PRE-SERVICE TEACHER EDUCATORS ASSESSMENT OF ADEQUACY OF GOOGLE CLASSROOM APPLICATION AS TEACHING TOOLS IN TEACHER EDUCATION PROGRAMME, NIGERIA

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ABSTRACT
The study purposively investigated the adequacy of the Google classroom application as a teaching tool in the training of pre-service teachers by their educators. Three specific purposes and questions were raised. The study adopted a descriptive survey design. Pre-service teacher educators of the Faculty of Education, University of Ilorin constituted the target population. A simple random sampling procedure was adopted in the selection of 107 out of 197 Pre-service educators. A 14 item five-point Likert scale researchers designed a questionnaire with psychometric properties of content validity of 0.90 and a reliability index of 0.81 was used to elicit the needed data from the respondents. The statistics collected were analysed using percentage, mean ranking and standard deviation. Moreover, the findings among others revealed that the Google classroom application is not adequate for training pre-service teachers. Thus, it was recommended that the Google classroom application should not be adopted in total but blended with physical in the teaching of pre-service teachers’ education programme.

INTRODUCTION
Educational institutions play a significant role in providing learning experiences to lead students from the darkness of ignorance to the light of knowledge. The key personnel in the institutions to bring about these transformations are teachers. Teachers are mainly responsible for the implementation of the educational process at every stage. Thus, it becomes imperative to invest in the preparation and development of teachers, to be in tune with the paste of global development. Therefore, the production of competent and skilled pre-service teachers in the teacher education programme is highly required.

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Teacher education refers to the policies, procedures, and provisions designed to equip teachers with the knowledge, attitudes, behaviours, and skills require to perform their day to day tasks effectively in the classroom, school, and broader society. According to the Goods Dictionary of Education, Teacher education encompasses, all the formal and non-formal activities and knowledge that help to qualify a person to assume the responsibilities of a member of the educational career. It is a programme that encompasses teaching skills sound pedagogical theory, and professional skills teaching these skills requires adequate and efficient pedagogy in the teaching and learning process.

In today’s society, teaching and learning have been taken over by innovation, such as the technology of which digital teaching and learning takes a larger part. By digital, it means teaching and learning with the aid of Information Communication and Technology (ICT). Digital Technology has inclined all aspects of human life, including education. Understanding the usage of technology at the level of pedagogical engagement provides valuable insights into the relationship that exists between teaching and learning. The evolving technology of classroom communication systems offers a promising tool for helping teachers (instructors) create a more interactive, student-centred and more effective classroom teaching in different forms, such as Google classroom.

Google Classroom is a new tool presented in Google Apps for Education in 2014. It is a free web-based learning application that encourages collaborative learning among teachers and learners. It is also a learning management system in which the teacher can create classes, invite and welcome learners to the class and start exchanging course content materials. This application empowers learners as well as teachers to communicate announcements, assignments, notes, submit assignments and projects with less difficulty (Jakkaew & Hemrungrote, 2017).

The adoption of this application for classroom teaching and learning means that teachers should be trained through the use of Google classroom apps which give room for students to access classroom activities from the comfort of their desired location. The three vital skills required of a professional teacher are teaching skills, pedagogical skills and professional skills, an amalgamation of these skills would serve to create the right knowledge, attitude, and skills in teachers, thus promoting holistic development.

It is against this backdrop, the study investigated pre-service teacher educator’s assessment of the adequacy of Google classroom application in the teaching of the pre-service teacher in Teacher Education Faculties of Nigerian Universities. The following research questions guided this study.

1. What is the assessment of pre-service teacher educators on the adequacy of the Google classroom app in the teaching of pre-service teachers' teaching skills?
2. What is the assessment of pre-service teacher educators on the adequacy of the Google classroom app in the teaching of pre-service teachers' pedagogical skills?
3. What is the assessment of pre-service teacher educators on the adequacy of Google classroom app in the teaching of pre-service teachers professional skills

**METHOD**

The study adopted a descriptive survey style, the choice of the descriptive survey was in line with Sambo (2008), who maintained that it is concerned with the gathering of information on peoples’ opinion. Meaning that the choice of this design was considered most appropriate because the study sampled teacher educators’ assessment on the adequacy of the Google classroom app for teaching (figure 1).
The target population contained all the pre-service teacher educators in the nine departments of the Faculty of Education, University of Ilorin. The faculty has a population of 197 Pre-service educators, out of which 107 were sampled using simple random sampling techniques in line with Research Advisors’ (2006) table for selecting the sample size. A 14 item five-point-Likert scale researchers designed questionnaire was used for eliciting the needed data from the respondents' entitled Questionnaire on Adequacy of Google Classroom Application as Teaching and Learning Tool in Teacher Education Programme in Nigeria (QAGCATLTTEPN). The result obtained through the use of the formula is 0.90. Also, item by item comparison was made between the teacher education curriculum which comprises of three vital areas of teacher education, these are: Teaching skills, pedagogical skills and professional skills. This is in line with Sambo (2008) who upheld that the best procedure for validating a research instrument is to give it to a board of experts. A test-re-test reliability method was carried out with a sample of 20 pre-service teachers' educators in the School of Education, Kwara State University Malete. A three-week interval period was assumed; the scores of the first were correlated with the scores of the subsequent using Pearson’s Product-Moment Correlation Coefficient, and a reliability index of 0.81 was obtained. The questionnaire contained two sections, bio-data, and section B contained 14 items with 5 points responses that are Very Inadequate (VIA); “Inadequate (IA)”; “Undecided (U)”; “Adequate (A)”; and Very Adequate (VA). The data collected were analysed using mean ranking and standard deviation.

RESULTS AND DISCUSSION

Research Question 1: What is the assessment of pre-service teacher educators on the adequacy of the Google classroom app in the teaching of pre-service teachers teaching skills?

<table>
<thead>
<tr>
<th>S/No</th>
<th>Items</th>
<th>Mean</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Different techniques approach and strategies would assist the pre-service teachers in planning and imparting instruction to their students after the training.</td>
<td>3.79</td>
<td>2nd</td>
</tr>
<tr>
<td>2</td>
<td>Appropriate skills on how to reinforce their students</td>
<td>3.70</td>
<td>4th</td>
</tr>
</tbody>
</table>
The needed skills that can be used to conduct a valid assessment of their students are:

1. The needed skills that can be used to conduct a valid assessment of their students (3.75)
2. Effective classroom management skills. (3.82)

To decide on teacher educators’ assessment of the use of Google classroom app in the teaching of pre-service teachers teaching skills, responses from items one to four in Table 1 above were cumulated and recoded, that is, “Very Inadequate (4.1 – 7.2)”; “Inadequate (7.3 – 10.4)”; “Undecided (10.5 – 13.6)”; “Adequate (13.7 – 16.8)”; and Very Adequate (16.9 – 20.0). After cumulating the responses, each respondent can only have a minimum score of 4 and a maximum score of 20. Based on this, a score of:
   a. 4.1 to 7.2 = “very inadequate”;
   b. 7.3 to 10.4 = “inadequate”;
   c. 10.5 to 13.6 = “undecided”;
   d. 13.7 to 16.8 = “adequate” and
   e. 16.9 to 20.0 = “very adequate” in the teaching of pre-service teachers’ teaching skills.

Table 2. Mean score of Adequacy of Google Classroom app in teaching Pre-service teachers teaching skills

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>St.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Skills</td>
<td>107</td>
<td>4</td>
<td>20</td>
<td>9.89</td>
<td>3.52</td>
</tr>
</tbody>
</table>

Findings from Table 2 showed a mean score of the adequacy of the Google classroom app in teaching pre-service teachers’ teaching skills is 9.89, which means that the Google classroom app is inadequate in teaching pre-service teachers' teaching skills. By implication, the Google classroom app is not suitable enough to be used by teacher educators to impart all the necessary teaching skills that are required by the pre-service teachers to function well in the teaching profession.

**Research Question 2:** What is the assessment of teacher educators on the adequacy of the Google classroom app in the teaching of pre-service teachers' pedagogical skills?

Table 3: Mean Ranking of Google classroom app adequacy and pedagogical skills

<table>
<thead>
<tr>
<th>S/No</th>
<th>Items</th>
<th>Mean</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How to adequately prepare instructional materials for teaching their students</td>
<td>3.84</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>2</td>
<td>Effective use of instructional materials for teaching</td>
<td>3.57</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
</tr>
<tr>
<td>3</td>
<td>Excellent communication skills needed in effective teacher-student interaction</td>
<td>3.48</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>4</td>
<td>Philosophical thoughts needed to enable them to have a sound basis for practising in their classroom</td>
<td>3.51</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>5</td>
<td>Sociological ideas required to practice teaching skills in their classroom</td>
<td>3.34</td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
Psychological knowledge that is considered useful for effective teaching by any teacher in the teaching profession 3.61 2nd
Counseling ability required to help pre-service teachers grow the teaching profession 3.39 6th

To decide on teacher educators assessment of the use of Google classroom app in the teaching of pre-service teachers pedagogical skills, responses from items one to four in Table 1 above were cumulated and recoded, that is, “Very Inadequate (7.1 – 12.6)”; “Inadequate (12.7 – 18.2)”; “Undecided (18.3 – 23.8)”; “Adequate (23.9 – 29.4)”; and Very Adequate (29.5 – 35.0). After cumulating the responses, each respondent can only have a minimum score of 4 and a maximum score of 20. Based on this, a score of:

a. 7.1 to 12.6 = “very inadequate”;
b. 12.7 to 18.2 = “inadequate”;
c. 18.3 to 23.8 = “undecided”;
d. 23.9 to 29.4 = “adequate” and
e. 29.5 to 35.0 = “very adequate” in the teaching of pre-service teachers' pedagogical skills.

Table 4. Adequacy of Google Classroom app in teaching Pre-service teachers’ pedagogical skills

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>St.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedagogical Skills</td>
<td>107</td>
<td>7</td>
<td>35</td>
<td>17.87</td>
<td>6.19</td>
</tr>
</tbody>
</table>

Table 4 also presented a mean score of the adequacy of the Google classroom app in teaching pre-service teachers' pedagogical skills as 17.87, which means that the Google classroom app is inadequate in teaching pre-service teachers' pedagogical skills. The implication of this is that the pre-service teachers will not be well equipped in the area of pedagogy and will invariably affect their content delivery. In the long run, the student's performance may be affected.

Research Question 3: What is the assessment of teacher educators on the adequacy of the Google classroom app in the teaching of pre-service teachers' professional skills?

<table>
<thead>
<tr>
<th>S/No</th>
<th>Items</th>
<th>Mean</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interpersonal skills needed to relate with students and other colleagues for professional development</td>
<td>3.44</td>
<td>3rd</td>
</tr>
<tr>
<td>2</td>
<td>Computer skills help them in the area of ICT</td>
<td>3.79</td>
<td>1st</td>
</tr>
<tr>
<td>3</td>
<td>Appropriate skills are essential for effective management of both human and material resources</td>
<td>3.59</td>
<td>2nd</td>
</tr>
</tbody>
</table>
To decide on teacher educators assessment of the use of Google classroom app in the teaching of pre-service teachers professional skills, responses from items one to four in Table 1 above were cumulated and recoded, that is, “Very Inadequate (3.1 – 5.4)”; “Inadequate (5.5 – 7.8)”; “Undecided (7.9 – 10.2)”; “Adequate (10.3 – 12.6)”; and Very Adequate (12.7 – 15.0). After cumulating the responses, each respondent can only have a minimum score of 4 and a maximum score of 20.

a. 3.1 to 5.4 = “very inadequate”;
b. 5.5 to 7.8 = “inadequate”;
c. 7.95 to 10.2 = “undecided”;
d. 10.3 to 12.6 = “adequate” and
e. 12.7 to 15.0 = “very adequate” in the teaching of pre-service teachers’ professional skills.

Table 6. Adequacy of Google Classroom app in teaching Pre-service teachers’ professional skills

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>St.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Skills</td>
<td>107</td>
<td>3</td>
<td>15</td>
<td>7.20</td>
<td>3.20</td>
</tr>
</tbody>
</table>

The mean score from table 6 on the adequacy of the Google classroom app in teaching pre-service teachers' professional skills reported 7.20. In line with this value, it shows that the Google classroom app is inadequate in teaching pre-service teachers’ professional skills. The implication of this is that the pre-service teachers will not be professionally skilled to handle both human and material resources. This may create a problem for their students and affect the performance of their students in the long run.

Google classroom application was not consider adequate enough for the effective teaching of pre-service teachers in the acquisition of the three vital domains required in the teaching profession, that is; the teaching skills, pedagogical skills and professional skills. These skills helps the pre-service teachers to be able to develop different teaching techniques, appropriate reinforcement skills assessment procedure and effective classroom management, effective application of instructional materials, good teacher-students interaction, adequate psychological and counseling ability as well as interpersonal skill required to relate perfectly well with what they required in the real world of work. By adopting google classroom application the practical aspect of pre-service teachers training programme which is the internship, where they are involved in the practical teaching of all that they have been exposed to through in the classroom. The internship takes a few period of out of the lecture room to the field of teaching; during this period, the pre-service teacher educators are mandated to assess pre-service teachers in the process and give comments for corrections and adjustments. All these are not possible with the use of Google classroom which means that it cannot be used to produce a complete teacher, except when it is blended.
This findings disagrees with the finding of Shaharanee, Jamil, and Rodzi (2016) which revealed that students taught through google classroom application performed better in the areas of communication and interaction. It is effective for teaching and learning in single subject area, like the finding of Dicicco (2016) whose findings show that the Google classroom was effective in social studies as well as English Language class among high school learners and it also improves students’ learning abilities in the field of vocabulary development and unit-test. Similarly, Espinosa, Estira, and Ventayen (2017) finding revealed that Google classroom application was evaluated to be very effective as a learning Management System (LMS) for learner with exception of Medical students. In another one Liu and Chuang(2016) in Taiwan, it was found that Google classroom application is best effective as a learning tools for both the learners and the teachers when it is integrated with any other learning system. In Nigeria presently blended approach would go a long way in making Google classroom application more effective and usable for teaching all categories of learners.

CONCLUSION

With the use of ICT in education, the Google classroom app was seen as an effective instrument that can enhance teaching and learning. However, in some cases, it is not adequate for all categories of learners as the case with the teacher education programme. Based on these findings the study recommended that the Google classroom application should not be adopted in total but blended with physical in the teaching of pre-service teachers’ education programme. For it to be adopted for use, there is the need to design an application that will be suitable for effective teaching to the three skills required in teacher education training that is the teaching skills, pedagogical skills, and lastly professional skills.

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REFERENCES


