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The Digital Media Lab: A Library Creative Space for Multimodal Learning among Students in Tertiary Institutions in Nigeria

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Abstract

Considering the library's role in education and in providing learning spaces, it becomes necessary that DML is established in academic libraries to ensure that library users are given opportunity to either discover or develop on their learning modes. It is believed that exposing library users to variety of information formats to support visual, auditory, read, and kinesthetic learning modes may lead to improved academic performance, enhanced skills, self and entrepreneurial developments, among others. Hence, this paper examined the concept of DML as a type of library creative space. It established the relationship between academic libraries and multimodal learning. The paper highlighted the basic requirements for establishing a DML as well as the services offered in such lab. The rationale for establishing DML in academic libraries and possible ways of generating funds for establishing DML in Nigeria were discussed. It was recommended among others that government should increase budgetary allocation for tertiary institutions in order to facilitate the creation of DML, library managers should take proactive step in library development vis a vis DML, and librarians, library users, others should be trained and re-trained to acquire relevant competence needed for operation of DML.

Keywords: Digital Media Lab, Creative Space, Multimodal Learning, Academic Libraries, Tertiary Institutions

Introduction

Before now, libraries were regarded as repositories for information, the place where collection of books are kept in somehow organized manner for easy retrieval. Librarians also were seen as information locators or knowledge keepers. This notion has changed with series of developments facilitated by Information and Communication Technologies (ICTs). New patterns of work, new skills, new practices, and new library environment have emerged to keep abreast of the technological advancements. Libraries are being redefined as facilitators to a world of information far beyond physical collections, providing access to global information network, and enhancing the creation of digital content. One of the outstanding impacts of ICTs in libraries is the establishment of creative space or content-creation space to support multimodal learning.

Library creative spaces are areas set aside in libraries to foster creative work and focus more on non-textual content creation. The term "creative space" speaks to the understanding that staff and students of tertiary institutions need not to only consume information but to create knowledge from the information consumed. This is particularly true in academic libraries where the users (students and faculty members) are expected to show evidence of creativity in their respective disciplines. In addition to the normal assignments, term papers, seminar papers, individual researches, and publication of scholarly articles, library users are expected to know how to produce podcasts, vodcasts, and Webinar as well as create blog post, 3D designs, and Website design, among others. These skills are much desired for knowledge advancement in this millennial generation. Libraries are therefore expected to provide access to technology, tools, skills, guidance, as well as desired comfortability to encourage such creative endeavours.

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According to Webb & Joyner (2018) library creative spaces take many forms, including makerspace, digital humanities lab, digital media lab, data visualization lab, and knowledge market. The most well established among them is the digital media lab (Webb, 2018). The creation of digital media labs in academic libraries is *sine qua non* for multimodal learning. This type of learning suggests that library users learn through different modes (visual, aural, written, and kinesthetic). That means, every library user has a special way of learning which gives him/her a deeper understanding of a concept. Although, a number of factors such as physical condition, prior experience, cognitive level of the library users, among others could contribute to this differences in learning abilities but academic libraries should provide facilities to support these learning abilities in order to help library users learn more quickly and at a deeper level to guarantee recall at a later date.

It is widely acclaimed that academic libraries in the developed world have created digital media labs to enhance learning among the 21st century patrons. Perhaps, due to early exposure to technology, high level of competence, and availability of supporting facilities, countries like the United States of America, Canada, Belgium, Germany, have digital media labs in some of their libraries for as long as 10 to 15 years (Webb & Joyner, 2018). The situation in Nigeria seems different and this is apparently threatening the place of academic libraries as information hubs – the strengths of the best information offerings in tertiary institutions. Hence, this paper explores the concept of digital media labs emphasizing on the requirements for establishing a digital media lab with special reference to space, software, hardware, and peopleware. The relationship between multimodal learning and libraries is explained. The paper highlights the rationale for digital media labs in academic libraries and the required skills for digital media lab librarians. Ways of generating funds for establishment of a digital media lab are discussed in the paper. The establishment of Digital Media Lab as proposed in this paper will hopefully facilitate multimodal learning among students in tertiary institutions.

Academic Libraries and Multimodal Learning

Academic library is a library that is established in tertiary or post-secondary institutions such as Universities, Polytechnics, Colleges of Education, Monotechnics, and other institutions offering correspondence courses. It is an important component of tertiary institutions saddled with the responsibility of providing to its users the necessary resources capable of enhancing their learning abilities for optimal academic performance, teaching competencies, research abilities, as well as self development. In today's world, libraries are expected to serve as learning spaces where users could have access to information and facilities that make them build up skills and competences in different interest areas within or outside their course of study. It is believed that when students are exposed to many modes of learning, they tend to remember easily and broaden their scope of learning and understanding. Thus, multimodal learning is a step in the right direction in ensuring that students are exposed to different modalities of studying that will help them develop or enhance skills for self, educational, and economic development. It provides strong connection between background knowledge of users and new knowledge to be acquired.

The VARK model of learning by Neil Fleming and Colleen Mills in Fleming (2005) suggests the four most-common learning modalities as visual (V), aural/auditory (A), read/write (R), and kinesthetic (K). According to the author, the “visual” learns best by seeing, the “aural” learns best by hearing, the “read/write” learns best by reading and writing, and the “kinesthetic” learns best by doing. Going by this, academic libraries as learning centres should provide facilities to support each of the learning modalities. The idea behind encouraging multimodal learning in libraries, especially in Nigeria where there is a wide claim of poor quality of university graduates (Francis, 2015) becomes imperative. A former Deputy Governor of the Central Bank of Nigeria (CBN), Tunde Lemo affirms the claim by saying that most Nigerian graduates are incompetent (Egobiambu, 2018). Again, the National Bureau of Statistics (NBS) (2017) reveals that Nigeria has a global unemployment rate of 14.2 percent on the average.

The situation cannot be unconnected with libraries and their offerings. Be that as it may, it is believed that library users (staff, students, and researchers) all have different learning styles sometimes not discovered by them. Thus, they should be exposed to the different learning facilities that could facilitate better learning experiences. Such responsibility falls within the purview of academic libraries as information hub. According to Kennedy (2019), a student might need as many visuals as possible, while another would swap a picture for a verbal explanation. Other students need to gather information from multiple formats for them to have greater understanding of concepts.

For this diversity in learning modes, libraries are meant to provide students opportunities to either discover or develop on their learning modes. Hence, multimodal approach should be considered in library offerings. There is need to incorporate multimedia in academic libraries to excite users curiosity in learning as well as boost patronage.

Sankey, Birch, & Gardiner (2010) reiterate that many library users would prefer library materials being presented in a variety of formats as that may lead to improved learning performance especially for lower-achieving students. This certainly demands for more commitment on the part of the library, the librarians, the government, the users, and the society at large. It should be seen as a collective responsibility which every stakeholder needs to team player. The library needs to be redesigned to accommodate the equipment and other facilities; the librarians' skills and competence should match with the technologies; the government is expected to give all needed supports through funding, training and retraining of staff and users; the users need the right skills to use the facilities; the society like the corporate organizations, good spirited individuals, etc could support the project in one way or another. However, libraries need to provide users the opportunities capable of reinforcing knowledge comprehension and retention of information. This could be achievable through the development and maintenance of digital media lab.

Digital Media Lab: A type of Library Creative Space

According to Webb (2018), the term "library creative space" was coined by Eric Johnson of Virginia Commonwealth University in his book titled, "The Future of Library Space". Johnson (2017) notes the many types of library creative spaces to include digital media labs, makerspaces, digital humanities labs, data visualization labs, and knowledge markets (Webb & Joyner, 2018). Digital media lab which is the concern of this paper is an innovation in librarianship which could be traced to the analog-to-digital switch. Before now, libraries were repositories where information resources in their original formats were made accessible to users. The idea of converting the resources from one format to another was exclusively not the libraries responsibility. But today, the case is entirely different with the technological advances and need for continuous advancement in knowledge. Series of equipment, software, and skills are used to convert information from one medium to another perhaps for easy understanding and knowledge retention.

The idea of a digital media lab, according to Vall & Majorek (2018) is associated with the idea of "Makers" which was propagated by Dale Dougherty. The author claims that all people, including library users have the potential to be makers and should be given platforms to make and create knowledge. As noted by Goodman (2014), the focus in digital media lab in libraries today lies on the fact that:

- It provides equipment to the library users for the creation of video, audio, and other digital contents.
- It offers library users the ability to transform analog media such as books or records to digital formats.
- It offers digital literacy programmes on how to create digital contents.

Academic libraries are expected to provide users the opportunity to identify knowledge, consume knowledge, understand knowledge, and create knowledge. In other words, library users are expected to be not only mere consumers but creators of information and knowledge. The idea of creating digital media labs in academic libraries is of high necessity especially in Nigeria where there are not enough jobs for graduates.

Digital media labs offers knowledge and expertise in different areas like photography, printing, graphic designing, web and software development, videography, filmmaking, music production, digital marketing, electronic publishing, animation, etc.. Creating a digital media lab in academic libraries demands a dedicated space, professional equipment, specialized hardware, and software optimized for knowledge creation and advancement in academic institutions. For optimal use of the lab, some level of guidance in form of professional staff expertise and facilitation, personalized instruction, and online tutorials should be offered.

Requirements for Establishing a Digital Media Lab (DML)

To establish a DML in academic libraries, a lot of requirements need to be ascertained. These requirements could simply be grouped under space, hardware, software, and peopleware.

Space Requirement

The Digital Media Lab as a library component does not exist in a vacuum. It has to be situated in a space either within or separate from the library. The important thing is that the space has to be strategically designed to fit the purpose. It is common, especially in the developed world, to see libraries built as storey buildings sometimes with underground facilities (basement) and big enough to accommodate all components of the library including digital media lab. In such situation, the digital media lab could be best sited at the down or second floor of the library complex. For libraries in bungalows, the lab is best situated close to the lending unit of Readers' Services Department. Better still, the lab can be sited at a different location outside the library but its management is best overseen by the library. However, the space created for digital media lab should be such that supports learning and provide motivation to learn. It has to be easily accessible by all users including the physically impaired.

Although, there is no rule-of-thumb for the size of the space for DML but it has to be large, quite, and conducive to learning. Beatty (2016) conducted a research to determine the rationale for choosing a space for DML. The author highlights the various physical factors more likely to influence the choice of space to include openness, comfort level, furniture (types of tables and chairs) and outlets. Ideally, digital media lab is expected to be large enough to accommodate the facilities, staff, and users. It should be able to have room for not less than twenty (20) users at a time unless otherwise and accommodate different workstations or service points for video production and programming; music booths and studio; and a workshop or training space where users are taught how to use the lab, equipment, and software. The lab should accommodate the librarian's table and seats, steel cabinet, and other facilities. Also, the space needs to be sufficient with flexible capacity to accommodate a wide range of activities and also for spread out and comfort.

Hardware Requirement

The DML needs several types of hardware to function. Hardware could simply be referred to as fixtures, equipment, tools, or devices used within the lab to achieve a learning performance. The choice of hardware depends to a large extent on the size of the lab, the management ideology, the available expertise, and the funds. In addition to study carrels or single tables with obvious seating, the equipment needed in the lab includes but not limited to the following:

- i. **Computers Systems:** These are sets of integrated electronic devices that allow users to input, manipulate, and store data. The electronic devices include monitor, keyboard, mouse, and central processing unit.
- ii. **Printer:** This is a machine that can be connected to a computer for printing of paper documents which could be either text or pictures.
- iii. **Scanner:** A scanner is a device that captures and converts text or pictures from physical documents into digital formats using the optical character recognition techniques. There is a variety of scanners with different sizes, brand, and functionality. Majority of them are used to capture high quality images without harming the original materials especially in digitization of large materials.
- iv. **Digital Cameras:** These are powerful cameras that combine the optics and mechanism of a Single Lens Reflex (SLR) to capture still images or record moving images. A digital camera records and captures images digitally using memory card. One of the most widely recommended digital cameras is DSLR camera.
- v. **Camcorder:** This is an abridged word from camera and recorder. It is an electronic device that is used for capturing and recording live-motion video and audio for later playback.
- vi. **Projector:** Projector is an output device that expands information that is stored in a computer, DVD player, VCR, CD player and any other storage device. Text, images, video or audio content in any storage device is projected onto a screen, wall, or any other flat surface, making it large enough for a group of people to see.
- vii. **Led lighting kit:** This is eco-friendly led lamps that can be adjusted to give a preferred lighting effect within the lab. It enables one to control the colour temperature of the light between warm white and bright white.
- viii. **Audio recorders:** These are equipments used for recording lectures, conversations, and other sounds.
- ix. **Microphones:** Microphones are devices that convert sound waves into electrical signals to boost the sound quality.
- x. **Camera Rig:** This is a modular piece of equipment used to extend the usefulness of a camera through accommodating additional shooting styles, allowing for additional gear to be mounted safely, or for smoothing out the motion of the shot. Most camera rigs are handheld meant to support cameras for desired flexibility.
- xi. **Teleprompter:** This is an electronic device that projects a prepared script in such a way that the words are enlarged line by line for the speaker to see clearly. This device is usually unseen by the audience.
- xii. **Lens filters:** Lens filters are used for protection, observation and photo effects. They enhance image features by balancing or controlling the amount of light without affecting the original colour of the image.
- xiii. **External flash:** It allows for significantly better lit images than the on-board flash.
- xiv. **Monopod:** This is a single pole that could be used to support cameras for clearer and shake-free shots.
- xv. **Tripods:** A tripod is a stable support with adjustable legs that holds a camera in such a way that a user is able to frame an image properly without shaking. It is a good tool for photography or filmmaking.
- xvi. **Dollies:** Dollies are simply wheeled transportation items that can be used to move heavy and sensitive equipment from one location to the next.

- xvii. Headphones and slates: Headphones are small speakers that can be worn in or around the ears. They are used for listening to sounds from computer, music player, or other such electronic device by plugging directly into the device.
- xviii. Drawing tablets: Drawing tablets otherwise known as graphic tablets are computer input device that allows a user to hand-draw images, animations, and graphics with special pen-like stylus. The tablets are also used to capture data like handwritten signatures.

Software Requirement

Software, in its most general sense, is a set of programmes that instruct a computer to do specific tasks. Every DML needs software programmes to support and facilitate its services and materials. Most software packages are commercial brands which requires subscription fee. There is also a plethora of powerful and dependable software available that are free. However, the following types of software could be essential for DMLs, especially in academic libraries.

Video Editing Software: This type of software allows library users to manipulate and arrange video shots in order to create a new video. It is typically used for performing post production design and editing of raw footage in digital file format. The software offers a range of tools for removing unwanted clips as well as creating the best effects in terms of graphics, style, pace, music, colour, and other enhancements. The DML needs to purchase this software especially for students who are interested in developing skills in videography, filmmaking, digital marketing, etc. According to Muchmore (2020), the best video editing software include Adobe Premiere Pro CC, Adobe Premiere Elements, CyberLink PowerDirector, Wondershare Filmora, Corel VideoStudio Ultimate, Pinnacle Studio Ultimate, etc.

Photo Editing Software: This software offers tools that enable users to alter or manipulate images, photographs, and illustrations whether they are in digital or traditional print format. This software is very useful for library users whose interest is in photography, digital marketing, printing, etc. To Bateman (2019), the best photo editing software includes Adobe Lightroom, Skylum Luminar, Adobe Photoshop, Corel Paintshop Pro, Capture One, Gimp, among others. With photo editing software, library users also create images and restore old or damaged photographs.

Animation Software: Animation is a method in which pictures are manipulated to appear as moving images. Therefore, animation software allows users to create motion images on a frame to frame basis. Each frame which is equivalent of a single drawing can be created within the software and also be brought in from external sources. However, the frames are strung together and everything can be viewed in a moving format like movie. Animation software is most appropriate for library users with keen interest in graphic designing, filmmaking, among others. Unlike other types of software, a number of animation software is free. According to Ramella (2019), the best free animation software include KeyShot, Blender, OpenToonz, Animaker, K-3D, etc.

CAD/CAM Software: Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) software is used for design and machining or manufacturing of prototypes, finished products, and production runs. The integrated software has the features that enable library users to design 2-D or 3-D objects and transfer the information from the designing stage through programming to the production stage. CAD software is used specifically to create, modify, analyse, or optimize designs. On the other hand, CAM software is used to control all operations involved in the manufacturing of the designed objects. With CAD/CAM software, students could learn the skill of graphics designing, product designing, animation, etc. Examples of this software are Tinkercard, Solidworks, AutoCAD, Moment of Inspiration, among others.

Computer Programming Software: Computer programming is a way of giving computers instructions about what they should do next. Thus, computer programming software is a set of instructions or data that guides people on computer programming. It allows library users to learn the techniques of using machine language to write useful, maintainable, and extensible source code and instructions which can be interpreted by computing system to perform specific tasks. This software is suitable for students who want to acquire skills in computer programming, software designing, etc.

Collaboration Software: Collaboration software, also known as collaborative software or groupware is very essential in DMLs. It allows the management, sharing, and processing of file, documents, and other types of data among several users and systems anytime and anywhere. With collaboration software, multiple users can engage in a particular task (e.g. editing of a single document) simultaneously irrespective of their locations. They have equal opportunity to access, view, make changes, and whatever modifications made on the document are synced across all users.

Collaboration software allows for exchange of communication and real-time collaboration through virtual meeting, video-conferencing, IM conferencing, online forums, group chats, community boards, etc (Gilbert, 2020). Apart from communication, the software helps students in file sharing, content creation, powerful search, task management, and calendar scheduling. Examples of collaboration software are Slack, Monday, Asana, Wrike, Clarizen, Beenote, Cliqtalk, ProofHub, etc.

Learning Management System (LMS): This is a software application that helps the digital librarian to create and deliver content, monitor and assess users' participation and performance (Rouse, 2019). It also provides students with the ability to use interactive features such as threaded discussions, video conferencing, webinar, and other discussion forums. LMS could help digital librarians to efficiently manage user statistics, content, communications, and notifications. A library can decide on the deployment options which are open source, commercial LMS and industry-specific LMS (Powell, 2019). The open source learning management system is free and online based. Libraries can modify the source code and content to suit their needs but the major drawback is that the digital librarian needs some programming experience to use the system effectively. The commercial learning management system is divided into two categories - cloud based or Software as a Service (SaaS) and installed or self-hosted LMS. However, the deployment options involve pricing models which could be either licensing or subscription (Pappas, 2019).

Peopleware Requirement

Peopleware, according to Lexico (2020), is people or personnel regarded as a business resource just as hardware and software. From the above definition, people who manage DMLs could be regarded as peopleware. They are the human resources that interact with both hardware and software to bring about the desired results within a work environment. DMLs are managed by people who are library professionals otherwise known as Digital Media Lab Librarians (DMLL) or simply Digital Librarian (DL). The number of the librarians to manage a lab is determined by its size, number of library users, and the services offered in the lab. The digital media lab manager is expected to be knowledgeable in librarianship with at least a Master Degree in Library and Information Science. In addition, a good knowledge in some aspects of digital media is a requirement that must not be overlooked. The librarian needs to apply the knowledge gained from both fields to assist users with their projects and train them or other staff members on how to use the facilities in the lab.

Pink in Ezema, Ugwuanyi & Ugwu (2014) posits that the skills or expertise to operate effectively in such digital environment should not be limited to librarianship and technological skills but also generic and managerial skills. This is supported by CARL (2010) & NonthacumJane (2011) when they argue that digital media librarians need to have a dependable knowledge on the how to manage the lab contents for optimal patronage. To add to the aforementioned skills, digital media lab librarians should have communication skills and human relations skills to be able to function effectively.

Digital Media Lab Services

The central idea of establishing DML in academic libraries is to promote creativity among library users. To fulfill this aim, there are sets of activities otherwise known as services performed in the unit. These include:

- i. Assistance with course projects and assignments: Studying in tertiary institutions is very demanding. Students engage in different types of academic tasks which could be simple or complex. They are expected to write assignments, term papers, seminars, and research projects on different topics. Some of these academic tasks involve more than reading print information resources and surfing Internet for online information. In such cases, students are expected to seek in-depth knowledge on the topic from experts, and fellow researchers via web call and conferences, Webinars, interviews, etc. The digital media lab librarian will provide needed assistance to students in order to get linked to professional experts.
- ii. Provision of personalized instruction to library users: The digital media lab offers "one-on-one" in-depth instruction to library users on specific topics or projects. This is based on the idea that most library users do not know what they need to do or how to do it. Therefore, the expert staff needs to put them through a lot of things: how to use the available tools; what to use them for; how to get the best results, among others. Also, library users are allowed access to manuals and instructional materials specific to the equipment, hardware, and software available in the lab.
- iii. Setting multimodal assignments: The digital librarian can take advantage of the availability of Learning Management System (LMS) software in the lab and challenge the students with multimodal assignments. Such assignment could be asking the users to create a video or audio project and upload to the LMS for assessment.

- iv. Provisions of group training sessions: Most of the equipment in the digital media lab are expensive, sophisticated and sometimes difficult to use. Therefore, using them demands a technical-know-how. Apart from providing individualized instruction to users as need arises, the librarian in-charge of the lab has to organize group training sessions to educate the library users on how to use the tools, software, and equipment, etc
- v. Collaboration with library users to complete a complex project: Some academic projects are surprisingly sophisticated or complex requiring many different skills and tools. Such includes production of video and audio podcasts, website design and management, editing of audio and video clips, marketing of goods and services, creating of blogs, conversion of resources from one medium to another, etc. The digital media lab librarian collaborates with library users to provide them with the information they need to be able to complete any complex project.
- vi. Provision of special loan programme: Lending is one of the outstanding factors that distinguish a library from other information systems. There are some equipment in the digital media lab that can be given on loan to interested library users to enable them complete course projects
- vii. Provision of access to tools and equipment: Apart from giving out some tools and equipment on loan. The digital media lab librarian ensures that available tools and equipment are properly displayed and maintained to enable eligible users have seamless access to them and in good condition.
- viii. Monitoring of users' progress: The librarian-in-charge can monitor the users' progress manually if there is no LMS software. This is done by creating a detailed record for every user as regards all the transactions with the user at every visit. The recording could be done in a file or note book. Occasionally, users may be interviewed or demanded to answer simple questions in form of check list.
- ix. Taking statistics on day-to-day operations of the digital media lab: Statistics is taken on daily basis to determine the level of patronage as well as the interests of the users. In the digital media lab where there is no LMS software, statistics is done manually.

Rationale for Establishing a Digital Media Lab in Academic Libraries

The rationale for establishing DML in academic libraries could be demonstrated in the Creative Spaces Impact Framework published by Light et al (2015). The framework includes the following criteria:

Resources Accessibility: The DML enables libraries to provide, through a wide range of methods, access resources that might facilitate different forms of creativity among users. Such resources include digitized surrogates of physical resources, e-books, e-journals, online databases, web sites, image collection, multimedia products, e-clipping, etc.

Idea Building: With DML, libraries offer users the opportunity to generate knowledge and exchange ideas on different creative styles, modes, and mediums outside formal education. By so doing, library users could build up ideas that can culminate into positive attitude, skills, and knowledge for establishing business enterprise for income generation and job creation. The ideas acquired could further lead to self development.

Civic Engagement: Civic engagement simply connotes interest, knowledge and involvement in civic matters. DML provides safe and open access to knowledge and expression, allowing citizens (users) to participate in some kind of civic engagement; to redirect negative behaviours and rehabilitate potential offenders; to engage in civic discussions either formally (e.g. through talks and presentations) or informally (e.g. through meetings and conversations) based on their new experiences.

Community Development: DML is a place where people meet (both known and unknown) to build connections within the community and across different specializations and age groups. Such connections could facilitate creative practices capable of meeting specific needs of local community.

Cultural Participation: Cultural participation includes both formal and informal activities within the community including quality of life, traditions, and beliefs. DML gives users the opportunity to learn skills with cultural value. For instance, a user that learns music or film production may decide to celebrate his achievement by performing during the cultural-based events like festivals, carnivals, etc or via a range of other means like YouTube.

Health and Wellbeing: Most activities in DML are different from classroom activities in the sense that the former has no regimented curricula activities therefore making it less cumbersome. DML activities could be taken as recreational or extension activities that provide desired fun and enjoyment among users. They contribute positively to how well users feel mentally and physically. It is believed that when students get involved in activities that are outside the context of work or study, they are more relaxed to boost their health and wellbeing. Engaging in creative practices also allows users to access, use, and share health information and resources with specific benefits around their emotional and physical health.

Educational Attainment: Libraries are recognized since ages as conduits through which educational values are transmitted. With DML, they could provide means of informal personalized learning to encourage creative practices with educational potential; provide opportunities for self-education; support users to be able to use digital technologies and expose users to different types of jobs and skills.

Economic Productivity: With creative activities in DML, libraries could contribute to economic productivity either directly or indirectly. This is made possible when users discover business innovations through discussions and practices. It is also possible that users network or develop partnership for the purpose of business or entrepreneurial development and investment. Thus, DML enables access to mentoring for business and occupational purposes as well as funding of business ideas.

Ways of Generating Funds for Establishing Digital Media Lab in Nigeria

All libraries involved in innovations such as the establishment of digital library lab are likely to be confronted with problems relating to funding. It is even more peculiar to libraries within the economy stricken environment like Nigeria. Library managers are expected to think out of the box to raise funds for the establishment of digital media lab. Library managers could take advantage of the following suggested platforms:

Education Intervention Platforms in Nigeria: The most popular education intervention platforms for tertiary institutions in Nigeria include Tertiary Education Trust Fund (TETFund), Needs Assessment, Centres of Excellence, Energising Education Programme (EEP) among others. These government funded platforms provide essential physical infrastructure for teaching and learning; instructional materials such as equipment, books, and other relevant publications; training and development for academic and non-academic staff through study fellowship, research grants, sponsorship to conferences and workshops; reliable and sustainable power supply, etc. The various investments and intervention programmes are provided with the aim of improving education standard in Nigeria. Library managers could send a well developed proposal on the establishment of digital media lab to the TETFund and others for funding. However, it advisable the librarians seek for relevant and technical knowledge on the digital media lab before developing the proposal. This will allow for proper inclusion of all the infrastructures, facilities, and technical operations needed in the proposal to avoid under estimation.

Local/Foreign Grants: Grants are non-refundable funds or products that a government department, foundation, or cooperation gives to individuals, organizations, and institutions for a particular purpose. Basically, there are two types of grants – the operating support grant and project support grants (Minnesota Council on Foundations (MCF), n.d.). The operating support grant is meant to support the general expenses of day to day operations. Whereas the project support grants is given to support a specific, connected set of activities, with a beginning and an end, explicit objectives and a predetermined cost. As noted by Goodman (2014), many libraries in territories of United States have accessed grants at different times to fund library projects such as DMLs.

In Nigeria, there are few foreign grant funders like MacArthur Foundation, Carnegies Corporation and the Ford, Rockefeller, Mellon, Kresge, Hewlett Foundations, World Bank, etc. According to Spiers (2010), these funders in partnership have funded the implementation of Integrated Library Systems in six (6) university libraries in Nigeria. They are Ahmadu Bello University Library, American University of Nigeria Library, Obafemi Awolowo University Library, University of Ibadan Library, University of Jos Library and University of Port Harcourt Library. Library managers need to search Internet and interact with library managers in other regions and countries to identify available local and foreign funders of grants for library development in areas of infrastructure, equipment, software, staff training, etc. This avenue could be surprisingly fruitful leading to the establishment of DMLs in academic libraries in Nigeria.

Crowdfunding: This is an online method of funding a lump sum investment through a large pool of smaller contributions from individuals, companies, businesses, etc using crowdfunding platforms. As noted by Hasan, Khan, & Iqbal (2017), crowdfunding is a recent social networking tool used for generating resources by mobilizing large groups of people for meeting the desired objectives. The authors note that it can also be used for creating awareness about resources, services, and products. This practice has been used to raise finance, especially in the developed countries, for a variety of purposes ranging from disaster relief, entrepreneurial ventures, energy provision, and library development. Bushrong & Cox (2018) reiterate that crowdfunding is becoming an effective development strategy for funding projects in academic libraries. According to Goodman (2014), the Northlake Library used crowdfunding method to raise funds to buy a 9 foot tall Hulk statue and new equipment for its DML. The Maulana Azad Library in Aligarth Muslim University in India applied crowdfunding advocacy to build its collection. Although, there seems to be no record of using crowdfunding method for library projects in Nigeria but it could be a rewarding avenue to explore. **Library**

managers can search the Internet to identify crowdfunding sites and post the DML project along with budgetary information. Individuals, companies, associations, etc can be requested to donate money which could go a long way to supporting the project.

Elites Support: Elites are individuals with the most wealth and status within a particular group. This group of people comprises politicians, high-ranked civil servants, successful businessman/woman, entrepreneurs, members of the academia, etc with a disproportionate amount of privilege, political power, influence, wealth or skill in a society. They could be of great support to the establishment of DML within their communities using their finances to provide the requirements needed. Also, political power could be used to attract government funding of the project. Library managers should contact this group of people within local government area, state, or country where the library is situated for funding of DML.

Conclusion and Recommendations

The offering of tertiary education in Nigeria is greatly challenged. This is evidenced in the low quality of graduates produced and the alarming level of unemployment. The situation could be traced to numerous factors within the tertiary institutions – universities, polytechnics, colleges of education, and other post secondary school institutions. The academic libraries attached to such institutions which supposed to be information hub and transforming agent meant to provide ready access information in support of teaching, learning, and research activities are faced with a lot of challenges. With the rapid advances in ICTs and the need to produce graduates with creative skills, academic libraries are expected to reorient themselves towards activity-oriented spaces in support of multimodal learning. This paper therefore provided an overview on multimodal learning, academic libraries, and DML as library creative space. It further discussed the requirements for establishing a DML as well as services provided. The rationale for establishing DML in academic libraries was highlighted. Ways of generating funds for establishing DML in Nigeria were also examined. The paper equally achieved its primary objective of emphasizing the DML as a library creative space for multimodal learning among students in tertiary institutions in Nigeria which can be further consolidated through the following recommendations:

- i. Government should increase budgetary allocation for tertiary institutions which will in turn lead to establishing DML in academic libraries.
- ii. Corporate companies and institutions in Nigeria should intensify their commitment in community development vis a vis academic libraries.
- iii. The wealthy and politicians should support in the transforming of libraries with their finances, political connections, and knowledge.
- iv. Quality supporting facilities should be provided and maintained for utmost productivity.
- v. Library managers should take a proactive step in establishing DML and library development as a whole.
- vi. Librarians and library users should be trained and retrained to acquire competence needed for operation of DML through regular sponsorship to international conferences, workshops, and in-house training.

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