

Prof. AAA. Atayero: Abstracts 2014

1. **Atayero A.**, Oshin O., Oshin B., Alatishe A. (2014), “*Distributed Denial of Service (DDoS) Network Attacks: Impact On The Virtual Learning Environment*”, proceedings 7th International Conference of Education, Research and Innovation, ICERI2014, pp.2235-2240, ISBN: 978-84-617-2482-0, Nov. 17th-19th, 2014 Seville, Spain.

Abstract:

Attacks on network services in the form of Denial of Service (DoS), Distributed DoS (DDoS), and Low-rate DoS (LDoS) are becoming more rampant in occurrence and grievous in consequence. The Virtual Learning Environment (VLE) is susceptible to this class of attacks, and as such a need for developing robust schemes, algorithms and techniques aimed at pre-empting such attacks and subsequently reducing the vulnerability of networks is of paramount importance. A variety of such techniques are currently available, and more are at the developmental stage. We present in this paper an overview of the most popular schemes currently reported in the literature in the case of DDoS for proactive detection and evasion of these attacks, while making informed recommendations of applicability of each to specific network scenarios. Mitigating techniques for dealing with each identified attack are also proffered, with a view to ensuring undisrupted learning experience in the VLE domain.

2. **Atayero A.**, Alatishe A., Oshin O., (2014), “*30 Billion Devices Automatically Interconnected By 2020: Impact On The Virtual Learning Environment*”, proceedings 7th International Conference of Education, Research and Innovation, ICERI2014, pp.2326-2331, ISBN: 978-84-617-2482-0, Nov. 17th-19th, 2014 Seville, Spain.

Abstract:

A fact established is that in the next six years, over 50 billion devices will be interconnected over the internet automatically, an average of six devices per person. The concept popularly known as the Internet of Things (IoT, a.k.a Internet of Everything 'IoE', Cloud of Things 'CoE') is fast gaining grounds and is bent to change the way we interact with the Internet. The IoT is estimated as a \$1,423.09 billion dollar market by the year 2020. The fraction of this market to be accessed by the Education sector is yet to be determined. If the current figures are extrapolated however, this fraction promises to be quite substantial. Adoption of the IPv6 scheme makes this possible to a large extent, since it has 340,282,366,920,938,463,374,607,431,768,211,456 IP addresses. This can conveniently allow for assigning about 100 dedicated IP addresses to each atom on planet Earth. This fact will naturally affect all paradigms of teaching and learning that leverage on IP networks for content delivery e.g. VLEs, eLearning and mLearning. In this paper, we consider the current approaches adopted in VLEs and how the emerging IoT (IoE) paradigms will impact them in the not too distant future. The study will help prepare the VLE stakeholders to be better equipped for the impending changes that cannot but occur.

3. **Atayero A.A.** (2014), “*The Internet of Things Engineering Curriculum Co-Development: A Case for African Diaspora Fellowship for Covenant University*”, **Accepted**, 24th IBIMA Conference, Nov. 6th-7th 2014, Milan, Italy.

Abstract:

Application for funding of a fellowship for the curriculum co-development project at Bachelor of Engineering (B.Eng.) level at Covenant University has been submitted to the African Diaspora Fellowship (ADF) program of Carnegie Foundation. The Fellowship is expected as its primary objective help develop the curriculum for Internet of Things (IoT) Engineering at the Bachelor's level at Covenant University. As its secondary objective, the fellowship will help grow research capacity in the Department of Electrical and Information Engineering of the University. The Carnegie ADF program seeks to help grow research capacity of identified developing countries by engaging the citizens of such countries currently serving as tenured faculty in diaspora at North American Universities.

4. Takpor T., **Atayero A.**, (2014), “*Advances In Current Techniques For Monitoring The Progress Of Child Delivery*”, proceedings, World Congress on Engineering & Computer Science 2014, Vol.II, pp.781-784, Available: <http://j.mp/wcecs2014>, ISBN: 978-988-19253-7-4, 22nd-24th Oct. San Fransisco, USA.

Abstract:

Monitoring the progress of labour (child delivery) is essential for key clinical decisions to be taken to help manage the wellbeing of both the mother and child during delivery. The key parameters used by doctors and mid-wives to monitor labour progression are cervical dilation, uterine contractions, Fetal Heart Rate (FHR), Fetal Head Station (FHS) and Progression Angle (PA). In this paper, techniques used in monitoring the progress of child delivery are reviewed. In this review, we show how current techniques are used to measure key parameters with more accuracy and less discomfort to the expectant mother as compared to old techniques. Taxonomy of key parameters used for monitoring childbirth progress (cervical dilation and uterine contractions) is provided vis-à-vis old and novel techniques.

5. Omonhinmin C., Agbaike E., **Atayero A.**, (2014), "Implementing Open Access In A Private Nigerian University: A Case Study Of Covenant University", In Press, proceedings of ICWOAL 2014, Nov. 25th–27th, Palm Dubai, UAE.

Abstract:

Most Nigerian universities have not evolved an Open Access culture (or policy) for access to and publication of research, technical and pedagogy information. The National University Commissions (NUC) - the regulatory body for university education in Nigeria is proposing such. Nevertheless, in its drive to attain world-class status, Covenant University has developed and adopted an Open Access Policy (OAP) on the use and sharing of research findings, as well as dissemination of technical and pedagogical information. We at Covenant have commenced the entrenchment of an OA culture in the management of interactions on knowledge sharing and use. Since its introduction in November 2011, OA has been on a steady rise in awareness and application in various strata of the university's interactions both internally and in relation to the external context. Covenant through its OA office has engaged in an awareness exercise to sensitize its researchers, faculty and other workers alike on OA issues as well as develop and adopt an OAP. At present, the university has a functional repository system (<http://eprints.covenantuniversity.edu.ng/>) to which it encourages both faculty and staff to self-archive documents. The University runs a Green Open Access Journal (OAJ) platform comprising of seven journals (<http://journals.covenantuniversity.edu.ng>) covering the sciences to human development. Similarly, Covenant University has adopted a publication and incentive system for its researchers and faculty that drives the publication of research works from the university in OA journals and conferences. The University only recently launched a lifelong teaching programme and is about concluding the development of an Open and Distance Learning (ODL) policy to drive distance learning.

6. Omonhinmin C., Olopade D., Afolabi A., **Atayero A.**, (2014), "Open Education And Digital Scholarly Communication In Covenant University", In Press, proceedings of ICWOAL 2014, Nov. 25th–27th, Palm Dubai, UAE.

Abstract:

African educational systems in general and Nigerian in particular rely extensively on the traditional face-to-face pedagogical approach to information dissemination with its attendant drawbacks. These include (but are not limited to) limited reach; need for physical contact; and a high cost of acquisition of materials. The advent of Internet and telecommunication has offered a better and faster means of reach, yet burdened by the inertia of transition from the traditional pedagogy. Open Access and Open resource platforms offer a greater amount of access, devoid of the restrictions of the traditional pedagogical approach. However, the engagement and sustenance of OA systems require heavy initial non-recurring engineering (NRE) and capital expenditure (CAPEX) in the related ICTs and network systems. In the past three years, since adopting an Open Access system, Covenant University has made several changes to its policies on research results dissemination and pedagogy, as well as the acquisition of relevant ICT facilities and procurement of requisite bandwidth to support these changes. Covenant University has invested massively in the upgrade of its OA development infrastructure amongst several other such as; network systems and upgrade of the University network backbone to sustain a high-grade 24/7, ubiquitous internet access, adopt web-based information dissemination systems and E-learning platforms such as Moodle™; establish several teleconferencing/video conferencing centres and smart classrooms as well as deploy anti-plagiarism tools like Turnitin™.

7. Omonhinmin C., Olopade D., Afolabi A., **Atayero A.**, (2014), "Policy For Development And Use Of Open Educational Resources In Covenant University", In Press, proceedings of ICWOAL 2014, Nov. 25th-27th, Palm Dubai, UAE.

Abstract:

Establishing an Open access policy (OAP) in an academic institution is unlike other policies the institution might have developed. An OAP in an academic institution would require the active participation of all stakeholders; researcher/faculty, library, management (Administration) and even students. OAP development in Covenant University spanned a total of 13 months; covering, draft policy development, legal review of policy, review of OAP by the university community, revision of policy document following institutional review, adoption of OAP by university community, ratification of OAP by University Senate. The OAP development period also saw a deliberate effort by the university through its Open Access (OA) office to sensitize its community on OA, as well as educate strategic units/departments in the university on OA issues to bring such key units/department abreast on OA and ensure proper execution on the OAP. The University now operates an OAP for the development and use of open educational resources, alongside Institutional Repository (IR) guidelines. The OAP cover publications and access to research information, pedagogy materials and tools as well as publications and access to non-research or pedagogy materials in the university and by the university workers, researchers and faculty.

8. **Atayero A.**, Adu O., Alatishe A. (2014) "Self Organizing Networks for 3GPP LTE", Murgante B. et al. (Eds.), ICCSA 2014, Part V, LNCS 8583, pp.242-254, Available: <http://j.mp/iccsa-lte>, Springer International Publishing Switzerland, 2014.

Abstract:

Network elements and their parameters in mobile wireless networks, are largely manually configured. This has been somewhat sufficient; but with the growing data traffic compensated by new and emerging technologies with corresponding larger networks, there is an obvious need to redefine the network operations to achieve optimum performance. A manual configuration approach requires specialized expertise for device deployments, configurations, re-setting network parameters and general management of the network. This process is cost-intensive, time-consuming and prone to errors. Adoption of this approach in the evolved wireless technologies results in poor network performance. Therefore, the introduction of advanced mobile wireless networks has highlighted the need and essence for automation within the network. Self Organizing Networks (SON) developed by 3GPP, using automation, ensures operational efficiency and next generation simplified network management for a mobile wireless network. The introduction of SON in LTE therefore brings about optimum network performance and higher end user Quality of Experience. This paper highlights the SON techniques relevant within an LTE network, a brief description of SON architecture alternatives and then some information on the evolution of SON activities as LTE evolves towards LTE-A.

9. **Atayero A.**, Keme C., Ogunjobi T. (2014) 'FOSS Implementation of an Educational Virtual Office Suite', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN: 978-84-617-0557-3, pp.5018-5027, Available: <http://j.mp/edulearn4>, 7th-9th July 2014, Barcelona, Spain.

Abstract:

Academic institutions and research organizations are fast becoming very corporate in the design and setup of the workspace. There is an ever-present need for readily available information and sophisticated means of communication. As a result, information and communication technologies have being deployed for application in various fields of endeavour some of which include virtual offices. A virtual office is essentially a simulated corporate environment that gives subscribers access to collaborative and work related features, which act as a means of improving the way work is carried out in an organisation. Several organisations opt for the software services rendered by virtual offices because of their cost effectiveness and tendency to boost the collective productivity of these organisations. For reasons as such, the existence of virtual office software suites have become rampant, but the availability of its services are at a cost. This paper reports the design and implementation of an Educational Virtual Office using Free and Open-Source

Software (FOSS) to relieve corporate organisations of the costly burdens of existing proprietary virtual office software. Tools used in achieving this feat are Drupal Web Content Management System (WCMS), readily available FOSS and a couple of freeware. The developed educational virtual office suite was deployed in the Department of Electrical and Information Engineering of Covenant University. A usability (user satisfaction) test was conducted. Analysis of the test results showed that questions related to user satisfaction scored more "Strongly Agree" and "Agree" points than "Disagree" and "Strongly Disagree". This is a pointer to the fact that features such as the GUI of the web application and its navigation proved to have little or no challenges as at when the tests were carried out. Deployment of the developed educational virtual office suite has the significant advantage of low cost in comparison with proprietary virtual office suites with similar functionality. The fact that the suite was developed using FOSS gives it all the advantages that accrue from the employment of it from the system design bottom-Up. Such advantages as easy access to source code, which engenders easy upgrade of the component parts, come naturally.

10. **Atayero A., Alatishe A., Owoade O.** (2014) 'Design And Implementation Of A Virtual Computing Environment For Schools And Offices', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN: 978-84-617-0557-3, pp.1362-1369, Available: <http://j.mp/edulearn6>, 7th-9th July 2014, Barcelona, Spain.

Abstract:

This work aims at solving issues that range from reducing information technology costs to making information technology as mobile as possible. Users want to be able to access their documents, use their important applications, and even their entire desktops on the go that is from anywhere, anytime with any device. These are just a part of the numerous issues this project aims at solving. Another issue is the problem of students and faculty having to source, purchase and install applications they need for study, work and leisure on their personal computers. These applications are very difficult and expensive to purchase. This hinders academic research and students' experience with applications that involve their courses' of study. Yet another issue this project sets out to solve is for organizations. In small and medium enterprises, the high cost of IT is a huge problem. The project helps these enterprises to convert capital expenditure to operational expenditure. The large organizations require increased security, management, maintenance, and data redundancy. All of which, the solutions from this thesis takes care of. In a single solution, a virtual computing environment is created via application and desktop virtualization. Applications and desktops are hosted in datacenters on high resource servers and then delivered to users over a network. For demonstration in this project however, the hosting platform and delivery is scaled down to just one hardware server running logical servers hosting a couple of applications deployed to a select number of users. Coupled with the positive results from a survey that aimed to find out the awareness and willingness of users towards the idea of the project, this project has been able to achieve the delivery of work and academic software packages to concurrent users on the following operating system platforms: Windows 7, Mac OS X Mavericks, Android 4.2.2 and iOS 7 while also solving the issues of security, management, maintenance and data redundancy for large organizations, high initial costs for SMEs, mobility for all types of users, and licensing, sourcing and installation in academic environments.

11. **Atayero A., Alao A., Odukoya J.** (2014) 'Overcoming Barriers To New Learning Technologies In A University Setting: The Case Of Covenant University', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN: 978-84-617-0557-3, pp.5868-5875, Available: <http://j.mp/edulearn3>, 7th-9th July 2014, Barcelona, Spain.

Abstract:

Covenant University aspires to be one of the ten leading university in the world by 2022. To each achieve this noble goal, the university has set in motion various strategies, some of which are to improve the learning process of students, empowerment of faculty and staff in gaining skills in teaching methodologies and the use of e-learning/new technologies. The university has currently invested a lot of funds in the acquisition of relevant and contemporary e-learning technologies, such as teleconferencing centres (five in all), e-learning lecture and delivery and assessment platforms (e.g. Moodle, Turnitin™, et cetera), Smart interactive digital boards, fully digitized podiums etc. In a bid to maximize these investments, the need for identifying and addressing teachers' phobia and demonstrated barriers to the new technologies and aids becomes imperative. The barriers to the use of appropriate teaching methodologies and the use of new

technologies relevant to teaching were identified. The paper focused mainly on barriers related to lack of awareness of effective teaching methodologies, non-availability of appropriate e-learning/new technologies and psychological barriers to effective use of new technologies acquired by the institution. The paper also highlights efforts made by the institution in acquiring new technologies applied to education, sensitisation of faculty and staff to the effects of teaching pedagogies in the educative process and the personality factors in the utilisation of new technologies.

12. Nkordeh N.S., **Atayero** A.A., Idachaba F.E., Oni O.O., (2014), "LTE Network Planning using the Hata-Okumura and the COST-231 Hata Pathloss Models", Proceedings of the World Congress on Engineering 2014 Vol I, WCE 2014, Available: http://www.iaeng.org/publication/WCE2014/WCE2014_pp705-709.pdf, pp.705-709, ISBN: 978-988-19252-7-5; ISSN: 2078-0958 (Print); ISSN: 2078-0966, July 2-4, 2014, London, U.K.,

Abstract:

This paper takes a look at two of the most common radio propagation models used in determining the radio coverage, with regards to Long Time Evolution, LTE. These models are the Okumura-Hata and the COST-231 Hata models. A comparative analysis through matlab simulation for both models at different frequencies and base station heights are looked into.

13. Oni O., **Atayero** A., Idachaba F., Alatishe A. (2014), "LTE Networks: Benchmarks, Prospects and Deployment Limitation", Proceedings of the World Congress on Engineering 2014 Vol I, WCE 2014, pp.422-427, ISBN: 978-988-19252-7-5; ISSN: 2078-0958 (Print); ISSN: 2078-0966, July 2-4, 2014, London, U.K.,

Abstract:

High-speed packet access (HSPA) technology is a great achievement in mobile broadband but there is still a need to improve service delivery in order to meet the ever-increasing demand for mobile broadband services. Long Term Evolution (LTE) is a 4G Network launched by the 3GPP (Third Generation Partnership project) that provides higher data rate for subscribers at the same time reducing the cost per bit for service providers and much higher overall capacity to deliver more throughputs and reduced latency. This paper provides a technological overview of the benchmarks, prospects and deployment limitation of LTE Network.

14. Alatishe A., Adu O., **Atayero** A, Idachaba F, (2014), "A Performance Review of the Different Path Loss Models for LTE Network Planning", Proceedings of the World Congress on Engineering 2014 Vol. I, WCE 2014, pp.715-718, ISBN: 978-988-19252-7-5; ISSN: 2078-0958 (Print); ISSN: 2078-0966, Available <http://j.mp/wce2014>, July 2-4, 2014, London, U.K.,

Abstract:

Long Term Evolution also called release 8, the 3GPP successor of UMTS, has brought about higher data rates, spectrum flexibility as a result of its TDD and FDD. The concept of path loss and network planning are very important to deployment of telecommunications. Path loss models are used in the initial feasibility studies in telecommunications deployment. In this paper, a comparative analysis of the five path loss models used in LTE networks was simulated using a MATLAB-based simulator; LTE MACLAB developed by iswireless Poland.

15. Worlu R., **Atayero** A., et al. (2014) 'Emerging Trends In Lifelong Learning: The Covenant University Perspective', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN: 978-84-617-0557-3, pp.2837-2846, Available: <http://j.mp/edulearn5>, 7th-9th July 2014, Barcelona, Spain.

Abstract:

In the last few decades, lifelong concept of education has resonated with other concepts such as the knowledge society, new knowledge economy, open courseware, open source, wikieconomics, and technology-enabled learning. Embedded in all of these concepts and emerging from them is the notion that access to knowledge and learning is a universal right. In fact, knowledge is increasingly regarded as the solution to individual and collective, social and economic problems. In other words, lifelong learning is an essential part in the community development process, where community members acquire their life skills,

soft skills and vocational skills throughout their lifespan to take part in their social, cultural, vocational and professional life. It is indeed an intervention tool for socio-economic empowerment in a globalizing world to stay ahead in a competitive world with knowledge superiority. In this connection, the purpose of this paper is to share the lifelong learning management experience of Covenant University in terms of its programmes, processes and strategies adopted to cope with some internal and external constraints within the context of key global trends in lifelong learning. This may be of value to lifelong learning community because Covenant University is already becoming a global brand in higher education. The idea is to provide some lessons for global lifelong learning managers as well as expose them to issues and challenges confronting lifelong learning in our own part of the globe. This exposure will further show how lifelong learning has been planned, not only to bridge the knowledge gaps between university curricula and corporate practices, but also between information rich and information poor citizens, particularly for the citizens who cannot afford formal education due to socio-economic backwardness.

16. Wogu I., **Atayero A.**, et al. (2014) 'Using Moodle 2.5 for e-Evaluation and Assignments for Students Learning at Covenant University', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN: 978-84-617-0557-3, pp.4068-4071, Available: <http://j.mp/edulearn1>, 7th-9th July 2014, Barcelona, Spain.

Abstract:

Recent studies indicate that researchers and teachers are divided on the benefits and problems that are associated with the introduction of technological and pedagogical methods for education in schools and tertiary institution of learning. While some believe that the introduction of these technologies to the field of education can increase students learning through easy access and sharing of information and data via most social networks or the e-learning platform, a whole lot more are of the opinions that these social networks such as Face book, Google, Twitter and Yahoo has little of educational or academic value to students. Another study associates the prevalence of ICT gadgets in schools with the current dilemma educators and students now face when it comes to grappling with any piece of knowledge targeted at adding the much desired values to the minds of all concerned. A pilot study conducted in 2013 at Covenant University, using the Moodle platform, was directed at identifying the impact of ICT on teaching, learning and testing outcomes. Selected students from nine different programmes in the University were earmarked for the study. The study lasted a period of four months after which test and examinations were conducted for the students. Results obtained indicate that a whole lot of students still have phobias for writing any kind of test or examination online. There is however little or no phobia when other types of learning activities were conducted on learning platforms on any device. However, students and researchers have to make concerted efforts to concentrate on a single subject matter at one point in time, since these learning platforms and ICT gadgets continuously increase the temptations of wanting to process more than one information or piece of knowledge at a given time. These distractions were noted to influence the degree of passes or failures, which were recorded at the end of the semester. Unsupervised online tests and examinations were noted to have encouraged cheating and exam misconducts. A general improvement on learning outcomes were noted as a result of the new platform introduced when compared with the old methods of teaching, learning and testing students in the University. The study recommends Moodle 2.5 as one of the platforms, which has efficient apps designed to aid students with assignments and tests of all kinds. Frequent exposures of students to online studies and assignments on the Moodle platform will help reduce the phobia experienced with students during tests or assignments.

17. Odukoya J., **Atayero A.**, Alao A., Afolabi A. (2014), 'The Concurrent and Predictive Validity of Covenant University Students' Evaluation of Lecturers' Teaching Competence', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN:978-84-617-0557-3, pp.6316-6323, Available: <http://j.mp/edulearn2>, 7th-9th July 2014, Barcelona, Spain.

Abstract:

The evaluation of a lecturer by a student is an essential step in determining the success of the learning process. This often requires the development and standardization of data gathering instruments. The development and standardization of a data-gathering instrument is hardly complete without the

establishment of its reliability and validity. Of more importance is the validity index. An instrument can be reliable without being valid, but hardly can the instrument be valid without being reliable. Validity, therefore, subsumes the concept of reliability. The practical implication of this submission is that validity is an imperative requirement in the standardization and hence utilization of all data gathering instruments. Using an un-validated instrument could be disastrous. It is against this background it was deemed necessary to ascertain the validity of the recently developed Covenant University Students' evaluation of Lecturers' teaching competence instrument tagged Lecturers' Teaching Competence Evaluation Form – Students' Version [LTCEF-SV]. To achieve this objective the 7083 students and 21 Heads of Departments of Covenant University participated in the study. After a close scrutiny of recent submission in the literature on the indicators of effective teaching at the secondary and tertiary levels, the LTCEF-SV was developed using the Participatory Research Approach [PAR]. Consequently, Students, Lecturers and Management were actively involved in the process of developing the LTCEF-SV. This step, together with expert's review of the instrument served to establish the content validity of the instrument. Nonetheless, it was deemed imperative that the Criterion-related validities [i.e. concurrent and predictive] be established. For this study, the Concurrent validity was established with correlation of scores from student's evaluation and Heads of departments' evaluation of the same set of lecturers around the same period while the Predictive validity was established with correlation of scores from students' evaluation of lecturers and students' performance score in the 2013/14 Alpha semester's examination. The results mostly showed weak and insignificant Concurrent and Predictive validities. The findings were discussed while relevant recommendations were made.

18. Alatishe A., Anuoluwapo O., **Atayero A.** (2014) 'Design And Implementation Of Learning-Aide Software For Children', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN: 978-84-617-0557-3, pp.6296-6302, Available: <http://j.mp/edulearn8>, 7th–9th July 2014, Barcelona, Spain.

Abstract:

This project is the design and implementation of learning-aided software in English language and the three basic languages we have in Nigeria (i.e. Yoruba, Igbo and Hausa Languages). This Project teaches and enlightens the pupils on an educational platform where they can learn in the languages listed above and have fun while learning as well. The introduction of Information Technology to education has been of great impact globally as its importance cannot be ignored. Educational Technology is the practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources. In the past decade, Computer Aided Learning (CAL) has been a term of increasing significance; it can also be referred to as Computer Based Instruction (CBI), Computer Aided Learning (CAL), or Computer Aided Instruction (CAI). Since computers were introduced into education, it has made impartation of knowledge an easy task for teachers. The use of technology in the educational sector has therefore made the process of learning and knowledge sharing an interactive and enjoyable activity.

19. Morakinyo F., Adu O., **Atayero A.** (2014) 'Design And Implementation Construction of a Solar-Powered Street Light System', Proceedings 6th International Conference on Education and New Learning Technologies (Edulearn14), ISBN: 978-84-617-0557-3, pp., Available: <http://j.mp/edulearn7>, 7th – 9th July 2014, Barcelona, Spain.

Abstract:

Illumination is one of the factors for determining the development level of any community. Due to the erratic nature of power in the Nigeria, an alternative, reliable and efficient source of power must be looked into. The alternative source must also be able to save power. This informed the idea behind this project. The solution herein proposed is solar powered streetlight with automatic switching. The system will include the solar panels, charge controllers/switching unit, inverter, battery bank and the luminaires. This system will function by turning the luminaires on at night and turning off the luminaires at dawn automatically while charging takes place when the luminaires are off. The combination of these units will result in well-lit roads using a reliable and efficient power source. The system being tested has been confirmed to be very reliable and efficient as a solar panel can be used for an average of 25 years.

20. A. Odukoya, A. **Atayero**, E. Olowookere (2014), “Development-oriented Testing Model: Case Study of The West African Examinations Council and Cambridge School Certificate Examinations”, Proceedings, 8th International Technology, Education and Development Conference (INTED2014), ISBN: 978-84-616-8412-0, ISSN: 2340-1079, pp. 5147-5155, Available @: <http://bit.ly/1iMRL43>, 10–12 Mar. 2014, Valencia, Spain.

Abstract:

What is not inspected should not be expected. This proven statement succinctly captures the essence and significance of examinations. All over the world, Students and Teachers literally dance to the beats of examinations, especially examinations linked with certification. It is therefore not uncommon to find Teachers and Students concentrating more on topics and activities being assessed and neglecting topics and practical works that are consistently not being assessed by examining bodies. Consequently, examination/certification bodies wield great powers that could be harnessed to catalyze positive development. It is against this background that the Development Oriented Testing [DOT] model was conceived. The questions, however, are: do the examination bodies realize the enormity of the power they have? If they do, to what extent are they pragmatically using this power to catalyze productivity and development in their domain of control? This paper hypothesized that in many African/developing nations, unlike in developed countries, the external examination/certification bodies barely assess true practical work and applied knowledge. The paper further postulates that this trend could be the bane of low productivity/development in these countries. The case study and ex post facto research designs were adopted in this study. To test these hypotheses, comparative analysis of past West African Examination Council [WAEC]-West African Secondary School Certificate Examination [WASSCE] and Cambridge International General Certificate of Secondary Examination [IGCSE] was conducted. The goal of the content analysis of past questions was to identify questions that tend to mobilize secondary school Teachers/Students to apply knowledge gained in the course of study to evolve useful products and services. The outcome of the content analysis revealed that there are remarkable differences in the number of higher educational objectives examined in Cambridge and WAEC O-level examinations. Cambridge examinations furnished more application questions than WAEC examinations. A quick survey of Teachers and Students on this issue further corroborated the postulations. We submit, based on the inference made from this finding, that this negative trend must be reversed [particularly at the secondary and tertiary levels] for African and related developing nations to experience pragmatic indigenous productivity/development. It was therefore recommended that the Development Oriented Testing [DOT] Model should be adopted to redress this situation.

21. A. Odukoya, A. **Atayero**, A. Williams, A. Afolabi, P. Akande (2014), “Overcoming Students’ Lethargy in Evaluating Lecturers’ Teaching Competence: Covenant University Experience”, Proceedings, 8th International Technology, Education and Development Conference (INTED2014), ISBN: 978-84-616-8412-0, ISSN: 2340-1079, pp. 4835-4844, Available: <http://bit.ly/1iMQQR1>, 10–12 Mar. 2014, Valencia, Spain.

Abstract:

What is not inspected should hardly be expected. Worldwide, the indispensable role of regular evaluation in experiencing continuous growth and development has been established. Considering the pivotal role of students in any education system, it is imperative they are involved in Lecturers’ evaluation exercise. Ironically, many students hardly take this exercise seriously. Consequently the core objective for this study was to find effective but empirical ways of helping students overcome the lethargy in evaluating Lecturers’ competence, such that a more reliable and valid feedback can be obtained that would be useful in improving Lecturers’ competence. Series of interviews were conducted to decipher the reason for this lethargy. A quick expert review of the previous Covenant University Lecturers’ evaluation form, for content validity was made. Guided by current findings on the rudiments of effective teaching and learning, the draft of a new evaluation form, tagged Lecturer’s Competence Evaluation Form – Student’s Version [LCEF-SV], was developed. Based on current findings on indicators of effective Lecturers, the LCEF-SV was partitioned into 11 sections, namely: Subject Mastery; Human Relations; Communicative Skill; Pedagogical Skill; Class Control/Students’ Management; Time Management/Absenteeism; Learning Materials; Testing

and Evaluation Skill; Record Keeping & Organizational Skill; Originality, Creativity and Innovation; and ICT and Technology Usage. At the end of the instrument, the respondents were requested to summarize their perception of the Lecturer's competence and comment on any other issue not addressed in the form. Each section is comprised of two to eight prompts/items. Adopting a participatory research approach, a special review team comprising of students from 100, 200, 300 and 400 levels, female and male lecturers, and representatives of university management edited the draft copy of the LCEF-SV for face validity. The outcome of this exercise was further subjected to critical review by a certified Psychometrician, thus establishing its content validity. The reviewed LCEF-SV was then programmed and posted on the school website for test-run with representatives from all departments in the university. The feedback from this test run further served to improve the quality of the LCEF-SV. Campus-wide sensitization forum was also held before the entire student body responded to the LCEF-SV. The final validation strategy applied was triangulation. This involved Managements' covert and overt observations of Lecturers in situ. This conglomeration of evaluation approaches furnished deeper insights into respective Lecturer's overall competence and served as more reliable information for feedback and remediation. Plans are also underway to give students appropriate feedback. The overall result showed that the primary objective for this project was achieved. From comparison of students' responses to the previous and current evaluation form, it was quite apparent that the lassie-faire attitude of Covenant University students towards evaluating Lecturers' competence has, to a large extent, been overcome.