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TEACHER EDUCATION & DEVELOPMENT | REVIEW ARTICLE

Proposing a contextual approach to pre-school teacher education in Ghana

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Abstract: Efforts of Ghanaian Universities and Colleges of Education in training pre-school teachers have been found inadequate and unable to meet their training needs. As a result, other private and non-governmental organisations have been contributing to the education of early childhood practitioners, although on pilot basis. Currently, most pre-school teachers remain untrained. Using the Cultural Historical Activity Theory as a Framework, this paper proposes a contextual approach to pre-school teacher education using radio as a training tool for teachers. The radio is easily accessible, handy, far reaching to remote rural settlements (than the Internet) and low in cost. It is suggested that as in other community radio efforts it should be localised so the community “runs” their own stations. Specific programmes should be devoted to topics on child development, child survival, early childhood pedagogy and other practical issues relevant to pre-school classrooms. The paper concludes by suggesting periodic community (of stakeholders) meetings to form a support group.

Subjects: Behavioral Sciences; Education; Social Sciences

Keywords: teacher education; cultural historical activity theory; community radio; early childhood care and education; pre-school

1. Introduction

There has been increased interest in Early Childhood Care and Development (ECCD) in Ghana within the last decade. ECCD also referred to as Early Childhood Education (ECE) is made up of crèche (for

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PUBLIC INTEREST STATEMENT

Child care in Ghana is no longer restricted to the home where family members were suitable caregivers. It has moved to a global perspective of care and education where early childhood institutions (day care centres, crèches and nurseries) are available for parents to send their young ones. The level of education or training of teachers or caregivers is known to influence the quality of care children will receive, however most of the teachers in these pre-schools do not have the necessary qualifications needed. This has been due in part to the recruitment of these teachers based on their willingness to work with children. The institutions mandated to train these teachers do not have the capacity to train the large numbers of untrained teachers in Ghana. In addition, most of the training requires residency for a period. This paper proposes an alternative to teacher education through the use of radio.

infants below age two), nursery (for children between age two to four) and kindergarten (for children from age four to six) and basic school from primary class one to class three (children ages six to eight). The current education policy in Ghana requires that every child be enrolled in formal school from age four (i.e. kindergarten). To accelerate formal learning there is the need to expose children to early socialisation and conditions of formal school. Although formal education before kindergarten is not mandatory, there are early childhood institutions available to cater to the child care needs of parents for children below age four. These institutions have been dominated by the private sector who are profit oriented as such have compromised on the hiring of qualified personnel. The increasing population in Ghana, has made the efforts of the private sector become professionally inadequate. Considering that the population of poor and underprivileged children is increasing, there is the need for an intervention to promote the welfare of these children. Training of the teachers and caregivers will help them cater for children in a professional way.

1.1. The pre-school teacher training in Ghana

The National Nursery Teachers' Training Centre together with a "model nursery", was opened in 1965 to train government supported nursery and kindergarten staff nationwide (Morrison, 2002). The unit is available to any early childhood personnel who needs training (Morrison, 2001). The aim to have a National Nursery Teacher Training Centre in each region in Ghana has not been fulfilled as only one of the three initiated institutions is fully functional (Morrison, 2001)—and this can be found in the Capital City in the Greater Accra Region of Ghana. This was at a time when the tertiary institutions did not have early childhood-specific curriculum (Morrison, 2002). There has been a myriad of private sector and NGO efforts in training teachers however there has not been a laid down criteria on what the curriculum for such training should entail and Chawla-Duggan, Etsey, and Datta (2010) called for a consolidated effort to be spearheaded by the Education Service of Ghana to enforce a universal national in-service teacher training curriculum. Today, the formal training of kindergarten teachers in Ghana is primarily provided through accredited institutions; the University of Cape Coast, the University of Education at Winneba and the Colleges of Education. At the pre-service level, there are three tiers of formal qualification: Certificate, Diploma and Degree. The certificate is often used as an in-service training tool because it takes a shorter time to complete and provides the first tier of formal qualification, and both the certificate and diploma are offered as part-time (sandwich) courses for unqualified teachers (Ministry of Education Ghana, 2012a, 2012b).

The only two known private institutions that offer formal training programmes accredited by respected bodies are (i) May's Day Care & Educational Centre which offers Certificate and Diploma studies in ECE in collaboration with the University of Education at Winneba, this replicates the University of Cape Coast accreditation provided to the Colleges of Education, and provides full-time pre-service training. The second is the Ghana Montessori International Teacher Trainers Centre which also offers Certificate and Diploma qualifications in the Montessori Methodology, accredited by the Montessori International Centre in the UK.

Quoting the Ministry of Education Ghana (2012a, 2012b):

It is not currently known how many similar private institutions exist with the capacity to train teachers, and the existence of such parallel schemes could create difficulties for Ghana Education Service (GES) in determining which qualifications are acceptable for government-employed teachers, and in ensuring consistency of training provided outside of the national network of tertiary institutions.

Other non-governmental organisations that have served the ECD sector through professional development of teachers include the Child Ghana Resources Institute (formerly International Child Resources Institute) United Nations Children's Fund (UNICEF) to mention a few. These provided in-service training, workshops and seminars to ECD personnel.

1.2. Current qualifications of pre-school teachers

Nyarko and Addo (2013) reported that most employed teachers and caregivers in early childhood institutions in Ghana were unqualified. Of the 103 pre-school teachers surveyed, 59% had not received any formal training in Early Childhood Care and Education. The remaining 41% had been trained at certificate (8%), diploma (18%) and degree (15%) levels. Ofosu-Appiah (2009) opined that Ghana lacked teachers who had specialised in pre-school or ECE. The UNESCO International Bureau of Education (UNESCO, 2006) country profile report on Early Childhood Care and Education programmes in Ghana revealed in 2006 that only 22.2% of 22,014 early childhood teachers had been trained. The quality of instruction and support for children’s development became of great concern due to the rapid expansion of pre-school services. The Director of Basic Education, GES, is reported to have said that participation in kindergartens and early childhood programmes as a whole had increased since 2007 (Sivan, 2010). The information provided by the Educational Management Information System (EMIS) of the GES (see Tables 1a and 1b) emphasises the deficiency of trained personnel required to teach in early childhood classrooms.

Table 1a. Number of Teachers in Kindergarten by type of education and Region, 2011/2012

Region	Number of teachers			Number of trained teachers		
	Public	Private	Total	Public	Private	Total
Ashanti	6,681	2,540	9,221	3,747	170	3,917
Brong Ahafo	4,583	962	5,545	1,721	29	1,750
Central	3,158	1,341	4,499	1,097	63	1,160
Eastern	4,053	1,029	5,082	2,368	79	2,447
Greater Accra	1,635	2,440	4,075	1,184	262	1,446
Northern	3,182	504	3,686	1,439	10	1,449
Upper East	1,310	198	1,508	328	9	337
Upper West	1,036	104	1,140	393	5	398
Volta	2,837	487	3,324	1,193	10	1203
Western	3,216	1,121	4,337	728	33	761
Total	31,691	10,726	42,417	14,198	670	14,868

Source: Ministry of Education EMIS (2011/2012).

Table 1b. Number of Teachers in Crèches and Nurseries by type of education and Region 2011/2012

Region	Number of Teachers			Number of Trained Teachers		
	Public	Private	Total	Public	Private	Total
Ashanti	159	1,969	2,128	57	123	180
Brong Ahafo	21	663	684	5	8	13
Central	82	1,017	1,099	5	21	26
Eastern	34	813	847	14	56	70
Greater Accra	91	2,790	2,881	44	253	297
Northern	192	341	533	76	8	84
Upper East	24	131	155	4	3	7
Upper West	1	78	79	0	1	1
Volta	27	310	337	5	9	14
Western	80	706	786	32	30	62
Total	711	8,818	9,529	242	512	754

Source: Ministry of Education EMIS (2011/2012).

In Table 1a, 14,868 (representing 35%) of the total of 42,417 teachers in kindergarten were trained teachers. The table shows that the public schools had more trained teachers than the private schools. This could be due to in-service training sponsored by government and organised by GES for public school teachers. Another reason could be that trained teachers (i.e. graduates of colleges of Education) were recruited by government into public schools.

The picture is even alarming in Table 1b, in which of the 9,529 teachers in crèches and nurseries only 754 (i.e. 8%) were trained. The number of trained teachers in crèches and nurseries were more for the private schools than for the public schools.

There is no doubt about the deficit in supply of trained teachers for ECE (kindergartens, crèches and nurseries). Colleges of Education and the Universities which have been given the mandate to train teachers for pre-schools in ECE have not succeeded in meeting training needs nationwide. Meanwhile children have been enrolled in various KGs, nurseries and crèches and need a trained teacher to teach them. Using the Cultural Historical Activity Theory (CHAT) as a framework, this paper proposes a contextual approach to pre-school teacher education using radio as a training tool for teachers.

2. CHAT as a framework for pre-school teacher education

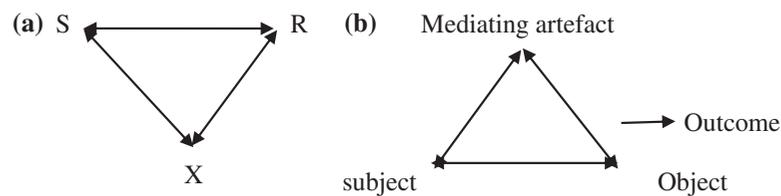
CHAT, also referred to as activity theory can be used as a theory or a framework for understanding how a system or systems in an organisation work. In this paper, it is used as a framework. It has its roots in the dialectical psychology of Vygotsky (1978) which was strongly influenced by Marxists political theory regarding collective exchanges and material production to examine the organism and the environment as a single unit of analysis (Yamagata-Lynch, 2010). According to Roth, Radford, and Lacroix (2012), this perspective transcended traditional dichotomies of micro and macro, internal and external, mental and material, individual and social, thought and action, quantitative and qualitative, observation and intervention, as well as agency and structure by integrating three perspectives: the objective, the ecological and the sociocultural (Engeström, 1993). CHAT was based on established systems principles but took a radically different approach to them (Capper & Williams, 2004). It uses systems-based thinking of the real world in order to gain insights about the real world. Capper and Williams (2004) explained that CHAT as developed by cognitive psychologists focused on “how we (i) developed understandings of the real world, (ii) drew meanings from that understanding, and (iii) created learnings from those meanings and were motivated to respond to those learnings”. CHAT is viewed to have differing perspectives. Quoting Sanda (2006):

The term activity theory attracts different interpretations from different quarters. The issue that arises here, has to do with the question of what activity theory really represents, especially if I am to seek a scientific-oriented interpretation. In this regard, should I perceive it as a theoretical concept, as posited by Engeström? Is it just a clarifying tool as argued by Nardi? Is it just a foundation stone for the formulation of more specific theories as noted by Bannon? (p. 44).

Though activity theory was developed mainly in Russia and the Soviet society, it has proved to be relevant in other countries (Engestrom, 2000). A CHAT-based enquiry as reported by Roth et al. (2012) combines three components; i.e. a systems-that helps us to construct meanings from situations, learning—a method of learning from those meanings and developmental—that allows us to expand those meanings towards action (Capper & Williams, 2004).

Figure 1 represents Vygotsky’s model of mediated act and the reformulated version. According to Vygotsky, individuals respond (R) to stimulus (S) from the environment like the behaviourists believe. However, to respond to the stimulus, individuals use the help of “X” (in Figure 1(a)) to respond satisfactorily. He called “X” the mediating artefact or tool which are found embedded in culture (culture herein defined vaguely as a way of life). This triangle is reversed to form Figure 1(b) in which S is the

Figure 1. Vygotsky’s model of mediated act (a) and its common reformulation (b).



subject who responds to R the object with the help of X the mediating artefact which interacts with the subject (S) and the object (R) to give us the outcome (a person’s eventual behaviour).

Hashim and Jones (2007) explained a subject as the person or organisation being studied, the object as the intended activity and tool as the mediating device by which the action is executed. In other words, a person (subject) has an activity (object) to perform and needs or uses a means (tool) to achieve the activity. Hence, the tool mediates the activity (object) and the person (subject). Engeström (2000) expanded the theory (see Figure 2) by adding two units of analysis—Rules and Division of Labour. Rules were defined by Hashim and Jones (2007) as “sets of conditions that help to determine how and why individuals may act and were a result of social conditioning (learning)” and Division of Labour “provides for the distribution of actions and operations among a community of workers”. In this regard, the focus moves from the subject (person) to a “plane of reality” which is the community where groups of activities involving teams of workers are linked and can be analysed. Activity theory is peculiar in that it recognises subject, object, community, material and semi-otic tools, and other features of cultural practice as “constitutive moments of activity—the irreducible, minimum unit of analysis” (Roth et al., 2012).

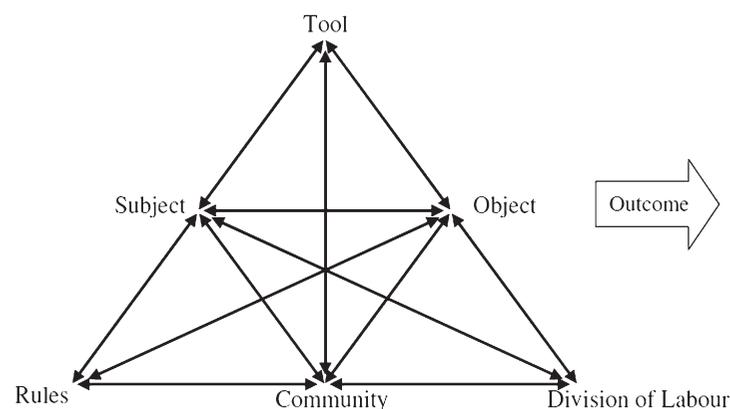
3. Radio as a training tool for pre-school teacher education

Das (2013) defined radio as “a powerful mass medium used in education for disseminating information, imparting instruction and giving entertainment”. He added that Radio was a “simple and cheap medium readily available as a small toy”, and one could find transistors in the possession of even the poorest of people. Due to its portability and easy accessibility argued Das (2013), radio finds its place almost everywhere be it a field, a school, a kitchen or a study room.

3.1. Advantages of using radio as a tool for education

Radio has many advantages, one advantage is that it *remains the only source of information and entertainment for the rural population. People can listen to the radio on their way to and from their fields, while doing housework, during mealtime—in short, anytime and anywhere* (Murillo, 2010). It spreads information to a greater group of population thereby saving time, energy, money and manpower in an effective way. Das (2013) described radio as a blind man’s medium which is meant for ears only and called it the “theatre of the blind” or a “stage for the mind”. Recordings of naturally occurring events, e.g. political speech, children talking, concerts or performances, talks previously

Figure 2. Engeström’s expanded activity theory model (Engeström, 2000).



recorded eyewitness interviews at historical events; presenting material in a dramatised form, would enable teachers to identify with the emotions and viewpoints of the main participants; providing an alternative view to that presented in the correspondence text and/ or television programmes. Teachers would perceive the different points of view that exist, and observe ideas being challenged, through discussion and interviews (Vyas, Sharma, & Kumar, 2002). Radio can be listened to simultaneously with other activities like reading.

Secondly, according to Murillo (2010), radio *does not necessarily involve expensive technical equipment or significant material investments to set up a local transmitter. A community radio station can be launched on a budget of a few thousand Euros or dollars. A small transistor can carry the message to any place on—the earth. It needs very little for maintenance and cheaper production can be taken up with more and more resources* (Das, 2013).

Thirdly, *it is not costly or difficult to arrange for radio programmes to be broadcast in all the different languages of the population.* This makes radio a particularly suitable medium for fostering multilingualism in countries where many regional languages are spoken alongside the dominant language Murillo (2010). Vyas et al. (2002) argued that radio was useful in providing remedial tutorials, or some other forms of tutorial based feedback; providing corrections, alterations or updating of material, where print re-make budgets are limited or where print cannot reach students quickly.

Fourthly, Murillo (2010) applauds *radio's ability to lend itself well to covering topical issues of local interest and concern. With radio he argues, there are no complex publication routines that require time-consuming investigations, drafting and redrafting of texts, editing, typesetting, proofreading, printing, binding, and elaborate systems of distribution. The work only involves preparing a script and recording the broadcast. A local radio station is not obliged to offer a full-time programme of high editorial quality seven days a week. Community radio is about providing a few hours of commentary and information each day, interspersed with lots of music, in a regular schedule of broadcasts at times when people are available to listen* Murillo (2010).

Finally, the experience of many community radio efforts have shown how rapidly a rural population or community neighbourhood can be mobilised to “run their own” radio stations. *Community members nearly always master the technical aspects quickly. Taking on positions of responsibility in the operation of a radio station appeals especially to young people who tend to identify with the work. It creates a “we feeling” that is an important motivation in the development and analysis of personal interests* (Murillo, 2010).

3.2. Community radio

There are two groups of radios (privately owned, state owned). For the purpose of this paper, the focus is on community radio which is usually privately owned. According to Buckley (2008), community radios should be owned by and accountable to the community it served and should provide for participation by the community in management as well as in programme making. The African Charter on Broadcasting (2001) states that a “community radio is for, by, and about the community; its ownership and management are representative of the community; it pursues a social development agenda; and it is non-profit”. Buckley (2008) specifies that a community Radio or broadcasting network should have the following characteristics:

- be independent of the government and of commercial organisations;
- serve specific communities, either geographical or communities of interest;
- have ownership and management representative of that community;
- operate for purposes of social benefit rather than private financial profit;
- enable participation by the community in programme-making and management.

Since the government of Ghana liberalised the airwaves in 1996 by offering licences to non-governmental, commercial and community non-profit FM stations' a number of community radio stations (e.g. Radio Ada) have been established (Mckay, 2010). Community radios stations in Ghana are governed by the Ghana Community Radio Network which posited in its constitution (Ghana Community Radio Network, 2004) that community radios: served a specific, marginalised community; supported the self-development of its community and affirmed and strengthened its culture; undertook programme production and other aspects of its operations with the full participation of its community (Mckay, 2010). These characteristics were in line with what Buckley (2008) specified.

3.3. Farm radio international, Ghana

Using radio to facilitate, educate or change the behaviour of listeners is not new in Ghana. Farm Radio international, a non-governmental organisation with representation in Ghana continues to use radio to help farmers make informed decisions. Through participatory radio campaigns, Farm Radio has been able to prove that agricultural radio can improve food security among small holder farmers in Africa (Farm Radio International, 2011). Farm Radio International partners with existing community radio stations. During the piloting phase of participatory radio campaigns and food security project, funding support from the Bill and Melinda Gates foundation enabled them provide information and communication technology (ICT) packages to some partner radio stations to enhance participatory radio campaigns. To involve the "community", they adopted the bottom-up approach to the campaigns putting the farmers at the centre of the process. The farmers chose the focus for the campaign, the time for broadcasting, etc. They were the central agents of knowledge sharing. Campaign efforts through the partnership with Radio Ada on penning of small livestock (to protect vegetable gardens from roaming goats and pigs), for example, saw "80% of livestock owners constructing boundaries to pen their animals" (Farm Radio International, 2011). Format employed included community discussions, airing of views of vegetable growers and livestock owners and information on low-cost penning alternatives available.

3.4. Challenges with community radios

One challenge is ensuring the financial sustainability of stations (Sullivan, 2007). Presenters were not supposed to be saddled with the effort of finding their own funding so as not to disrupt their focus. Sullivan (2007) proposed that presenters should be (i) helped to design programmes to run with low operational costs, (ii) equipped with technologies that were appropriate for the environment of that particular community, (iii) trained to manage and maintain the equipment they received and (iv) helped to acquire the necessary journalistic skills to produce quality programming.

Another challenge is the failure to maintain editorial control on the information channelled through their radio stations by some humanitarian organisations that bought airtime from the host community radios (Sullivan, 2007).

To overcome these challenge, Sullivan (2007) has suggested the creation of Trust funds for community radios and this could help funding beneficiaries resist pressures put forward by donors' specific agendas. This is because expecting the stations to support themselves entirely from the local economy is both unfair and unfeasible.

4. The approach

In this approach the Radio is defined as a tool, pre-school teachers the subject, and the Object as the training in child development and early childhood pedagogy. The conditions that governed actions which could be formal or informal or even culturally based consist of the rules and the community would be made up of colleague teachers, heads of schools, parents/guardians, district Early Childhood (ECD) Directors and coordinators. Division of Labour is interpreted by what role each person or group of persons would play i.e. pre-school teachers role of acquiring a radio set and accessing programmes, parents role of giving feedback on their children's performance to teachers and attending stakeholders meetings, community and district ECD coordinators' roles of conducting

Figure 3. Breakdown of Engestrom's expanded model in individual units of analysis.

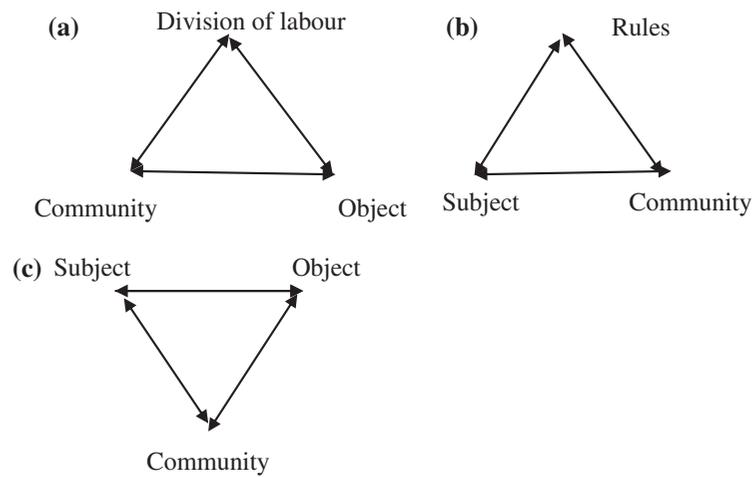
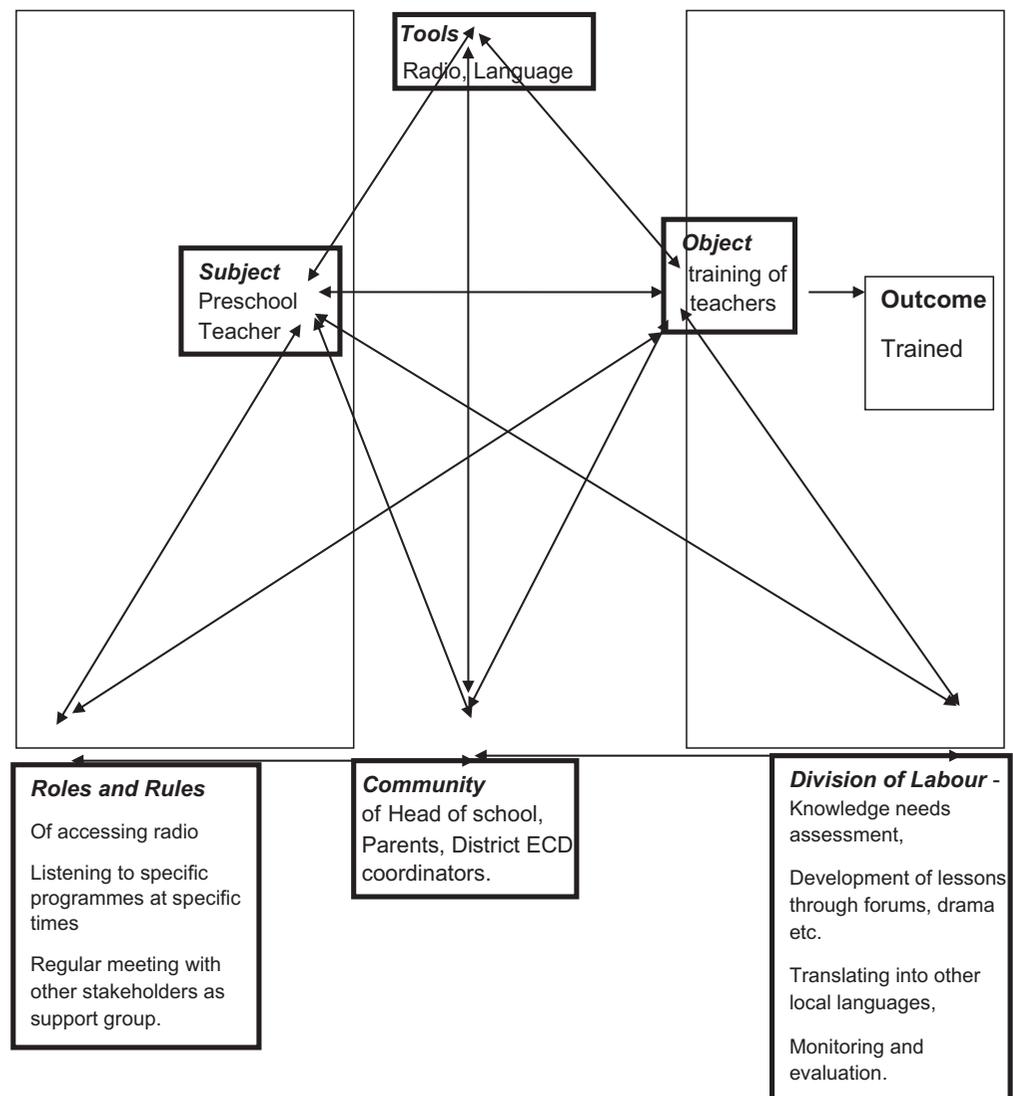


Figure 4. Proposed activity theory model as potential framework for a contextual approach to pre-school teacher education.



knowledge assessment, sorting out scripts for broadcast, developing lessons through forums, drama, etc., translating into other local languages, monitoring and evaluating implemented programmes.

Figure 3(a)–(c) diagrammatically shows the relationships among the actors in the concept which explains that on one part of the model, division of labour mediated community and object (Hashim & Jones, 2007). In the proposed approach, it is the roles (division of labour) set out for each member of the community that will lead to the objective. The question then of ensuring that the roles are played to assist the teacher to achieve the final goal will be the rules set by the community. The belief is that because they own the rules they can enforce it. In Figure 3(b), rules mediate the relation between the subject (pre-school teacher) and the community. In this regard for the subject to “belong” or be accepted in a community, he or she must abide by the subject-specific set rules in that community will be required to live up to expectations. In Figure 3(c), community mediates the relation between subject and object because even though it is the teacher (subject) who needs to reach the objective of acquiring training in child development and early childhood pedagogy he or she needs the support and acceptance of the community. The teacher has the role of meeting the expectations of all stakeholders in the community. This brings us to the suggested contextual approach.

Figure 4 provides the activity theory model as a potential framework for a contextual approach to pre-school teacher education. In this figure, the potential relationships among the subject (the pre-school teacher), the object (the training activity of teachers) leading to a desired outcome has been provided through linkages to the community, the tools with its attending roles and rules viz-a-viz the community as understood in the common understanding of dividing labour, have been systematically provided.

It is clear from the diagram that when the main actors—teachers and the community understand their roles and functions in the model, radio as a tool for broadcasting knowledge to train pre-school teachers will achieve tremendous success in the communities where it is practised.

5. Discussion and conclusion

In the foregoing, there has been an attempt to conceptualise a contextual approach for training pre-school teachers using the radio as a tool. The activity theory was chosen as the model to be used because it provided a framework for conceptualising and analysing activities whether as a unit or as a community. It is clear that issues of sustainability and functionality of the set activity cannot be curtailed except participation of the “communities” involved is paramount. This can be enhanced both at the brainstorming of knowledge needs and implementation periods. Concerning decentralisation of roles (from knowledge assessment, to conceptualisation and implementation of solutions), this should embrace the “communities” involved. When this is done it is expected that there will be stronger partnerships among “communities” through their periodic meetings. The bridge to move this concept over therefore will be in introducing new concepts whilst at the same time giving room to the cultural uniqueness of each geographical community. It is only by contextualising training of pre-school teachers will the country realise a concerted effort by communities in the nation to attain the objective of having more trained teachers in our pre-school classrooms. Further studies can then be designed to evaluate the effectiveness of this model when implemented. A unit by unit analysis can also be considered after the model is implemented.

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