Use of Mobile Communication Technology (MCT) in Creation of Sense of Collaboration/networking among Technology Teachers in Nigeria

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ABSTRACT
In recent years, the advent of miniaturized mobile communication technologies such as mobile phones has resulted in new dimension of teacher professional development (PD). While teachers collaboration forms one of the major activities in PD, mobile phone provides anytime-anywhere opportunity for teachers to engage in collaborative PD. Teachers in Anambra state rarely recognize the potential of mobile technologies to deliver PD that is, ongoing, sustainable, flexible, personalized and available anywhere at any time. Hence the need to get them informed. This study aimed at identifying issues on the use of mobile communication technology in creation of sense of collaboration/networking among technology teachers in Anambra state. A research question and a hypothesis guided this study. The major findings of the study, among others include; Through mobile phone, teachers can follow links and share website links for information on researches and publications, via mobile phone internet connectivity, teachers can log-in and complete enrolment for professional development courses, mobile phone serves as easier and faster communication media for call for conferences and paper presentation and mobile phone can facilitate interaction and discussion among teachers who are separated by distance. The study concluded that for teacher to utilize the potentials of mobile phone for their PD purpose, a well-planned, ongoing professional development program, linked to curricular objectives, and incorporating integration of mobile phone into PD activities is needed. Recommendation was made among others that the teacher trainers, in their teachings to meet the demands of the society, should stress the importance of exploring the features of mobile phones for PD purpose.

Keywords: Professional development, Teachers, Anambra State, ICTs, Collaboration ans Mobile Technology.

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1. BACKGROUND OF THE STUDY

Mobile communication technologies are modified computers with the features to simplify their usability, accessibility and portability. These devices have the capability of transmitting, processing and receiving date, voice and video signals through wireless link. Some available mobile communication devices include Personal Digital Assistance (PDA), mobile phones, personal audio player, hand held audio and multimedia guide, handheld game console etc (Scourias 2007). However the most commonly possessed and accessed mobile technology is mobile phone locally known as GSM. According to Scourias (2007), GSM can be defined as a telecommunication device with the capacity of sending and receiving data at rates up to 9600 bps, to users on POTs (Plain Old Telephone Service), Packet Switched Public Data Networks, and Circuit Switched Public Data Networks using a variety of access methods and protocols. According to John-Harmen et.al (2010), the concept of utilizing mobile phone in education is gaining traction in the developing world. The number of projects exploring the potential of mobile phone-facilitated m-Learning in the developing world is steadily growing, spurred in part by the use of mobile technology in the educational sector in the developed world which has expanded from short-term trials on a small scale to large-scale integration. With the increasing attention now being given to the role of mobiles in the educational sector in developing countries, there is a need to bring such venture home in Nigeria. However, improvement of education commences with the improvement of teachers quality as teachers are the keystone of educational standard. Enhancing teachers’ quality through mobile phone can be achieved by integrating mobile phone into different professional development activities of teachers.
According to Guskey, T.R. (1994), professional development of teachers refers to activities to enhance teachers’ professional career growth. Such activities may include individual development, continuing education, and in-service education, as well as, research publication. Teachers’ collaboration, study groups, and peer coaching or mentoring.

Collaboration, among teachers, as the focus of this study refers to group-based professional development approach in which teachers are mutually engaged in a coordinated forum to achieve a professional goal or complete an educational task (Dillenbourg, Baker, Blaye, & O’Malley, 1996). Research indicates that collaboration among technology teachers is critical for their effective professional learning (Clement and Vandenberghe 2000; Burbank and Kauchak 2003; Aubusson et al. 2007). These authors noted that the process of collaborative learning promotes critical reflection on practice and acknowledges among teachers as active learners and producers of knowledge.

Mobile phone is a collaboration technology which has the potential to both increase teachers’ access to professional development and improve the quality of in-service training and support. According to Jenifer and Mary (2012), the leaders of organizations that focus on teacher training have described mobile technology and digital learning as important components of professional development. Quoting the words of Melinda George, vice president and chief operating officer of the National Commission on Teaching and America’s Future (NCTAF),

“We know that professional development can no longer only consist of a teacher being pulled out of the classroom and attending a one-size-fits-all professional development session. To be effective, professional development needs to be ongoing, sustained and supported by collaboration and teamwork among educators”.

Mobile phones of today are stuffed with features that allow for ‘wherever and whenever’ advanced collaboration and networking among teachers. These are the devices that are going to take collaboration and effective teaching to a whole new level. Mobile devices can enable teachers to participate in professional development more frequently and with more flexibility than normal training sessions that are constrained to a particular time and place. They can also strengthen collaborative professional development by facilitating communication among teachers and mentors. Many education leaders anticipate that teachers will soon be using mobile technologies to access widespread professional communities and engage in collaborative learning online (Bjere et al., 2010).

Conclusively, it could be agreed with Jenifer and Mary (2012) that mobile phone can be viewed as an important component of teachers’ professional development. The world of today is the world of technology. Many countries across the world have involved this cheap and most convenient technology in the improvement of their teacher quality. Nigeria should not be left out. Statistics has shown that four fifth of the practicing technology teachers in Anambra State (both rural and urban dwellers) own mobile phone. This device has equally been certified the most convenient and cost-effective device for ICT. Exploration of mobile phone and its features therefore becomes of necessity in order to identify the ways in which it could be used to enhance collaboration/networking among practicing technology teachers in Anambra state to achieve their professional growth needs.

2. PURPOSE OF THE STUDY

The main purpose of this study was to identify the use of MCT in creation of sense of collaboration/networking among technology teachers in Anambra state of Nigeria.

3. RESEARCH QUESTION

The study found answer to this question: How can MCT be used in enhancing sense of collaboration/networking among technology teachers in Anambra state of Nigeria?

4. RESEARCH HYPOTHESES

\[ H_{01}: \text{There is no significant statistical difference in the mean of the responses of teachers in rural and urban locations of Anambra state of Nigeria on the use of MCT in enhancing sense of collaboration/networking among technology teachers.} \]

Research Design

The research design used for this study is survey research design. The population of the study comprised all the 137 technology teachers in 10 technical schools in Anambra state of Nigeria. According to the data collected on 3rd March 2008 from the State Education Commission headquarters Awka Anambra state, there are 10 technical schools in Anambra state which include GTC Umunze (12 technology teachers), GTC Umuchu (12 technology teachers), GTC Umuleri (18 technology teachers), GTC Enugwuagidi (16 technology teachers), GTC UTU (16 technology teachers), GTC Nnewi (14 technology teachers), GTC Nkpok (12 technology teachers), GTC Alor (8 technology teachers), GTC Osamala (3 technology teachers), and GTC Onitsha (26 technology teachers). Since the population of this study is not very large, the study did not make use of sample, rather, the entire population was studied.
A researcher designed questionnaire was used for the data collection. The questionnaire was made of two sections; section A and B. Section A consisted of items on the background information of the respondents, while section B contained items on MCT and creation of collaboration/networking among teachers. The questionnaire was validated by three experts from Industrial Technical Department, University of Nigeria Nsukka, and two experts in information communication (ICT) from Management Information System, (MIS), University of Nigeria Nsukka. A 5-points Likert rating scale of strongly agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly disagree (SD) was used with values of 5,4,3,2 and 1 respectively. Mean and standard deviation was used to answer the research questions. In analyzing the hypotheses, t-Test was used.

5. RESULTS

Research Question
How can MCT be used in enhancing sense of collaboration/networking among technology teachers?

Table 1: Mean and standard of respondents on MCT and enhancement of sense of collaboration/networking among technology teachers

<table>
<thead>
<tr>
<th>N/O</th>
<th>ITEM STATEMENT</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Via SMS, teachers can alert parents when their children skip class without any cogent reasons and this enhances teacher-parent collaboration.</td>
<td>4.37</td>
<td>0.94</td>
<td>Agree</td>
</tr>
<tr>
<td>2.</td>
<td>Using SMS and conference calls, teachers can discuss to provide ways of addressing ongoing educational problems and this promotes collaboration among teachers.</td>
<td>4.31</td>
<td>0.71</td>
<td>Agree</td>
</tr>
<tr>
<td>3.</td>
<td>Through mobile phone, teachers can follow links and share website links for information on researches and publications.</td>
<td>4.42</td>
<td>0.69</td>
<td>Agree</td>
</tr>
<tr>
<td>4.</td>
<td>Via mobile phone internet connectivity, teachers can log-in and complete enrolment for professional development courses.</td>
<td>4.43</td>
<td>0.74</td>
<td>Agree</td>
</tr>
<tr>
<td>5.</td>
<td>With phone, teachers can browse a course catalogue while still in their workplace and this supports networking.</td>
<td>4.30</td>
<td>0.83</td>
<td>Agree</td>
</tr>
<tr>
<td>6.</td>
<td>Through SMS, teachers can state their opinions during online seminars, workshops, discussion, etc.</td>
<td>4.28</td>
<td>0.84</td>
<td>Agree</td>
</tr>
<tr>
<td>7.</td>
<td>Phoning enables easy contact with communities for resource purposes and this promotes teacher–community collaboration and networking.</td>
<td>4.29</td>
<td>0.82</td>
<td>Agree</td>
</tr>
<tr>
<td>8.</td>
<td>Mobile phone serves as easier and faster communication media for call for conferences and paper presentation.</td>
<td>4.32</td>
<td>0.76</td>
<td>Agree</td>
</tr>
<tr>
<td>9.</td>
<td>Mobile phone can facilitate interaction and discussion among teachers who are separated by distance.</td>
<td>4.58</td>
<td>0.64</td>
<td>Agree</td>
</tr>
</tbody>
</table>

The table 1 shows that all the items were agreed to be issues in the use of mobile communication technology in creation of sense of collaboration/networking among technology teachers.

Hypothesis

\[ H_{01} \]: There is no significant statistical difference in the mean responses of teachers in rural and urban locations of Anambra state of Nigeria on the use of MCT in enhancing sense of collaboration/networking among technology teachers.

Among the respondents, seventy seven (77) technology teachers teach in technical schools located in rural areas and fifty three (53) teachers teach in schools located in urban areas. The responses of each of the groups were recorded and the mean and standard deviation of each of the group were calculated.
Table 2: T-test Analysis of Mean and Standard deviation of Responses of teachers in Rural and Urban locations of Anambra state.

<table>
<thead>
<tr>
<th>S/N</th>
<th>RURAL</th>
<th>URBAN</th>
<th>t-cal</th>
<th>Sig(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X₁</td>
<td>S.D₁</td>
<td>X₂</td>
<td>S.D₂</td>
</tr>
<tr>
<td>1</td>
<td>4.45</td>
<td>0.84</td>
<td>4.25</td>
<td>1.06</td>
</tr>
<tr>
<td>2</td>
<td>4.22</td>
<td>0.77</td>
<td>4.43</td>
<td>0.61</td>
</tr>
<tr>
<td>3</td>
<td>4.45</td>
<td>0.64</td>
<td>4.36</td>
<td>0.76</td>
</tr>
<tr>
<td>4</td>
<td>4.44</td>
<td>0.66</td>
<td>4.42</td>
<td>0.84</td>
</tr>
<tr>
<td>5</td>
<td>4.22</td>
<td>0.85</td>
<td>4.42</td>
<td>0.80</td>
</tr>
<tr>
<td>6</td>
<td>4.18</td>
<td>0.93</td>
<td>4.43</td>
<td>0.67</td>
</tr>
<tr>
<td>7</td>
<td>4.17</td>
<td>0.95</td>
<td>4.47</td>
<td>0.54</td>
</tr>
<tr>
<td>8</td>
<td>4.22</td>
<td>0.84</td>
<td>4.47</td>
<td>0.61</td>
</tr>
<tr>
<td>9</td>
<td>4.56</td>
<td>0.73</td>
<td>4.62</td>
<td>0.49</td>
</tr>
</tbody>
</table>

D.F = 128  
* = Significant (reject hypothesis)  
Level of significance = 0.05

In the analysis, “sig (2-tailed)” are the figures showing the probability/significance level in which the calculated t-value were significant. From table 2 above, the significance levels of all the items except item 7 are greater than the stated 0.05 level of significance therefore the null hypothesis are accepted. On the other hand, in table 4, with exception of item 5, the null hypotheses for all other items are accepted since their significance levels are greater than the stated 0.05.

6. SUMMARY OF FINDINGS

Based on the outcome of the study, the following are the listed major findings of the study.

1. Through mobile phone, teachers can follow links and share website links for information on researches and publications.
2. Via mobile phone internet connectivity, teachers can log-in and complete enrolment for professional development courses.
3. Mobile phone serves as easier and faster communication media for call for conferences and paper presentation.
4. Mobile phone can facilitate interaction and discussion among teachers who are separated by distance.
5. Less experienced teachers can use the phone to store the activities of some professional ones which they can watch as mentoring tool to improve their own career.
6. Mobile phone enables instant provision of advice and guidance from experienced teachers to less experienced ones thereby supporting mentoring.

7. DISCUSSION

Considering the findings of this study, it was discovered among others that through mobile phone, teachers can follow links and share website links for information on researches and publications; Mobile phone serves as an easier and faster transmission media for call for conferences and paper presentation; Via mobile phone internet connectivity, teachers can log-in and complete enrolment for professional development courses; Mobile phone can facilitate interaction and discussion among teachers who are separated by distance. In view of Zurita, Nustbaum, and Sharples, (2003), the most compelling examples of conservational professional development of teachers occur when teachers have provision for shared conversation space which offers effective collaboration and networking among them.

Since Mobile phone can facilitate interaction, discussion, and share of information among teachers who are separated by distance, it therefore corroborates the view of Zunta in providing effective collaboration and networking among teachers. Equally these findings has earlier been envisaged by Stryker, (2000) when he claimed that there is a nearly limitless range of opportunities for teachers who develop the necessary skills and knowledge in the effective use of mobile phone as a technology in the classroom, and who have access to its internet services. They can: plan, conduct, and evaluate learning projects with colleagues and in addition receive and provide support following links.
8. CONCLUSION

Most teachers have the desire for effective use of mobile phone for educational purpose but they lack the conceptual framework, time, mobile phone exploration competence, and support necessary to do so. This device has been utilized for improvement of teachers’ quality in other developing countries. In Nigeria, the most teachers are not yet aware of the capabilities of mobile phones in enhancing educational activities. In other to integrate this device into teachers PD, a well-planned, ongoing professional development program, grounded in a theoretical model, linked to curricular objectives, incorporating integration of mobile phone into educational activities is needed. However, for effective usage of mobile phones for improvement of learning, sufficient financial and staff support is essential.

9. RECOMMENDATION

In line with the findings of this study, the following recommendations were made:

- Findings of this study should be made available to teachers so as to let them know that their mobile phones can do more than just calls and can be utilized for their professional development purpose;
- Workshops and seminars should be organized regularly to enable teacher know the capabilities of mobile phones and be trained on how to use the features for educational purposes;
- The teacher trainers, in their teachings to meet the demands of the society, should stress the importance of exploring the features of mobile phones and utilize them for educational purpose.

REFERENCES


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Authors’ Brief

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