Enrichment of Office Technology and Management Curriculum through Desktop Publishing for Empowerment among Students in Tertiary Institutions in Lagos State

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Abstract
The study examined the enrichment of the Office Technology and Management curriculum through Desktop Publishing for empowerment among students in tertiary institutions in Lagos State. Two (2) research questions were formulated to guide the study. The research population comprised of 428 Office Technology Management students from three tertiary institutions in Lagos State, from which a sample size of 180 OTM students was selected using a simple random sampling technique. A well-structured and validated instrument, titled" Enrichment of Office Technology and Management curriculum through Desktop Publishing for empowerment among students in tertiary institutions in Lagos State (EOTMCDPESQ), was used for data collection. The collected data were analyzed using Mean and Standard Deviation. The findings revealed that the inclusion of the Desktop Publishing course in Office Technology Management has geared towards integrating graduates of OTM into the evolution of Technology, equipped with ICT skills and knowledge that assist them to perform in any computerized organization and being self-reliance but there are issues of inadequate facilities and personnel available for the implementation of the programme. The study recommends the provision for adequate facilities and training equipment for effective service delivery and training and re-training of teachers in order to enhance their capability in skills and competence.

Keywords: Curriculum, Desktop Publishing, Empowerment and Office Technology Management

Introduction
Office technology is the application of scientific knowledge, devices and systems to facilitate and enhance the information processes and delivery of same. It is also viewed as a

concept that is associated with the office automation, electronic technology and office globalization. The Office Technology Management (OTM) programme is designed to assist graduates to fit properly into the office of any computerized organization and perform professionally, the function of a secretary and taking appropriates action independently when faced with challenging secretarial office problems, showing personal qualities and attributes that are conducive and co-exist with the work group. Office Technology and Management is an academic programme in Nigerian tertiary institutions designed to replace the old Secretarial Studies programme. The need to prepare and make students of secretarial studies competent, skilful and employable in the world of work, which is being driven by technological content in the curriculum of erstwhile Secretarial studies programme in the nation's tertiary institutions, gave birth to Office Technology and Management (Olukemi et.al 2018). OTM curriculum developers envisage the need to change OTM curriculum to be Information Communication Technology (ICT) driven OTM curriculum

Office Technology Curriculum has been reviewed to be ICT driven curriculum. Oludele et. al (2013) described curriculum implementation as a network of varying activities involved in translating curriculum design into classroom activities and changing people's attitudes to accept and participate in those activities. The OTM curriculum was aimed at producing graduates who would be able to effectively manage the electronic driven office, and who would be equipped with secretarial and office skills for employment in various field of endeavours. Through the programme, students can obtain marketable skills applicable to various careers and industries as well as cognitive life experience. Ogiagah (2009), opined that the design of OTM programme components appears to be responsive to a global initiative with an objective that portends new academic direction in favour of ICT. The new curriculum is geared towards integrating graduate of OTM department into the evolution of technology. Omeje (2008) corroborated this when he maintained that Business Studies curriculum contents should be so reformed (redesigned) in such a way that a graduate of Business Education should be well equipped to be self-employed, thereby not only reducing unemployment but also creating employment.

Desktop publishing which is one of courses enshrined in OTM curriculum is an empowerment programme. Desktop publishing is the creation of documents using page layout software on a personal computer and assists in the creation of various forms of online content (Wikipedia 2018). It is the use of personal computer with special software to design book and booklets that are intended to be printed by ink jet or laser printer. The software that supports Desktop Publishing (DTP) has (what you see is what you get) WYSIWYG graphic user interface (GUI) to make the set-up for publishing as easy as possible. In addition, DPT software are used to create the layout for a wide range of different publication such as newspaper, magazines, brochures, posters, flyers leaflets, catalogues, books, e-books, PDF, Web Pages, Banners, Newsletter and design of resume.

According to NBTE (2004), OTM programme is designed to equip OTM students with secretarial/ Office skills for employment in various fields and with the enrichment of OTM curriculum through Desktop Publishing shows further improvement in the curriculum and if the course contents are rigidly implemented, graduates would no doubt have additional skills and competencies needed in the world of technology.

Statement of Problem

The researchers discovered that students of OTM find it difficult to secure job in recent times. They have joined pool of unemployed graduates because of rare skills needed in the

world of work. Due to emergency of Information and Communication Technology (ICT), virtually everybody is computer literate and can type personal documents on laptops, notebooks and I-pads. The inclusion of Desktop Publishing as a course in OTM curriculum has left the recipients of the programme with basic skills which is essential in driving a venture with it. Most of them hone their skills in DTP by enrolling in informal computer outfits where hand-on-skill are given. Olukemi et.al (2018), stated that in today's technological era, there is the need for graduates to possess ICT skills in order to secure and perform well in employment. The enrichment of Office Technology and Management curriculum through Desktop Publishing for empowerment among students in tertiary institutions in Lagos State is what necessitated the need for this study.

Purpose of the Study

The major purpose of the study is to investigate enrichment of Office Technology and Management curriculum through Desktop Publishing for empowerment among students in tertiary institutions in Lagos State. Specifically, the study sought to:

1. Find out the adequacy of equipment available for teaching Desktop Publishing to Office Technology Management students in tertiary institutions in Lagos State.
2. Find out the availability of personnel available for teaching Desktop Publishing to Office Technology Management students in tertiary institutions in Lagos State

Research Questions

The following research questions were raised for the study.

1. Are adequate facilities available for teaching Desktop publishing to Office Technology Management students in tertiary institutions in Lagos State?
2. Are adequate personnel available for teaching Desktop publishing to Office Technology Management students in tertiary institutions in Lagos State?

Literature Review

Concept of the Curriculum

A curriculum is a document which comprises the goals and objectives of a particular course of the study, the subject matter, or content, the learning, the learning experiences and evaluation (Ukata 2019). Curriculum is what examiners require the teachers to emphasise in their teaching. The new OTM Curriculum removed the attainable Shorthand and Typewriting speeds and laid more emphasis on ICT courses. It incorporates the following six components in its design; Office Application, Office Technology (which include Desktop Publishing), Business and Administrative Management, Numeric Component, General Studies and Students Industrial Work Experience Scheme (SIWES)

The new curriculum is geared towards integrating graduate of OTM department into the evolution of technology**.** Akpotohwo (2017) states that the new OTM Curriculum requires new technologies, the purpose of which to place emphasis on exposures to modern trend, and acquisition of knowledge and skills required for the usage of sophisticated machines in business, which hold the key to Nigeria becoming technologically relevant, internationally competitive, and economically prosperous. It is, however, hoped that on the long run, the programme will produce graduated with effective competencies to deal with the requirements of the ICT – driven

world of work and entrepreneurship. With enrichment of OTM curriculum through Desktop Publishing, Office Technology and Management students should therefore fit properly into the office of any computerized organization, perform professionally the functions of a secretary and as well be self-reliant

Concept of Office Technology and Management

Office Technology and Management is a Business Education programme that equips individuals with office skills for them to function as assistant to the executives in paid employment or in self-employment. It is a programme that provides students with in-depth administrative office preparation to meet the demands and challenges in the business environment. Ezenwafor (2012) posited that OTM is concerned with producing graduates who can quickly access data or information and process, disseminate, store and retrieve it for future use as demanded by their employers or supervisors. In today's technological era, there is the need for graduates to possess ICT skills in order to secure and perform well in employment. In line with this, Office Technology and Management (OTM) graduates are expected to possess both practical and theoretical skills in ICT based courses of the curriculum objectives. According to Olukemi et.al (2018), OTM programme is an empowerment strategy that make the recipients to be more useful, relevant and dynamic in a changing world like ours. It also assists them to acquire physical and intellectual skills which will enable them to be self-reliant and useful members of the society. In addition, Mbaezue et.al (2016) admitted that the world has turned into computerize global village due to information technology resulting in a paperless office.

Evidently, manual office skill and competencies are gradually disappearing from the world of work to give way to the use of new technologies. These changes have brought about profound reactions in staffing, students, delivery system and resource utilization and management. Teachers/personnel with well knowledgeable in computer and its application, using relevant available instructional materials to teach, OTM students should be able to equip with Information and Communication Technology (ICT) and Desktop Publishing (DTP) skills and knowledge expected to prepare the learners for world of work, create job for themselves and other teeming youth.

Concept of Desktop Publishing

Desktop Publishing is a term coined after development of a specific type of software. It's about using that software to combine and re-arrange text and images and creating digitals files for print, on-line viewing or websites. According to Wikipedia (2018), Desktop Publishing is a technology that enables business owners, organizations and various individuals to design a wide range of printed material. DTP is one of best techniques that can be effectively used to create attractive layouts and produce quality pictures, images and text. Ado (2020) stated that, Desktop Publishing enables the users to create graphics for point-of-sale displays, billboards, promotional items, trade show exhibits, retail package designs and outdoor signs. In the same vein, Olomola et.al (2021), see DTP as a medium of public communication with use of common and simple objects that can pass information across appropriately. DTP documents may be for desktop or for commercial printing or electronic distribution, including PDF, slideshows, newsletters, electronic books and the web. Today's global world requires individuals who are creative, dynamic, vibrant and can use different computer application programme to design variety of works. This implies the relevance of the application for achieving competency by

OTM students is that they can export and import information from other application. In opinion of Ndinech et.al (2013), Desktop Publishing enable OTM students to manipulate, typeset, align images, graphic and page layout. Therefore, a proper knowledge of DTP course contents by OTM students will enable them to competently perform in an office as expected and be self-reliance.

Availability of Equipment needed for teaching Desktop Publishing for OTM Students

In opinion of Olokor (2016), school facilities are the operational inputs of every instructional programme. He noted that the use of instructional materials enhances learning experiences and leads to interaction within the learning environment. However, there is no sufficient funds to sustain some good equipment developed in recent times. Azih et.al (2015), posited that resources provision is imperative in every institution offering OTM programme. Amaiya (2013) and Ukata (2019), discovered that the OTM programme faces the problem of inadequacy of ICT resources and has hampered the acquisition of knowledge and skills expected to prepare the learners for world of work. Computers are basic to teaching and learning activities involving teachers and students in the new curriculum since the curriculum is ICT compliant. We are all witnesses to the fact that computers are not just there in most of our laboratories; where they exist, they are few in number. The result is that in some cases, large number of students are allocated to one set of computers. Azih et al (2015). According to Odey et.al (2015), when there is inadequate equipment, it implies that learners must have suffered the problem of acquiring practical experiences, lack technological expected skills and this could affect their practical performance when in the labour market.

On the other hand, Ukata (2019), affirmed that there is inadequate laboratories, projectors and other hardware and software, essential in delivery of instructions. Therefore, the modern office technology used in teaching and learning of DTP courses includes ICT hardware like computers, overhead projectors, electronic whiteboard, scanner, printer and ICT software includes Adobe Page Maker, Coral Draw, Microsoft Publisher, Microsoft Power Point, e-mail and internet are inadequate. One of the fundamentals of efficient realization of effective OTM programme at various levels is the accessibility, sufficiency, and adequacy of the teaching/learning resources. The availability and adequacy of these ICT resources is a necessary precondition for its use in the teaching process (Bongotons et.al 2010). The lack of utilization or under-utilization of these ICT apparatus may be as a result of the unavailability of the ICT facilities and tools and this may affect the acquisition of the needed skills by OTM students negatively. Similarly, Ukata (2019), noted that to ensure that enrichment of OTM curriculum through DPT is effectively implemented, infrastructural facilities, equipment, tools and materials must be provided in adequate quantities in teaching and learning DTP course.

Availability of Personnel needed for DTP training for OTM Students in Tertiary Institutions

Effective training of OTM students is anchored on the availability of human, physical and material resources in the tertiary institutions. Adedeji (2017), reported that human resources needed for quality higher education in Nigeria include adequately trained lecturers and non-teaching staff, administrators, security personnel, etc. Onyesom et.al (2012), posited that the emergence of fresh tools (office and instructional technologies) in teaching and learning has revolutionized the entire education system and posed a lot of challenges for teaching and learning. A major aspect of the work of OTM students and lecturers are using modern

technologies since the curriculum lay more emphasis on ICT related courses. The new OTM curriculum requires competent personnel with ICT skills, relevant psychomotor, cognitive and effective domains (Akpotohwo 2017) In the case of Desktop Publishing, Ukata (2019), revealed that lecturers who have to teach the course must be well knowledgeable in computer and its application. Azuka (2000), 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 including DTP in the reviewed curriculum and teacher is central to the successful implementation of OTM curriculum in tertiary institutions. In addition, some tertiary institutions as noted by Ojukwu **(**2009), have sincerely indicated that there are no enough human resources to competently deliver especially, Desktop Publishing and other ICT related new courses. In same vein, Azih et.al (2015), stated that some of tertiary institutions that offer OTM, there is dearth of personnel for teaching OTM courses, DPT inclusive. According to Ukata (2019), we cannot talk about enrichment of OTM curriculum through DTP without training and re-training teachers and instructors involved in the teaching the course at various level. The truth is that those lecturers of 1980s including the new ones with inadequate knowledge of ICT as the drivers of the OTM are still in the system. When the implementers lack the knowledge and skills to transfer knowledge and skills to the students, the graduates and the economy suffers. Sincerely, one cannot give what he/she does not have. Nwaokolo (2010), pointed out that many OTM lecturers do not applied ICT in teaching and learning. This lack of utilization or under-utilization is because they do not possess the fundamental and required skills in ICT and its use. The introduction of DTP course in OTM curriculum, required strengthening of teachers' capacity and skills to use technology and knowing how those technologies can support student learning, improve teaching strategies and collaboration among colleagues.

Methods

This study adopted descriptive survey research design. A survey research design, in the opinion of Ali (2016), allows the selection of sample from the population, which enables generalization to the population

This study was carried out in three tertiary institutions in Lagos State. Federal College of Education (Technical) Akoka, Yaba College of Technology Yaba, and Lagos City College, Lagos

The population consisted of all NCE Year 3 OTM students at Federal College of Education (Technical) Akoka, ND II and HND II students of Yaba College of Technology Yaba, and Lagos City College, Lagos respectively during the 2024/2025 academic session. Federal College of Education (Technical) Akoka, has 154 NCE Year 3 OTM students while Yaba College of Technology Yaba, has142 ND II and 98 HND total of 240 OTM students and Lagos City College, Lagos has 34 OTM students. This constitutes a grand total of 428 OTM students.

The sample size comprised one hundred and eighty respondents. The sample was selected using a simple random sampling technique.

The instrument used for data collection was a self –structured questionnaire developed by the researchers titled" Enrichment of Office Technology and Management curriculum through Desktop Publishing for empowerment among students in tertiary institutions in Lagos State (EOTMCDPESQ). The questionnaire was of two sections – A and B. Section A sought demographic data such as name of the institutions, current level of the respondents and gender while Section B contained items that are concerned with addressing the research questions posed by the researchers. The questionnaire was structured in Likert scale with options of four

variables which ranges from Strongly Agree (4) Agree, (3) Strongly Disagree (2) and Disagree (1).

The EOTMCDPESQ was subjected to face and content validation by two lecturers from the Department of Business Education and one Measurement and Evaluation of Federal College of Education (T) Akoka. Observations raised by the resource persons were incorporated in the final copy EOTMCDPESQ. The reliability of the instrument was determined through pilot study on a sample of 15 OTM students' of 2024/2025 academic session of St Augustine College of Education (Tech.) Akoka, using Cronbach Alpha. After administering to them the reliability co-efficient yielded 0.83.

The researchers administered the instruments to the respondents through personal contact with the help of three research assistants. One hundred and eighty questionnaires administered were duly filled and returned. This represented 100% rate of return.

Data collected for this study were analysed using Mean and Standard deviation to answer the research questions and results werepresented below.

Result

The researchers present the following analysis of items in the questionnaires administered to the respondents which were one hundred and eighty (180) in number from different institutions. To ensure simplicity and clarity of responses, each of the questions in demographic data and research questions were analyzed using simple percentage and frequency counts. While Mean and Standard deviation were used to answer the research questions. Below is the summary of demographical data showing characteristics of respondents.

Characteristics of the Respondents

Table 1: Distribution of Respondents by Institutions, level and Gender

Biodata	Statutory Distribution	Frequency	Percentage	Number
Institutions	Federal College of Education (Technical) Akoka	65	36.1	
	Yaba College of Technology	101	56.1	
	Lagos City College	14	7.8	**180**
Level	NCE Year 3	65	36.1	
	ND Year 2	73	40.5	
	HND Year 2	42	23.3	**180**
Gender	Male	59	32.7	
	Female	121	67.2	**180**

The above table gave the summary of respondents' bio data, frequency and percentage. From the above table, it is obvious that the respondents from Yaba College of Technology were more than their counterparts from Federal College of Education (T) and Lagos City College given the percentage of 56.1 as against 36.1 and 7.8. Under level, HND Year 2 recorded the lowest percentage of 23.3, followed by NCE Year 3 with relatively high percent of 36.1, with the highest percentage recorded by ND Year 2 given by the percentage of 40.5. This revealed that ND Year 2 participated most amongst the other levels. For Gender, female respondents were more than their male counterparts given the percentage of 67,2 and 32.7 respectively.

Research Question 1: Are adequate facilities available for teaching Desktop publishing to Office Technology Management students in tertiary institutions in Lagos State?

Table 2: Responses on the adequacy of equipment available for teaching DTP to OTM students in tertiary institutions in Lagos State

SN	Item Statements	SA	A	SD	D	Mean	S.D	Remark
		F(%)	F(%)	F(%)	F(%)			
1.	Computers are adequate in OTM laboratories for teaching DTP	20 (11.1)	26 (14.4)	45 (25.0)	89 (49.4)	2.11	1.22	Rejected
2.	Printers are adequate for teaching DTP for OTM students	31 (17.2)	32 (17.8)	30 (16.7)	87 (48.3)	2.34	1.08	Rejected
3.	Scanners are available for teaching DTP	25 (13.9)	53 (29.4)	30 (16.7)	72 (40.0)	2.41	1.03	Rejected
4.	Overhead Projectors are available for teaching DTP	25 (13.8)	51 (28.3)	31 (17.2)	73 (40.6)	2.38	1.07	Rejected
5.	Internet are available for teaching DTP	11 (7.3)	16 (10.7)	22 (14.6)	101 (67.3)	2.11	1.02	Rejected
6	Microsoft publisher software are adequate for teaching DTP for OTM Students	(17.2)	31 (30.0)	54 (35.0)	63 (17.8)	32	2.29	1.12 Rejected
7	Corel Draw software are adequate for teaching DTP	32 (17.8)	31 (17.2)	30 (16.7)	87 (43.3)	2.34	1.08	Rejected
8	Adobe PageMaker software are adequate for teaching DTP	(16.7)	30 (25.5)	46 (14.4)	26 (43.3)	78	2.44	1.01 Rejected
9.	Microsoft Power Point software is adequate for teaching DTP for	30 (16.7)	15 (8.3)	8 (4.4)	127 70.6)	2.37	1.09	Rejected
	Grand Mean					**2.31**		**Rejected**

Table 2 reveals the analysis of responses obtained on the adequacy of equipment needed for teaching DTP for OTM students in tertiary institutions in Lagos State. The result showed that majority of response disagreed that computers, Printers, Scanners, Overhead Projectors, Internet,

Microsoft publisher software, Corel Draw software, Adobe PageMaker software and Microsoft Power Point software are not adequate for teaching DTP with a mean opinion of 2.11, 2.34, 3.41, 2.38, 2.11, 2.29, 2.34, 2.44, 2.37 respectively These shows that the mean opinions are below the average mean of 2.50 which is the cut-off point.

Research Question 2: Are adequate personnel available for teaching Desktop publishing to Office Technology Management students in tertiary institutions in Lagos State?

Table 3: Responses on the adequate personnel available for teaching DTP to OTM students in tertiary institutions in Lagos State

SN	Item Statements	SA	A	SD	D	Mean	S.D	Remark
		F(%)	F(%)	F(%)	F(%)			
10	There are qualified and competent DTP teachers	25 (13.9)	53 (29.4)	30 (16.7)	72 (40.0)	2.41	1.03	Rejected
11	There are adequate and available supporting staff (laboratory Attendance)	(11.3)	17 (6.7)	10 (27.3)	41 (54.6)	82	2.02	1.25 Rejected
12	There are issues of dearth of qualified teachers/personnel to integrate computer into learning areas	92 (61.3)	41 (27.3)	5 (3.3)	12 (8.0)	3.47	0.34	Accepted
13.	There is availability of lecturers with adequate knowledge of computer and its application	25 (13.8)	51 (28.3)	31 (17.2)	73 (40.6)	2.38	1.07	Rejected
14	DTP teaching staff are trained	(11.1)	20 (14.4)	26 (25.0)	45 (49.4)	89	2.11	1.22 Rejected
15	There is available Manpower to maintain and service electronic machines used for teaching and learning DTP	30 (16.7)	46 (25.5)	26 (14.4)	78 (43.3)	2.44	1.01	Rejected
16	There are available personnel to develop and train new methods of instruction for DTP teachers/lectures for capacity building	31 (17.2)	54 (30.0)	63 (35.0)	32 (17.8)	2.29	1.12	Rejected
	Grand Mean					**2.45**		

Table 3 indicates the analysis of responses obtained on available personnel needed for DTP training for OTM students in tertiary institutions in Lagos State. The result showed that majority of response strongly disagreed that there are qualified and competent DTP teachers, there are adequate and available supporting staff (laboratory Attendance), there are availability of lecturers with adequate knowledge of computer and its application, DTP teaching staff are trained, there is available Manpower to maintain and service electronic machines used for teaching and learning DTP and there are available personnel to develop and train new methods of instruction for DTP teachers/lectures for capacity building with mean opinion of 2.41, 2.02, 2.38, 2.11, 2.44, 2.34 and 2.29 respectively. These shows that mean opinions are below the average mean of 2.5 which is the cut-off point. While respondents agree on issues of dearth of qualified teachers/personnel to integrate computer into learning areas with mean opinion of 3.47 which is above the average of 2.50 benchmark.

Discussion of the Findings

The outcome of the study revealed that there is inadequate Desktop, Projector, Printers and scanner and other ICT equipment. This finding is in consonance with the opinion of Ukata (2019), who states that computers are just few in numbers in our laboratories and large number of students are allocated to one set of computers. Also, there is inadequate Microsoft Publisher, Corel Draw, Adobe PageMaker and other computer software. The finding corroborates with the study carried out by Omoniyi et.al (2014), who affirms that lack of utilization or under-utilization of this Computer software may be because of the unavailability of these facilities.

The outcome of the study revealed that there are unqualified and incompetent DTP teachers, there are availability of lecturers with inadequate knowledge of computer and its application and issues of dearth of qualified teachers/personnel to integrate computer into learning areas. The findings are in consistent with the study carried out by Azih et.al (2015), who states that those lecturers of 1980s including the new ones with inadequate knowledge of ICT are the drivers of the OTM are still in the system. Also, there are inadequate Manpower to maintain and service electronic machines used for teaching and learning DTP, personnel to develop and train new methods of instruction for DTP teachers/lectures for capacity building. The finding corroborates the study carried out by Ojukwu **(**2009), who noted that some tertiary institutions have sincerely indicated that there are no enough human resources to competently deliver especially, Desktop Publishing and other ICT related new courses.

Conclusion

Based on the findings of the study, it was concluded that Enrichment of Office Technology curriculum through Desktop Publishing has been viewed to be ICT driven curriculum that aimed at training OTM graduates with both ICT and marketable skills which is relevant to empower the graduates for self-reliance. This enshrined in the National policy of education which is also embedded in the global best practices of Business that requires individual who are innovative, dynamic and ability to utilize IT skills application/programmes and design variety of works for sustainable employment. The impediment or inadequate infrastructures translated to inadequate current equipment, inadequate personnel that are tech-savvy to drive the DTP curriculum have been attendant challenges militating the realization of effective DTP delivery in OTM. These impediments as identified by the findings of the study will be mitigated by adhering to the recommendation proffered below.

Recommendations

Based on the findings of this study, the following recommendations are proffered.

1. Government and all other stakeholders in education sector should make provision for adequate facilities and training equipment for effective service delivery of Desktop Publishing in Office Technology Management curriculum
2. Adequate and regular plan should be made by government for the training and re-training of teachers in order to enhance their capability in skills and competence needed in the delivery of DTP in OTM
3. The various resources that are essential requirements in the teaching and learning process should be provided by the institutions offering the course to enable students have more practical learning experience
4. Government at all levels, together with all other relevant stakeholders in the educational sector should priotise adequate funding of education especially Business Education programme that is capital intensive.

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