

OFFICE TECHNOLOGY AND MANAGEMENT (OTM) CURRICULUM REVIEW AND CAPACITY RE-ENGINEERING: A STUDY OF IMPLEMENTATION CHALLENGES

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Curriculum according to Ojukwu and Njoku (2008) is the head and blood of all academic endeavours. Yet the definition of curriculum has been the most misunderstood, variously defined and wrongly implemented. Curriculum specialists have not come to terms on the technical meaning of what the curriculum should do. Thus, curriculum reform is a modification of or a review of what has existed for a purpose; adding or subtracting some elements or modules as a result of observable needs or societal demand for improvement (Ojukwu, 2008 citing Olaitan and Ali (1997)).
Bases for Curriculum Review

A curriculum review becomes necessary when a curriculum cycle is completed and a feedback reveals a need for such a review. Ohakwe and Njoku (2009) noted that the curriculum like the constitution is not static; it is fluid and elastic in application, administration, and change and principally modulated by the environment and technology. Developing a curriculum therefore, is an ongoing exercise. Curriculum reforms are however implemented in response to popular clamour and perceived social needs. When there is perceived dissatisfaction with an existing curriculum or when there is a change in what is known about learning process, the need for evaluation becomes expedient. This according to Ohakwe and Njoku (2009) is what the UNESCO – Nigeria project has done in support of revitalization of Technical and Vocational Education (TVE) in Nigeria. A critical analysis of the various curricula for business programme according to this view reveal that 25% theoretical works and 75% practical exercises are required to be performed in any course title. This is very important at a period when mass unemployment and graduate un-employability are prevalent. The polytechnics are known to produce skills and self-employable office/workshop workers.

The emerging challenges now are that more than ever before, Nigerian economy requires competent workforce with relevant psychomotor, cognitive and affective domains. While the present curriculum may provide the agenda for adequate preparations to harness its immense potentials, the emerging challenge hinges on effective capacity building of Technical and Vocational Educators taking into focus their instructional challenges.

For example, the National Diploma (ND) and higher National Diploma (HND) curriculum for Secretarial Studies was published in 1989. After the initial five years of implementing the curricula, it was generally agreed that there was the need to review the Secretarial Studies curriculum (Azuka, 2000, Makari, Gami and Otoiwo, 2005). Curriculum review according to Ojukwu, (2008), can also occur when there is a perceived need to improve upon the existing curriculum based upon development in technology and the need for improvement in the way things are done for societal upliftment. It was based on these needs that the National Board for Technical Education (NBTE) embarked on a comprehensive review of all minimum guide curricula from 2001, which sought to radically transform the polytechnics programmes to meet new technological and socio-economic trends and demands of the world of work. The main focus was to ensure that every programme contained ICT and entrepreneurship modules. The revised curricula emphasized more on psychomotor domain (i.e. practical work).

Human capacity re-engineering is the process of equipping individuals with the understanding, skills and access to information, knowledge, and training that enables them to perform effectively, (Tachiki, 2002). A simple analysis of Tachiki's definition of human capacity reengineering suggests that the word "re-engineering" takes the form of re-training, re-packaging, and reforming the human attitudinal dispositions and know-how for effective and efficient performance in service (i.e. lecture/instruction) delivery. Ojukwu, (2009) observes that ICT courses in the OTM curriculum include ICT office applications I and II, Database Management System, Management Information Systems, Advanced Web Page Design, Advance Desktop Publishing, and Modern Office Technology. Thus, there is now more emphasis on ICT related courses. Some polytechnics as noted by Ojukwu, (2009) have sincerely indicated that there are not enough human resources to competently deliver especially, the ICT and related new courses. In the case of ICT office applications I and II, it was revealed that lecturers who have to teach the course must be well knowledgeable in computer and its applications.

According to Ine (2008), Office Technology and Management could be implemented by the department at the HND level provided that:

- (a) The implementation of the curriculum as is done at the ND level is first of all adequate, so as to equip the students to meet the challenges at the HND level.
- (b) The department should be ICT compliant in line with the new trend, stressing that without enough computers and their packages, there is no how the Office Technology Management curriculum can be implemented.

Ine advised the department to recruit support staff and competent computer technicians/attendants. He then asserts that teachers in the department must as a matter of urgency update their knowledge of computer so that they will be ICT compliant and capable of teaching the course. Supporting Ine's view, Mumah (2008) noted that by combining ICT skills with emergent view in pedagogy, curriculum, and school organization, the standards are designed for the professional development of teachers who will use ICT skills and resources to improve their teaching, collaborates with colleagues and perhaps, ultimately become innovative leaders in their institutions.

Ihedioha, (2008) opined that the implication of the new curriculum is that many, if not all the teaching staff and non-teaching staff must be computer competent and not just literate. Ojukwu (2008), corroborated Ihedioha's view when he maintained that Office Technology and Management teachers should be strengthened on how to effectively coordinate the ICT equipment/facilities in the computer department and that they should not use computer to supervise typewriting practice (i.e. Keyboarding) only. He therefore concluded that the action phase of the Office Technology and Management curriculum implementation should focus on urgent need to close any gaps between teacher's qualification and job requirements necessitated by the introduction of Office Technology and Management; and that teachers who graduated before 2005 required updating the ICT skills urgently. Mumah, (2008), acknowledged Ojukwu's view on the urgent need to close any gap between teachers qualifications and job requirements for Office Technology and Management curriculum implementation, but added that the material and non-material obstacles for ICT implementation includes:

- (a) Insufficient number of computers;
- (b) Teachers lack of knowledge and skills;
- (c) Difficulty in integrating ICT in instruction;
- (d) Scheduling computer time;
- (e) Insufficient peripherals;
- (f) Inadequate copies of soft-ware;
- (g) Insufficient teacher time;
- (h) Not enough simulation access, and
- (i) Lack of technical staff.

OTM Curricula Structure and Organization

The main features of the revised OTM curriculum include the incorporation of relevant ICT course modules; and Entrepreneurship Education Course and a significant change (i.e. reduction) in the contact hours of shorthand from 10 hours to 4 hours.

More specifically, the OTM courses are structured along four areas; viz:

1. General/liberal studies courses as seen in the teaching of Citizenship Education for all programmes.
2. Foundation/Basic courses as seen in introduction of:
 - Use of English
 - Principles of Accounts
 - Business Mathematics
 - Introduction to Business
 - Principles of law
 - Professional ethics and social responsibility
 - Entrepreneurship Education
 - Business Communication
 - Technical English
3. Professional/Technical courses as in:
 - Keyboarding
 - Shorthand
 - Office Practice
 - Project
 - ICT
 - Modern Office Technology
 - Records Management
4. The supervised Industrial Works Experience Scheme (SIWES) for National Diploma Students (Ohakwe and Njoku, 2009).

The curriculum design took the form of Brookfield Models. It is a technique in curriculum engineering which attempts at interdisciplinary mode aimed at curriculum synthesis leading the learner into inquiry and generalization. The plan helps learners conceptualize a whole field rather than a narrow, unrelated part. According to Onwuka (1981), cited in Ohakwe and Njokwu (2009), it is an effort to overcome the compartmentalization and atomization of curriculum. It is an advanced stage in curriculum approaches, be they:

- Subject or the discipline – centered curriculum
- Core curriculum
- The activity/experience curriculum
- Curriculum based on social processes and life functions.

Statement of the Problem

All polytechnics in Nigeria have been mandated by the NBTE in the process of adoption of the revised OTM curriculum to hasten the mechanism for the teaching of ICT and Entrepreneurship Education Courses. Azuka (2008) lamented the way and manner the new OTM curriculum was being implemented; that over 80% of the lecturers lacked the relevant competencies to teach the new courses in the reviewed curriculum. Azuka, in the same vein, also expressed the fears that universities that produced business educators have not modified their curriculum in line with new trends. Realizing the fact that TVE teacher is central to the successful implementation of OTM curriculum in the polytechnics, the introduction of ICT and entrepreneurship courses require the reengineering (strengthening) of the teachers capacity and skills to use technology and knowing how that technology can support student learning, improve teaching and collaborative tele-learning among colleagues.

The issues addressed by this study is the urgent need to reengineer OTM TVE teachers at the polytechnics and also to determine the instructional challenges inhibiting TVE teachers in the teaching of OTM courses at the polytechnic levels?

Purpose of the Study

The main purpose of this study is to determine the capacity reengineering need of TVE teachers at the polytechnics and their instructional needs, and to examine the challenges inhibiting TVE teachers teaching in the polytechnics.

Research Questions

The following research questions were formulated to guide the study:

1. What are the major OTM capacity re-engineering needs required of TVE teachers in the polytechnics in the areas of ICT?
2. What are the instructional challenges inhibiting effective implementation of recently reviewed curriculum for Office Management and Technology (OTM)?

Hypothesis

Two null hypotheses were formulated at .05 levels of significance.

H₀₁: Lecturers and instructors in the polytechnics do not differ significantly in their mean ratings on the major OTM capacity re-engineering needs of TVE teachers in the areas of ICT.

H₀₂: Lecturers and instructors in the polytechnics do not differ significantly in their mean ratings on the instructional challenges inhibiting effective implementation of the reviewed curriculum for OTM programmes in the polytechnics.

Methodology

The study utilized a cross-sectional survey method. The population comprised of TVE teachers made up of 31 lecturers and 35 instructors in the polytechnics located in Delta and Taraba states. The polytechnics include: The Delta State Polytechnics at Ozoro, Oghara and Ogwashi-Uku, the Federal Polytechnic, Bali, Taraba State and Taraba State Polytechnic Suntai respectively. The distribution of the population showed that in the areas of ICT and the instructional challenges inhibiting effective implementation of the recently reviewed OTM curriculum, 43 (65%) were from the three polytechnics in Delta State, 13 (20%) were from the Federal Polytechnic Bali, while 10 (15%) were from Taraba State Polytechnic, Suntai. The study was also delimited to Technical and Vocational Education (TVE) teachers who teach courses in the OTM programme of the three polytechnics in Delta State and the two polytechnics in Taraba State.

The instrument was a structured questionnaire consisting of three sections. The first section sought the demographic data of the respondents. The second section comprises a 7-item structured questionnaire on a 4-point scale as follows: Highly Required (HR), Required (R), Not too Required (NTR), and Not Required (NR), while the third section consist of fourteen items structured questionnaire on a 4-point scale as follows: strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD). All the items have equal rating scales ranging from 1 – 4 points respectively.

The instrument was face validated by four Business Educators based on their indebt knowledge of the subject matter. The instrument for data collection was administered to the respondents personally with the help of two colleagues; one from Delta State Polytechnic Ogwashi-Uku and the other from the Federal Polytechnic Bali, Taraba State. Out of the 66 copies of the questionnaire distributed, 61 copies were returned. The return rate of the questionnaire was 92% which was considered fair enough for the study.

The researcher utilized the mean statistics to analyze the data generated from the responses, while the null hypotheses were tested at .05 significant level using t-test statistics. The research questions one and two were considered required/Agreed if the mean responses indicate rates of equal to or greater than (≥ 2.50), while not required/Disagreed if the mean rating amounts to less than (< 2.50). The null hypotheses were accepted when the critical t-test value supersedes the calculated t-value; and rejected when the reverse was the case.

Data Analysis and Results

Research Question 1: What are the major OTM capacity re-engineering needs required of TVE teachers in the polytechnics in the areas of ICT?

Table 1: Mean Ratings on Major OTM Capacity Re-engineering Requirements in the Area of ICT

S/No.	Re-engineering Requirements	Mean X	Requirement Level
Training Requirement on:			
1.	Modern Office Technology	3.31	Required
2.	ICT Office Application	3.41	Required
3.	Word Processing	3.69	Required
4.	Desktop Publishing	3.32	Required
5.	Web Page Design	3.13	Required
6.	Data Base Management	3.01	Required
7.	Management Information System	3.18	Required
N = 61	Grand Mean	3.07	

The data in table 1 show the mean ratings on ICT training requirement by TVE teachers. The respondents rated all the items (1-7) as required by TVE teachers in the polytechnics for effective implementation of OTM curriculum. The ratings are: Modern Office Technology (3.31), ICT Office Application (3.41), Word Processing (3.69), Desktop Publishing (3.32), Web Page Design (3.13), Data Base Management (3.01) and Management Information System (3.18) respectively.

Research Question 2: What are the instructional challenges inhibiting effective implementation of recently reviewed curriculum for Office Management and Technology

Table 2: Mean Ratings on Equipment/Facilities Challenges Inhibiting Effective Implementation of Reviewed OTM Curriculum

S/No.	Re-engineering Requirements	Mean x	Requirement Level
Educational Facilities:			
8.	Poor quality of instructional Materials are major challenges.	3.37	Agreed
9.	Inadequate training opportunities for professional skill improvement are major challenges	3.05	Agreed
10.	Insufficient number of computers		

	on the basis of one student to one computer during classroom Session.	3.20	Agreed
11.	Insufficient peripherals.	3.33	Agreed
12.	Word processing labs fitted with air conditioners and good lighting	3.13	Agreed
13.	Office practice lab equipped with modern office requirement.	2.98	Agreed
14.	Audio-visuals/projectors.	2.35	Disagreed
15.	Insufficient copies of software.	3.57	Agreed
16.	Electronic communication equipment such as e-mail, internet facilities, facsimile (FAX), telex machine	3.09	Agreed
17.	Reprographic machines such as copiers and duplicators	2.15	Disagreed
18.	Inconsistent/ inadequate power generation source is a challenge	3.09	Agreed
19.	Insufficient teacher time (lecture period)	2.77	Agreed
20.	Insufficient simulation access	2.93	Agreed
21.	Lack of qualified technical staff	3.06	Agreed
N = 61	Grand Mean	2.77	Agreed

The results in Table 2 revealed the equipment/facilities challenges inhibiting the effective implementation of OTM curriculum. The respondents rated items 8(3.37), 9(3.05), 10(3.20), 11(3.13), 12(2.98), 15(2.51), 16(3.09) and 19(2.77) as agreed. These are challenges to effective implementation of OTM curriculum, while items 14 (2.35) and 17 (2.15) respectively were rated disagreed and therefore, regarded as no challenges to effective implementation of OTM curriculum.

H₀₁: Lecturers and instructors in the polytechnics do not differ significantly in their mean ratings on the major OTM capacity re-engineering needs of TVE teachers in the areas of ICT.

Table 3: t-test Comparison between TVE Lecturers and Instructors on OTM Capacity Re-engineering Requirements in the Area of ICT

Groups	X	SD	N	df	t-calc.	t. crit.	Decision
Lecturers	10.01	3.71	29	59	1.78	±1.96	Do not reject H₀₁
Instructors	13.04	7.30	32				

P < .05

Table 3 shows that calculated t-value of 1.08 is less than the critical t-value of 1.96 at 0.05 levels of significance and 59 degree of freedom. The null hypothesis is therefore not rejected that lecturers and instructors do not differ significantly on the major OTM capacity re-engineering needs of TVE teachers in the areas of ICT.

H₀₂: Lecturers and instructors in the polytechnics do not differ significantly in their mean ratings on the instructional challenges inhibiting effective implementation of the reviewed curriculum for OTM programmes in the polytechnics.

Table 4: t-test Comparison between Lecturers and Instructors on the Equipment/Facilities Challenges Inhibiting Effective Implementation of OTM Curriculum

Groups	X	SD	N	df	t-calc.	t. crit.	Decision
Lecturers	16.48	2.21	29	59	1.54	±1.96	Do not reject H₀₂
Instructors	14.01	4.32	32				

P < .05

Table 4 shows the calculated t-value as 1.54 and the t-critical value as 1.96. The critical t-value is greater than the calculated t-value. Hence the null hypothesis is not rejected. There is no significant difference between lecturers and instructors in their mean ratings of the equipment/facilities challenges inhibiting effective implementation of OTM curriculum.

Discussion of Findings

The results in table 1 revealed that TVE teachers (lecturers and instructors) in the polytechnics required progressive training so as to effectively implement the ICT needs as expressly emphasized in the, OTM curriculum. The human capital capacity re-engineering is needed in all areas of ICT courses; especially in the areas of training and retraining on modern office technology, ICT office applications, word processing, desktop publishing, Web Page design, data base management and management information system respectively. The findings agree with the study of Nwosu (2000), Njoku, (2000), Okoji (2008) and Ugwuanyi, Moses and Eze, (2008) respectively.

The reviewed curriculum in Office Technology and Management programmes in the polytechnics is a giant stride in the right direction; especially in this era of Information and Communication Technology (ICT). This lofty idea can however not be effective without adequate preparation of the Technical and Vocational Education teachers whose responsibilities it is to implement the programmes. As earlier noted in this study, most of the TVE teachers in the polytechnics were trained without modern office equipment and facilities. Ugoji, (2008) puts the situation more succinctly when he maintained that many of the teachers were trained over twenty years ago with rickety manual typewriters as the best equipment/facilities they had access to.

The findings in Table 2 showed the equipment/facilities challenges inhibiting effective implementation of Office Technology and Management curriculum. These includes: poor quality of instructional materials, inadequate training opportunities for professional skills improvement, inadequate computers, word processing laboratories, office practice laboratories, reprographic machines (copiers and duplicators) and constant power generating source. These resources are fundamental for effective implementation of the Office Technology and Management curriculum and therefore, should be seen as emerging challenges.

Conclusion

The curriculum reform focused on the modification of or the review of what have been in existence in the secretarial studies programme. This is intended to add or substitute some elements or modules as a result of observable needs or societal demand for improvement. The reform led to a major shift from the old paradigm which also led to a change in the nomenclature of secretarial Studies to Office Technology and Management (OTM). Unfortunately, the new reform has thrown a critical challenge to TVE teachers in the Polytechnics in the areas of ICT and equipment/facilities requirements for effective implementation of the reviewed curriculum for Office Technology and Management programme.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Staff training of TVE teachers should commence as a matter of urgency both on the basis of on-the-job training or short courses at designated centers. Emphasis should be on office technology applications, database management, web page design and desktop publishing and internet access.
2. Modern equipment/facilities required to teach Office Technology and Management courses should be adequately provided to enhance teaching and learning. This has become critical as Office Technology and Management courses are equipment-based and therefore cannot be taught without making the equipment/facilities available.

3. The TVE teachers need urgent professional development in the ICT modules and their pedagogical applications for successful implementation of the Office Technology and Management curriculum in the polytechnics. The major capacity re-engineering should include the mastery of how ICT is used as a teaching-learning tool. The teachers should have a mastery of e-lesson plan and implementation of e-lesson plan for effective teaching and learning.
4. The Government at both Federal and State levels, as well as private institutional operators of Polytechnics in the country should realize that Office Technology and Management is capital intensive. Therefore, adequate capital votes for the programme should be made. Other stakeholders such as Alumni Associations, employers of Office Technology and Management graduates and other relevant donors should assist in the provision of the needed equipment/facilities.

References

- Agomuo, E. E. (2000). Towards electronic business offices in Nigeria: employer perceived entry-level and advancement skills for office-employees, *Nigerian Vocational Journal*, 8 (20), 20 – 27.
- Azuka, E. B. (2000). Challenges of a professional secretary: need for curriculum revision in Nigerian Polytechnics, *Business Education Journal*, 3 (3), 38 – 48.
- Ojukwu, K. (2009). A review of literature on empowerment of office technology and management teachers of Nigerian Polytechnics. *Business Education Journal*, 7(1), 3 – 8.
- Gami, S. Makari-Yahaya, G. & Otobo, J. (2005). The new ND/HND office technology and management curriculum for Nigerian polytechnics. A paper presented at the Annual Conference of the *Association of Business Educators of Nigeria (ABEN)*, Oyo, 11 – 15 Oct. 2005.
- Ihedioha, K. E. (2008). NBTE new curriculum in office technology and management (OTM) for ND/HND Accounting: Observations and comments. *Business Education Journal*, 6 (1), 31 – 36.
- Mumah, S. N. (2008). *Implementation of ICT and modules of the new curricula*, A paper presented at a Consultative Meeting on the Implementation of new Curricula held at Pyramid ASSA Hotel, Kaduna, 18th June, 2008.
- Olaitan, S. O. & Ali, A. (1997). *The making of curriculum: Theory, Process, Product and Evaluation*. Onitsha: Cape Publishers International Limite

- Ohakwe, S. N. & Njoku, S.C. (2009). Curriculum standards, business environment and national development: Tripartite issues in office education. *ABEN Book of Readings*, 1 (9), October,
- Tachiki, D. S. (2002). *Human capacity building in SMEs: The Japanese Experiences*. Publication of Tokyo Tamagawa University.
- Okigi, B. I. (2008). Secretarial administration practice in this millennium: trends and issues. *Secretarial Forum – Journal for the Promotion and Advancement of Secretariat Professions*, 3 (3), 125 – 136.
- Nwosu, B. O. (2000). Competencies in office information systems for a sustainable secretarial studies programme in the 21st century: a critical analysis. *Business Education Journal*, 3 (3), 253 – 258.
- Njoku, C. U. (2000). Teaching secretarial administration subjects in a modern technological age: the journey so far. *Business Education Journal*, 3 (3), 244 – 252.
- Ugwuanyi, M. O. & Eze, M. E. (2009). Strategies for effective implementation of ICT driven curriculum for secretarial studies programmes in Nigeria Polytechnics. *Business Education Journal*, 7 (1), 62 – 69.