inadequacy of effective programmes for teachers' professional development, particularly in computer and other multi-media utilization, these have been identified as a major reason for the slow take-up of ICT in education (URT, 2016). Ndibalema (2014) in his study conducted in Kondoa District in Tanzania shows that teachers in secondary schools have low familiarity in using ICT as a pedagogical tool. This is rooted from inadequate training from their teacher training colleges. The finding match with the study by Liana and Ngeze (2015) who claim that, the readiness of secondary school teachers to effectively integrate ICT into teaching and learning and of teachers in terms of knowledge and skills has not yet been fully explored. Moreover, Patrick, Irina, Joseph and Khamisi, (2016) contend that, there are few literature pieces on how teachers can be shaped to use and deliver education-using ICTs as a pedagogical tool compared to how teachers can and should be trained in the use of ICTs.

In spite of the ICT integration in teacher professional development initiatives in Tanzania, still the number of teachers' who are aware with such opportunity is limited.

The World Bank report (2016) indicates that more than four in five mobile phone owners have simple phones, not capable of browsing the internet. In addition to exploring the uses of new technologies, it might also be useful to ask, how can we innovate using what is already available? In many developing communities, the best technology is the one that people already have, know how to use, and can afford. In most circumstances, this is the mobile phone. There is demand for ICT to be used through distance learning courses to improve the pedagogical knowledge in support of their own professional development in Tanzania (URT, 2015). Therefore, this study investigated teachers' conception toward the use of social networks as a tool for professional development in government owned secondary schools in Tanzania in Dodoma Municipality.

#### 3. Statement of the Problem

Information and communication technologies affect the ways of working, accessing knowledge, socializing, communicating, and collaborating in modern society (EC, 2013). Hence, active and meaningful use of information and communication technologies (ICT) in schools is one of the key issues in educational policies for countries around the world. Advances in ICT have gradually transformed our lives, and the way our society operates. As a result, today's teachers are not the same as those in the past; they have been born into a digital age where technology forms an integral part of their life. They are surrounded by digital technologies and spend a lot of their time watching television, surfing the internet, playing digital games, using mobile phones (Yong, Gates & Harrison 2016). Despite the presence of such ICT facilities in the schools, few teachers use them for professional development.

Kihoza, Zlotnikova, Bada and Kalegele (2016), in their study identified both the internal and external critical barriers, which were evident. Internal barriers were teachers' lack of basic computer skills, teachers' lack of experience to use ICTs and teachers' fear of technology. External challenges were, Tanzania as a nation face unsustainable financial constraint for funding ICT in education initiatives, lack of curriculum and syllabi contextual support to the use of blended learning contents, unreliable Internet connection, teachers' lack of motivation to use technology, and insufficient number of computers in schools.

Since 2002, the Government of Tanzania through the Ministry of Education and Vocational Training with the inputs of educational stakeholders and other partners has been conceptualizing and implementing various programmed policies and initiatives

related to the integration of ICT in teachers' professional development. Such as National Programme for ICT for Secondary Schools' Teachers initiative 2005 to 2008 targeted to eradicate ICT illiteracy among teachers and enhance its use in teaching (Hooker, Mwiyeria, & Verma 2011). With such initiatives in place, one would expect a fully-fledged integration of ICT in Tanzanian schools today. However, it has been noted that the use ICT for teaching and learning is rare and it is not known how ICT is used for professional development and administration (Mwalongo, 2011). National ICT policy of 2016 states that currently few educational institutions, mostly private, have incorporated the use of ICT in education. Therefore, both National Information and Communication Policy of 2003 and that of 2016 indicate that, utilization and integration of ICT in teachers' professional development are still unsatisfactory in Tanzania.

More specifically, the ICT framework for teachers states that teachers should have the technological skills and knowledge of web resources necessary to acquire additional subject matter and pedagogical knowledge in support their own professional development (URT, 2015). Again, teachers should have the skills to use digital resources and online collaboration to network with internal and external experts to support own professional development. However, it remains unclear how a teacher can achieve the same as there a number of challenges which contribute to ineffective integration. The challenges include obsolete ICT infrastructure deployed in teaching and the learning environment, limited ICT competency among teachers and tutors as well as a lack of comprehensive ICT training that focuses on effective integration of ICT in teaching and learning (URT, 2015). However, little is known about how teachers can use different technological innovations such as social networks in their professional development. Therefore, this study intends to investigate the teachers' conception towards the use of social networks as a tool for professional development in Tanzania in Dodoma Municipality.

#### 4. Significance of the Study

The findings of the study provide information to teachers and other education stakeholders on the necessity of integrating social networks as a tool for PD in secondary schools and it also identifies various mechanisms, which guarantee successful SNs integration in schools. The findings also suggest the policy-makers and decision-makers to make knowledgeable decisions about policies and investment in SNs in secondary schools by understanding the conception of teachers in the use of ICT

in schools. The study is the starting point of constructing Facebook teachers' cooperative discussion groups using ICT simple tools like smart phones among teachers. The contextual learning and knowledge sharing is especially important with the regard to the argument that digital literacy's of teachers should be addressed not only as an individual skill set, but rather as an institutionally and culturally dependent set of practices (Tomczyk et. al, 2015). The study provides a guideline for the future researchers who will carry out their research work in this area. The study also raises more questions on teacher professional development and support further discussion, which enhance the quality and effectiveness application of SNs among teachers.

#### 4.1 Theoretical Considerations of Social Cognitive Theory

This study was guided by social-cognitive theory, which was pioneered by Canadian psychologist Albert Bandura in the 1960s. Also, Atkinson (2002) proposed, a sociocognitive approach, and the approach has the perspective that knowledge is constructed on two theoretical perspectives: cognitive and social. The learning theory that is concerned with learning that occurs in a social environment (Fahim & Mehrgan, 2012). On this theory, cognitive learning is constructed through social interaction, behavior or performance, and environment (Bandura, 1986; Fahim & Mehrgan, 2012; Vygotsky, 1978). Learning involves human social behavior in certain environments, how people think, and how their thinking, affects their behavior and their performance in the environment.

Social cognitive theory explains that human action is a result of the interplay of cognitive, behavioral, and environmental factors affecting the individuals to act within a social and cultural context. Social cognitive learning theory is concerned with the assumption that much of human learning occurs in a social environment (Fahim and Mehrgan, 2012) Vygotsky (1978), Bandura (1986). Fahim and Mehrgan (2012) had similar ideas that cognitive learning is constructed through social interaction, behavior, performance, and the environment. Learning is connected with behavior of social interaction in certain environments.

The cognitive perspective focuses on things going on in the inside world, known as *being*, and the social perspective focuses on things going on in the outside world, known as *have*. Thus, when people look at the social –cognitive approach, they are looking at how people *be-have*. In terms of writing, the cognitive perspective views writing as a problem-solving process (Kamnoetsin, 2014).

It explores teachers' writing and surfing information from different social networks, and change of behaviors in different environments in an effort to understand

whether posting and surfing using social network behavior in one situation has any influence on teachers' professional development behavior in another situation. Social cognitive theory is considered as a suitable framework for this study because social networks, is a platform environment that is used for discourse and social interaction (people, social setting, interaction), and it is a platform environment in which teachers' writing and posting performance/behavior can be seen and evaluated (Kamnoetsin, 2014). Learning continually occurs through social interactions and influences from the community, media and the Internet. People determine how these influences affect them based on their inner thoughts. Through social interactions, learning occurs and meaning was constructed. There are numerous opportunities for teachers' to enhance their TPD through social interactions online. Global networking and creating or interacting with educational game as groups is a few resources to enhance social learning. Social learning is ever increasing with the continual advancements of technology and online communications.

#### 4.2 Research Questions

Basing on the research objectives, the study was guided by the following research questions:

- 1. What are the teachers' conceptions on the available social networks that can support professional development?
- 2. What are the limitations that hinder teachers from using social networks available for professional development?

#### 5. Methodological Solutions and Procedures

The study adopted mixed-approach based on concurrent mixed procedures where the researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. The study collected both forms of data at the same time and then integrates the information in the interpretation of the overall results. The mixed approach is a procedure of collecting, analyzing, and mixing both quantitative and qualitative methods in a single study or series of studies to understand a research problem (Creswell, 2012). Basing on the ideas of Creswell (2012) investigating teachers' conception, feelings, willingness and understanding about the use of SNs for the professional development mixed approach was opted. The central focus is to obtain a broader picture about the nature, pattern and variation of teachers' conception toward the use of social networks as a tool for professional development.

Qualitative research was suitable for this study because it is a means for exploring and understanding the meaning of individuals or groups attribute to a social or human problem (Creswell, 2009). In another way, the study investigated teachers' conception toward the use of SNs, which need some quantitative ideas in analyzing data to come up with comprehensive findings and holistic information. The consideration of mixed method research is based on the opinion brought forward by Vos, Strydom, Fouche and Belport (2011) that it provides more comprehensive evidence for studying a research problem than either quantitative or qualitative alone. Again, it provides the opportunity for a greater assortment of divergent views and perspectives and makes researchers alert to the possibility that issues are more multifaceted than they may initially supposed (Ibid).

The study employed cross-sectional research design to produce a snapshot of a sample of secondary teachers' population comprising with individuals of different demographic characteristics at a particular point in time. Cross-sectional research design was helpful in the collection of data from different respondents in a short period. Cross-sectional survey was useful in assessing practices, attitude, knowledge and beliefs of a population in relation to a particular SNs related information. Crosssectional survey is relatively quick and easy to conduct, data on all variables, which are only collected once and it is able to measure prevalence for all factors under investigation, multiple outcomes and exposures can be studied, and good for descriptive analyses and for generating hypotheses. Jonker and Pennink (2010) argue that, the design is described a set of variable assumed under the study and consideration regarding specific contextualized guidelines that connect theoretical notion and strategy of inquiry supported by the methods and techniques for collecting empirical data. Data collection aimed at drawing out individuals' experiences and conception of using SNs as a tool for TPD using questionnaire, observations and interviews.

The target population was 10 government owned secondary schools, 84 classroom teachers, 6 heads of schools, 3 quality assurers and district education officer (DEO) of Dodoma Municipality. The rationale for choosing the target population based on the criteria that teachers are considered as key implementers of curriculum through classroom practices and are responsible for developing their own teaching skills and methods in using SNs by being exposed into digital tools (Nbibalema, 2015). Simple random sampling was used to select 10 schools, and 9 teachers from each school, whereby lottery method was used by writing the names of schools and numbers in a piece of paper and ask teachers to pick the pieces. Simple random sampling methods

were used in this study, as it reduces bias in selecting respondents and give every member the chance to be selected as respondent in the study. In this study, purposive sampling based on expert purposive sampling, which involved the assembling of a sample of persons with known or demonstrable experience and expertise in some area. It was applied to select heads of schools, three schools quality assurers and District Education Officer (DEO). This was because the researchers sought to obtain respondents' conception on the use of SNs to enhance TPD. Their conception concerning the use social networks for TPD is essential because they are responsible in monitoring, supervising and assuring the quality of education in public schools. Patton (2015) argued that, the influence of purposeful sampling lies in selecting information-rich cases for in depth study, which one can learn a great deal about issues of central importance to the purpose of the investigation.

The questionnaires were randomly distributed to the respondents with a teaching background regardless of their gender, race, as well as highest teaching experience. These allow the respondent to express their opinions and feeling on the use of SNs for improving their learning and teaching. In this study semi-structured interview with open-ended questions were conducted to collect information from schools quality assurers' and DEO about their conception on using SNs in facilitating effective TPD. The method is useful, as it helped the researcher to get clarification on the research problem. The participants of the same criteria answered the same questions, to enhance the comparability of responses while the open nature of the questions allowed further probing into the responses, and its flexibility greatly enriched the data collection. As many scholars note, ethnographic interview protocols need not be rigid, lock-step protocols, but should make room for the interviewer to investigate other themes and topics related to the research questions (Corbin & Strauss, 2008). Statistical Package for Social Sciences (SPSS) computer program Version 20 was used to analyze the quantitative data from the questionnaires in terms of the mean score while the qualitative data from the interview were analyzed through content analysis.

#### 6. Results and Discussion

The findings are presented in order of the research questions as follows;

#### A. Assessment of Teachers' Conception toward the use of SNs as a tool for TPD

This section presents the information pertaining teachers' conception towards the use of SNs as a tool for TPD. The information concerning this theme was obtained by the use of questionnaires which were distributed to teachers and Heads of schools. Interviews

were conducted among quality assurers and DEO. Different ideas have been obtained as a result of data analysis based on this objective. Data related to teachers' conception towards the use of SNs as a tool for professional development were analyzed and tabulated in the form of their conception on the use SNs as a means of facilitating teaching and learning. The mean, percentage and standard deviation were calculated as shown in table 1.

**Table 1:** Teachers conception toward the use of SNs as a tool for PD (N=84)

	Conception toward the use	SA			A		D		D	MEAN
	of SNs	FQ	<b>%</b>	FQ	%	FQ	<b>%</b>	FQ	<b>%</b>	
1	I have sufficient basic skill and knowledge	16	19	21	25	36	42.9	11	13.1	2.50
	on the use social networks									
2	I know how to use social networks for my	14	16.7	26	31	34	40.5	10	11.9	2.48
	professional development									
3	I know that there are social networks, which	45	53.6	35	41.7	3	3.6	1	2.2	3.48
	can support my professional development									
4	My interest in the use of social networks is	30	35.7	36	42.9	16	19	2	2.4	3.12
	positive									
5	I enjoy using social networks in teaching	13	15.5	22	26.2	40	47.6	9	10.7	2.46
	and learning.									
6	I believe that social networks make the	37	44	37	44	8	9.5	2	2.4	3.30
	teaching and learning more interesting and									
	more systematic									
7	I am encouraged to use social networks in	4	4.8	11	13.1	49	58.3	20	23.8	1.99
	the creation of more information with my									
	fellow teachers.									
8	I believe that social networks can really	36	42.9	44	52.4	4	4.8	0	0	3.38
	improve my teaching practice.									
9	I feel confident in working with my fellow	18	21.4	27	32.1	29	34.5	10	11.9	2.63
	teachers in the digital environment									
10	I feel very confident when it comes to	9	10.7	2	2.4	48	57.1	25	29.8	1.94
	working with technology in preparing my									
	lesson notes									
	Average Mean									2.73

Source: Field data, (2017)

**Key:** SA = Strongly Agree, A = Agree, D = Disagree, SD= Strongly Disagree. 1-1.4 = Strongly disagree, 1.5-2.4=Disagree, 2.5-3.4= Agree, and 3.5-4= Strongly Agree.

Analysis of teachers' conception toward the use of social networks as a tool for professional development indicates that teachers' had positive conception on the use SNs for TPD. Basing on the 4 point Likert scale which indicate the mean boundary of 1-

1.4 = Strongly disagree, 1.5-2.4= Disagree, 2.5- 3.4= Agree, and 3.5-4= Strongly Agree. The results indicate that teachers' in Dodoma Municipality had a positive conception of the use of SNs. As illustrated by the result in Table 1.0 which show the average means of 2.73 on a 4 point scale, which means that the majority of respondents fall under the agree category. This implies that teachers are ready to use SNs and they have a positive conception toward the use SNs for PD.

Table 1 above, indicates that most of the teachers were falling under the category mean of 3.48 which fall under the age scale, which implies that teachers have agreed that social networks can support their professional development. Moreover, the findings reveal that, teachers believe that social networks can improve their teaching and learning as results in Table 1.0 above indicate that the mean score of 3.38 fall under the agree categories which is above the mid-point average score of 2.73 in the 4 point Likert scale. They also believe that social networks make the teaching and learning more interesting and more systematic as it is supported by the mean of 3.30 and they have a positive interest on the use of SNs, which is also supported by 3.12 mean.

However, the result indicates that some of teachers' are not encouraged to use social networks in the creation of more information between themselves and their fellow teachers for PD. This is supported by the result in Table 1.0 above as shown by the mean score of 1.99, which implies that the majority of teachers disagreed that they are not encouraged to use social networks in the creation of more information in the internet. Also, they don't feel confident when it comes to working with technology in preparing lesson notice which falls under the category of 1.94 mean scores.

Furthermore, the finding reveals that teachers have a positive conception of the use of SNs as a tool for TPD as they believe that, SNs can improve their knowledge and can make teaching and learning more systematic and interesting as expressed by 3.30 mean scores. However, it is not well effectively integrated into teaching and learning due to lack of confidence, which is influenced by a lack of knowledge and lack encouragement to use SNs for professional development.

The findings further, reveals that teachers use SNs for socializing with their friends and relatives and not on academic issues. As one teacher revealed this by saying the following:

"I communicate with my friends in order to exchange and share ideas, especially on non-teaching matters like socialization and refreshment" (T 1 2017)

The above quote, indicate that SNs are used by most of the teachers in charting basing on socialization rather than being used for academic issues. One head of school when asked to give his conception toward the use of social networks said the following:

"... I can say that teachers' perceive social networks in a positive way this is revealed by the way I see them having smart phone and how they are involved in different group such us Facebook, WhatsApp and Instagram. For example in our school we have WhatsApp group were we use to pass information concerning our school and teachers are responding on it so they are active. But, whether teachers' are in group with other teachers' which they there teaching and learning materials I am not sure, but I know that they are in different groups..."

(HoS-1, 2017)

The quote above reveals that teachers are using SNs in different issues, but it is not well known whether they use it for TPD. However, this can lead one to argue that, there are no recognized groups, in which teachers' are discussing and sharing materials for improving their teaching and learning. In addition, one of the respondents from DEO office who was interviewed concerning the way he perceive those teachers' who use SNs for chatting with others for the purpose sharing material during working hours had the following to narrate.

"In my opinion, there is no problem and I insist teachers' to use smart phone for communication and for professional development. But become a problem when teachers' fell to perform a certain activity, for example, attending classes, but he/she is out of the class charting refuting the right of student to get education..."

(DEO I, 2017)

In addition, quality assures were interviewed on their conception of the use of SNs for TPD they revealed that teachers' are insisted to use SNs for TPD but they resist to integrate it as one quality assure leveled this by saying:

"...I had been insisting teachers to use SNs for searching material which may help them in teaching and learning rather than depending on books only. Also I had been insisting employers to educate their teachers' on how SNs should be integrated in teaching and learning so as to develop positive conception on application of technology in teaching and learning. To be honest the use SNs as a tool for TPD among teachers is something which

needs great attention, especially on encouraging teachers' to form groups relating to their subject of specialization where they can share materials and improving teaching and learning rather than using it for non academic issues only."

(SQA 1, 2017)

The quote above reveals that quality assurers are insisting the teacher to use SNs for searching material and they indicate that, education stakeholders have to ensure that SNs are integrated in teaching and learning. Generally, the data collected from majority-interviewed respondents indicated that, they have a positive conception the use of SNs as a tool for TPD.

This is because the majority of respondents agree that SNs helps the individuals in solving teaching and learning problems and preparing teachers' to become complete professional. The findings concur with what Zhang (2013) found out in Northwest China, where teachers had a positive attitude on the use of the Internet in teaching and learning, teachers had some knowledge about Internet use in teaching and learning. Similarly, the findings by Gulbahar (2014) on the current state of usage of social media for Education in Turkey revealed that perceptions about social media as a support tool for education were mostly positive although resistance was seen sometimes among teachers. In addition, the result is consistent with Liana and Ngeze, (2015) who intended to determine teachers 'readiness to influence the use of social networks and mobile technology for the creation of a CoP in Dodoma urban. The findings indicated that about three quarters of the participants are ready to participate in a CoP whereas 22.4% indicated they need some time to understand the concept of CoPs. The rest of the participants were not sure whether it could be possible to use social networks and mobile technology for a teachers' CoP. This indicates that teachers have a positive conception of the use of SNs therefore there is a need to find a better way of encouraging teachers to accommodate the use of SNs as a tool for facilitating teaching and learning like other countries.

This is similar to what Hughes (2015) reported that nearly all teachers use general services such as Facebook mostly for personal use, with much more limited use of specialized social network services for educational or professional purposes. However, the Internet had not been well integrated into teaching and learning so far teachers' knowledge about ICT and network technology is very limited. On the other hand, the findings of this study were contrary to the finding by Ndibalema, (2015) which indicate that teachers in Tanzania have a pessimistic attitude toward the use of ICT as a PD. The result indicates that teachers' attitude toward technological application depend much on the level of understanding, willingness, and confidence,

but it is possible to argue that, the increased use of SNs through smart phone have motivated teachers and enhanced the change of teachers. As Prensky, (2011) states as teachers, we have to know what is going on this online life because that's where the kids are more involved and engaged.

Therefore, since more teachers, are involved in using technological equipment in their daily lives, it is necessary to develop and transform in-service teachers' into the digital world. Basing on different argument made in teachers' conception toward the use technology as a tool for PD, due to the drastic increase of SNs facilities such as mobile phone or computer, website linked to SNs and finding from this study, it is logical to argue that the mind of teachers' has changed into positive about the use of SNs. Therefore, education stakeholders should think of the best way of educating teachers' how SNs should be integrated effectively in teaching and learning.

#### B. A limitation that hinders effective utilization of SNs as a tool for TPD

As noted earlier, there exist internal and external limitations that hinder teachers from using SNs as a tool for PD. This objective was designed to elicit the information concerning the factor that limits teachers from integrating social networks in professional development. It was thought that knowing these challenges would help education stakeholders' to find solutions on how to overcome them and enhance the use technology in teaching and learning. The findings in this section are based on the data collected from respondents by using questionnaire and interview guides. The questionnaires were given to teachers' in a form of Likert scale sought to solicit their responses, which they were supposed to give them as: strongly agree, agree, disagree and strongly disagree as shown in the Table 2 hereunder.

**Table 2:** Limitation that hinder effective utilization of SNs as a tool for TPD (N=84)

S.	Limitation hindering the use of SNs	SA		A		D		SD		MEAN
NO		FQ	<b>%</b>	FQ	<b>%</b>	FQ	<b>%</b>	FQ	%	
1	I don't have social network facilities such as computer or smart phone.	15	17.9	19	22.6	24	28.6	26	31	2.27
2	I don't know how to use social networks for professional development.	9	10.7	18	21.4	26	31	31	36.9	2.06
3	There is no internet connectivity around our school.	5	6	16	19	29	34.5	34	40.5	1.90
4	I don't have reliable power for charging my social network facilities.	10	11.9	28	33.3	16	19	30	35.7	2.21
5	I don't have time to use social networks for professional development.	4	4.8	16	19	38	45.2	25	31	1.98

	Average Mean									2.11
	others.									
	networks for sharing my teaching with									
10	I am not interested in the using of social	6	7.1	18	21.4	25	29.8	35	41.7	1.94
	content for online and public visibility.									
9	I don't have confidence in generating the	6	7.1	23	27.4	31	36.9	24	28.6	2.13
	that I cannot use social networks.									
8	I am overloaded because of many periods	8	9.5	23	27.4	32	38.1	21	25	2.21
	for updating my pedagogical skills.									
7	I am not interested in using social networks	3	3.6	12	14.3	32	38.1	37	44	1.77
	development.									
	social networks for professional									
6	I don't have training on how to integrate	19	22.9	32	38.1	18	21.4	15	17.9	2.65

Source: Field Data (2017)

**Key:** SA = Strongly agree, a = Agree, D = Disagree, SD= Strongly Disagree. 1-1.4 = Strongly Disagree, 1.5-2.4=Disagree, 2.5-3.4= Agree, and 3.5-4= Strongly Agree.

Table 2 illustrates the statements that express various limitations that affect the effective utilization of SNs as a tool for TPD. Teachers gave varied opinions on this question. The majority of teachers agreed that, they lack training on how to integrate SNs in TPD with the mean score of 2.65. Then teachers' were asked to indicate if they are not interested in using SNs as a tool for PD, the majority disagreed with a mean score of 1.77 and they also disagree on if they had problem of internet connectivity around their schools with the mean of 1.90. There were high disparity and undecided teachers on whether they do not know how to use social networks for professional development with average mean of 2.06, which appeared in disagree category. Overall, the results indicate the mean score of 2.11 which lie on the disagree category. This could imply an increased use of different SNs such as Facebook, Whatsup, Twitter and Instagram through their personal devices like smart phones, laptops and tablets which appeared to solve the problem of lack of facilities. As teachers seem to possess these facilities, there is a need to help teachers to use those facilities they have for improving their skills in teaching and learning. Although, most of the respondents disagreed with the aspects presented to them in the questionnaire, still the findings from the interview revealed some limitations that limit the adoption of ICT for professional development. One of the challenges include that were mentioned by most respondents is the costs of the bandwidth, as one teacher had the following to say:

"To me the most challenge is the cost of purchasing a bundle for accessing SNs, also some of the area even within this Municipality had no network therefore such kind of area teachers' cannot access SN. Some teachers' are not aware on the use SNs"

(T 4, 2017)

The quote above reveals that most teachers are in a need of updating their professional knowledge and skills using SNs. However, due to lack of knowledge and skills in the use SNs, lack of network and internet connectivity in some areas, and cost of purchasing SNs facilities and bundle discouraged them to integrate technology in teaching and learning.

Another head of the school said:

"Most of the challenge limiting the use of SNs includes lack of fund to purchasing SNs facilities and buying bundle and some they have negative attitude on the use of SNs. Thinking that the use of it is wastage of time, which is influenced by lack of knowledge on how to integrate SNs into TPD"

(HoS 4, 2017)

Basing on the quote above one can argue that, most of teachers fail to integrate SNs into TPD due to lack of knowledge and cost associated with equipment, training of teachers, and internet connectivity. To enhance the application of technology need teachers' to change their mind and perceive SNs as a means for TPD not otherwise.

One of respondent from the DEO office interviewed to identify the challenges that hinder the use of SNs as tool for professional development said the following:

"On my opinion challenges that hinder effective integration of SNs into teaching and learning is the lack of funding for the buying internet bundle, some higher aged teachers' believe that technology is for youth and it is difficult to adopt it. Also in Dodoma Municipality, some of the schools are located where there is no network connectivity."

(DEO, 2017)

The above quote reveal that most teachers' in Tanzania fail to integrate SNs into professional development due to lack fund for purchasing a bundle and facilities, lack of knowledge and skills on how technology can be integrated in teaching and learning. Network connectivity also seems to be a big problem in some areas, especially in the schools, which are located in rural areas.

"To me, I think most of the problem is the cost of purchasing SNs facilities and internet bundle, lack of power which limit the use of SNs hence teachers' from area facing lack of power tend to possess simple phone which stay with power for a long time cannot support the use of SNs. Also, morals issues some of the users are not serious misuse the use SNs as a tool for TPD by discussing another topic apart from teaching and learning, hence this harmonize others to withdraw from group in addition lack of knowledge seemed to be also the challenge"

(SQA, 3 2017)

The above finding from the interview apart from other problem discussed such as coast associated with technology, lack of knowledge, limited power and lack of internet in some area such as rural areas. Discipline in the use of SNs for TPD is very important; hence failing it may distort teaching and learning.

The finding lies in line with the finding by Kihoza, Zlotnikova, Bada and Kslegele (2016) in Tanzania they revealed that the most serious challenges respondents faced in SNs adoptions were the lack of computers in schools, lack of computer skills among teachers. Unreliable Internet connection other challenges were lack of curriculum and syllabi support on the use of blended curriculum contents, lack of SNs use framework, and teachers' lack of experience of working with SNs. The result is similarly with Crallet, Ismail and Manyirizu (2016) the study also revealed that teachers were exposed to the use of ICT to a little extent. This is a source of the low level of ICT application in teaching and learning in secondary schools. Similar to the findings by Ndibalema (2014) which revealed that teachers in secondary schools in Tanzania have low familiarity in using ICT as a pedagogical tool. This is said to be resulted from insufficient training from their teacher education colleges.

The study result concurs with Al-Senaidi, and Poirot (2009) which assessed the barriers in adopting technology for teaching and learning, which reported that a lack of confidence in ICT use among teachers can lead to lack of competence in the use of SNs. The weakness revealed by teachers' on the application of technology in teaching is an indication of the weakness in their training in technology use competences and lack of emphasizing on the use of SNs for PD.

The researcher agrees that low level of knowledge on how SNs are integrated into PD might be attributed improper usage of SNs as a tool for TPD. It is also consistent with the result by Barnes and Kennewel (2016) in Wales, where teacher expressed the view that the term skills was synonymous with the term tools, indicating

that the competencies within ICT were perceived to be of low order. Basing on the ground Teachers' need adequate and continuous training on the use of SNs to cope with these changes. Similar to Tanzania ICT policy of 2016 which addresses challenges such as lack of appropriate frameworks for the deployment and utilization of ICT infrastructures including data centers, right way, e-readiness infrastructure; high investment cost of infrastructure and lack of reliable power supply (URT, 2016). In addition, data from BEST 2016 reveal that 520 secondary schools in Tanzania had no any source of power; therefore, in such kind of environment, it is difficult to use SNs facilities (URT, 2016).

The study by Kushnir, Osipova, Valko, and Litvinenko (2016) in Ukraine also identifies the major reasons of teachers' unpreparedness for using ICT in learning. They include lack of motivation for using ICT; lack of complexity; learning computer skills only without the support of innovative educational technologies; ignoring the characteristics of adult education; neglect of interactive teaching methods; insufficient integration of knowledge and skills of students from different academic disciplines; insufficient formation of Computer Science teachers the skill concept of the 21st century.

This study is in line with the study conducted by Donelan (2016), in the UK, which reveal that, issues surrounding negative perceptions and a lack of skills may be the first barriers encountered by someone contemplating using social media for work-related purposes. Lack of confidence in generating the actual content may be something experienced at a later stage once the initial hurdles have been overcome. Contrary with the study by Crallet, Ismail and Manyirizu (2016) the findings revealed that the most perceived constraints of using ICT in schools in Tanzania is the fact that many teachers don't get support from school, municipal, ministry or any other government body. Finally, education stakeholders should work hand in hand to solve the problem mentioned above through being financed, supportive policies and other aspects, which are needed for the use of SNs as a tool that improve teaching and learning. Tanzania Communication Regulatory Authority board (TCRA) and the government at large should provide technical support to teachers so as to enable teachers' to utilize the benefit of technology.

#### 7. Conclusion and Recommendations

In a contemporary world, technology such as SNs has enriched every sphere of life education being one of them, we cannot isolate from its many advantages and it has

been proved that SNs have many advantages in every aspect of the life of many people. Many countries in the world and in Africa have integrated the use it in the education sectors. The study observed that teachers' are interested to use technology in teaching and learning, but lack of knowledge and cost of accessing and purchasing facilities limit their effort to integrate SNs into their professional development. In order to reduce the challenges of integrating SNs in teaching and learning policy makers should conduct several researches to find better ways of integrating SNs in PD. This will help teachers' to improve their professional, especially in marginalized schools where there are shortage of books and computer laboratories. Based on the policy analysis made so far, it is logical to conclude that teachers' professional development practices on the use of ICT to enhance their professional development lack a clear framework which stipulates how the teacher should be equipped with such skills.

Basing on the study findings and conclusion the following recommendations are suggested to be taken into action in order to facilitate the implementation of using SNs as a tool for TPD in secondary schools. Education stakeholders such as the ministry of education and non-government organizations need to sensitize programmes for raising awareness among teachers on the importance of SNs in improving teaching and learning in secondary schools. Teachers should be exposed to the practical examples of integrating ICT in a social learning environment. Through social interaction, teachers are likely to confident in the use of ICT for their PD. The logical implication is that teachers should use technology that allows them to interact in their social environment and model best practices from each other as a group of learners.

It is on this basis, the researchers suggest the deliberate strategies to make SNs to be fully integrated into teaching and learning and PD programmes should be in place. The ICT policy of 2016 in Tanzania insists on developing and enhancing human capital that is capable of championing ICT in the creation of knowledge based society. This could not be possible if ICT innovations such as social networks are not well harnessed through research to observe their contributions. Teachers should be exposed to professional development programmes that empower them to develop various ICT pedagogical skills and understand a variety of learning environment that can improve their practice through collaborative online social networks. In many circumstances, collaboration has been considered as a hub for enhancing professional development. Through social networks, participant in a social group can become mentors and others are like to get the opportunity to learn from each other. Teachers should also be provided with opportunities to use the available SNs to create professional learning networks in their local context and globally. Such networks are useful in enhancing

continuous professional development opportunities, especially on the use of ICT in teaching and learning.

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#### References

- 1. Al-Senaidi, S., Lin, L., & Poirot, J. (2009). Barriers to adopting technology for teaching and learning in Oman. *Computers & Education*, 53 (3), 575-590
- 2. Atkinson, D. (2002). Toward a socio cognitive approach to second language acquisition. *The Modern Language*, 86 (4), 525-545.
- 3. Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall, Inc.
- 4. Barnes, J., & Kannewell, S. (2016). Investigating teachers' perception of teaching ICT in Wales: *Education Information Technol*. DOI 10.1007/s10639-016-9549-y.
- 5. Buabeng-Andoh, C, (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature: *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 8 (1), 136-155
- 6. Catherine, M. (2016). Social media for networking and participatory professional learning: 2<sup>nd</sup>International Conference of Higher Education Advances HEAd′ 16Uneversitatpolitecnica de Valencia, 2016 DOI: http://dx.doi.org/10.4995/HEAd16.2016.2867.
- 7. Corbin, J. M. & Strauss, A. L. (2008). *Basic qualitative research: Techniques and procedure for developing grounded theory (3ed)*. Thousand oaks' CA: sage.
- 8. Coutinho, C. P & Lisboa, E. S. (2013). Social networks as spaces for informal teacher professional development: challenges and opportunities: *Int. J. Web Based Communities*, 9 (2), 2013

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- 9. Crallet, V., Ismail, A., & Manyilizu, M. (2015). Support of ICT use in Tanzania secondary schools: The Case of Dodoma Municipality. *International Journal of Computer Applications* (0975 8887) Vol. 134, (16), 12-16.
- 10. Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches* (3rd Ed.). Los Angeles, CA: Sage Publications, Inc.
- 11. Creswell, J. W. (2012). *Education research: planning, conducting, and evaluating qualitative & qualitative research* (5<sup>th</sup> Ed). Boston: Pearson Education, Inc.
- 12. Donelan, H. (2016). Social media for professional development and networking opportunities in academia. *Journal of Further and Higher Education*, 40 (5), 706–729.
- 13. Edirisinghe, M. N. S. (2015). The Role of ICT in professional knowledge sharing among teachers and school leaders. *Paper presented at the national conference by the national institute of education in Maharagama*, Sri Lanka.
- 14. E-learning Africa, (2015). Tanzania beyond Tomorrow: Ready soon
- 15. European Commission. (2013). Survey of schools: ICT in education. Benchmarking access, use and attitudes to technology in Europe's schools. Belgium: European Commission.
- 16. Fahim, M., & Mehrgan, K. (2012). Second language acquisition: A social cognitive perspective. *Advances in Digital Multimedia (ADMM)*, 1 (3), 159-165.
- 17. Ghavifekr, S. & Rosdy, W.A.W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science (IJRES)*, 1 (2), 175-191.
- 18. Gu, L. (2011). From national commitment and initiatives to implementation in the classroom: Some critical issues on integration of ICT into education in The Swedish context. *The University of the Fraser Valley Research Review*, 4(1), 29-40.
- 19. Gulbeher, Y. (2014). Current state of usage of social media for education: Case of Turkey *Journal of Social Media Studies* 2014; 1 (1): 53–69 ISSN: 2147-3366DOI: 10.15340/2147336611763. jsms.macroworldpub.com.
- 20. Hooker, M., (2016). *Cultivating synergies min hencing ICT competencies*: A partnership approach (Gesci) Der-Es-Salaam.
- 21. Hooker, M., Mwiyeria, E., & Verma, A. (2011). *ICT Competency Framework For Teachers* (ICTCFT): Contextualization and piloting in Nigeria and Tanzania (World Bank and GESCI Initiative Synthesis Report No. Draft). Dar-es-Salaam, Tanzania: Ministry of education and vocational training (MoEVT), Tanzania.
- 22. Hughes, J. E., Ko, Y., Lim, M., & Liu, S. (2015). Pre-service teachers' social networking use, concerns, and educational possibilities: Trends from 2008 to 2012. *Journal of Technology and Teacher Education*, 23 (2), 185-212.

#### Charles Manyama, Placidius Ndibalema

#### TEACHERS' CONCEPTION TOWARDS THE USE OF SOCIAL NETWORKS AS A TOOL FOR PROFESSIONAL DEVELOPMENT IN TANZANIA GOVERNMENT SECONDARY SCHOOLS: THE CASE OF DODOMA MUNICIPALITY, TANZANIA

- 23. Jonker, J. & Pennink, B. *The essence of research methodology: A concise guide for master and PhD student in management science, Heidelberg: Springer.*
- 24. Kafyulilo, A., Fisser, P., & Voogt, J. (2015). Factors affecting teachers' continuation of technology use in teaching: *Education Information Technol*, 3(6), 1535–1554.
- 25. Kamnoetsin, T. (2014). Social media Use: A Critical analysis of Facebook's impact on collegiate EFL students' English writing in Thailand: Seton Hall University Dissertation and Thesis.
- 26. Kan, H. (2014). A model for integrating ICT into teacher training program in Bangladesh based on TPCK: *University of Sydney, Australia International Journal of Education and Development using Information and Communication Technology (IJEDICT).* 10 (3), 21-31.
- 27. Kihoza, P., Zlotnikova, L., Bada, J., & Kalegele, (2016). *An assessment of teachers' abilities to support blended learning*: Implementation in Tanzania secondary school.
- 28. Kushnir. N., Osipova, N., Valko, N., & Litvinenko, O. (2016). The Experience of the Master Classes as a Means of Formation of Readiness of Teachers to Implement Innovation: ICTERI 2016, Kyiv, Ukraine, June 21-24, 2016
- 29. Liana, L. H., & Ngeze, L. V., (2015). Online teacher communities of practice: A proposed model to increase professional development in Tanzania. *Journal of Informatics and Virtual Education*, 3 (01), 22-27.
- 30. Mwalongo, A. (2011). Teachers' perceptions about ICT for teaching, professional development, administration and personal Use; Dar es Salaam University college of education, Tanzania. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 2011, 7 (3), 36-49.
- 31. Ndibalema, P. (2014). Teachers' attitudes towards the use of information communication technology (ICT) as a pedagogical tool in secondary schools in Tanzania: The case of Kondoa District. *International Journal of Education and Research*, 2 (2), 1-16.
- 32. Ndibalema, P. (2015). Transforming teachers' professional competence in the use of (ICT) as a pedagogical tool: An experience of community, of practice learning model in secondary schools in Tanzania: Unpublished research thesis submitted in fulfillment of the requirements for the degree of doctor of philosophy of the University of Dodoma October 2015.
- 33. Ndibalema, P. (2016). Experiences on Opportunities and Challenges of using a blog as a Tool to enhance Teachers' Professional Development for Secondary

#### Charles Manyama, Placidius Ndibalema

#### TEACHERS' CONCEPTION TOWARDS THE USE OF SOCIAL NETWORKS AS A TOOL FOR PROFESSIONAL DEVELOPMENT IN TANZANIA GOVERNMENT SECONDARY SCHOOLS: THE CASE OF DODOMA MUNICIPALITY, TANZANIA

- school Teachers in Tanzania. (A paper accepted for publication in Journal of Education and Development-The University of Dodoma)
- 34. Patrick, D., Irina, Z., Joseph, K. & Khamisi, K. (2016). An assessment of teachers' abilities to support blended learning implementation in Tanzania secondary schools: *Contemporary Educational Technology*, 2016 7 (1) 60-84.
- 35. Patton, M. Q. (2015). Qualitative research & evaluation methods: Integrating theory and practice. Los Angeles, CA: Sage.
- 36. Serah, N. N. (2014). Challenges facing effective information and communications technology (ICT) implementation in selected public secondary schools in Nakuru North District Nakuru County; Unpublished research project report submitted to the school of business in partial fulfillment for the award of the degree in masters of business administration (Strategic Management) of Kenyatta University.
- 37. Tomczyk, L., Szotkowski, R., Fabis, A., Wasinski, A., Chudy, S., & Neumeister, P., (2015). Selected aspects of conditions on the use of new media as an important part of the training of teachers in the Czech Republic and Poland differences, risks and threats. *Educational Information Technologies*. DOI 10.1007/s10639-015-9455-8
- 38. URT (2015). ICT competency standards for teachers in Tanzania: Dar es Salaam
- 39. URT (2016). National ICT policy. Dar es Salaam: Tanzania.
- 40. URT (2016). *Primary and secondary statistics in brief*: President office Regional Administration and Local Government.
- 41. Uyouko, A., & Wong, S. (2015). Teachers' cultural perceptions of ICT in Nigerian schools: *International Journal of Education and Training*, <a href="www.injet.upm.edu.my">www.injet.upm.edu.my</a>
- 42. Vos, A.D., Strydom, H.E.A., Fouche, C.B & Belport, R.C.S.L. (2011). Research at grassroots: for the special science and human service professions. Pretoria, South Africa: Van Schaik Publishers.
- 43. Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge: MA: Harvard University Press.
- 44. Wang, S. K., Hsu, Y. H., Reeves, T. C., & Coster, D. C. (2014). Professional development to enhance teachers' practices in using information and communication technologies (ICTs) as cognitive tools: Lessons learned from a design-based research study. *Journal Homepage: Computer & Education*. 79 (2014) 101-115
- 45. World Bank. (2016). *World Development Report 2016: Digital Dividends*. Washington, DC: World Bank. doi:10.1596/978-1-4648-0671-1. License: Creative commons attribution CC BY 3.0 IGO

46. Zhang, C. (2013). A Study of internet use in EFL teaching and learning in Northwest China. *Asian Social Science*, 9 (2), 48-52.

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