Model Software for Evaluation of Lecture Material Compliance with National University Commission (NUC) Curriculum

[1]Nwosu John Nwachukwu and [2]Odachi Gabriel Nwabuonu

[1]Department of Computer Science Federal Polytechnic, Oko Anambra State, Nigeria.
[2]Department of Computer Science Nwafor Orizu College of Education Nsugbe, Anambra State, Nigeria. Email: odachygab@gmail.com, drnwachukwu@gmail.com

ABSTRACT

Today's educational environment is very dynamic and undergoes changes as a result of technological innovation and increased awareness. Ability to acquire the right quality education through an effective evaluation of lecture content is therefore very important. A succinct digest of curriculum evaluation and assessment as set by Nigerian University Commission (NUC) which is a regulatory body in charge of quality and continuous evaluation of content and curriculum to meet the ever evolving and dynamic operation of activities caused by globalization was undertaken. The framework uses graphical user interface that is secured and easy to use. This interface was designed using a web development tool, Adobe Macromedia Dreamweaver; PhP, Apache as the web server; and MySQL for the database. The design was made possible using structured system analysis and design methodology that broke the system into smaller understandable modules. The resultant system has the capability of achieving the following results: (i) a system that uploads and stores the curriculum for each course obtained from NUC (ii) a system that provides a platform for lecturers to submit their lecture materials for evaluation, (iii) a system that quickly evaluates the lecture material submitted by a lecturer making comparison with the stored curriculum from NUC and (iv) a system that produces the percentage of compliance of the lecture material with NUC curriculum.

Keywords: lecture notes, feedback, evaluation, software system

INTRODUCTION

Assessing whether teachers conform to the contents of the curriculum is very important because it helps to establish if required objectives are attained. Evaluation according to Lucas (2005)[1], affects decisions about instructional needs and curriculum improvement. Lucas also posits that evaluation encourages teachers in making such assertion as "Are we teaching what we think we are teaching?" "Are students learning what they are supposed to be learning"? One of the greatest assets to student's learning is having good lecture material. Bligh (2000) [2], enumerated the benefits of lecture materials to include saving students from using periods mapped for classroom contacts for taking notes. Classrooms contacts are important to learning as students are expected to give in their maximum

concentration. Therefore, when lecture material is readily available, students would concentrate more and listen attentively to what a teacher is teaching.

Lecture materials also enable students to read ahead and adequately get prepared before the classroom hours. Lecture material would also enable students to seek for deeper meaning of words and drawings that are contained in it. With lecture material, students can therefore concentrate to deeply understand the contents of the material. With such efforts, students can use their own words to interpret some concepts.

Lecture material also enables foreign students to have a good understanding of the major concepts of the lectures and avoid translation errors. They can give interpretations to the contents of the material using image memories from their background and local settings.

Therefore, having a quality lecture material is important as it will guide both the lecturer and the student. What constitutes a quality lecture material is a material that conforms to standard that is set out by supervisory bodies. For instance, in Nigeria, the National University Commission (NUC) has a minimum benchmark of curriculum established for the entire course it approved. Every university is expected to teach students in accordance with the curriculum. A university may add to the contents of the curriculum so as to expand and make improvement, but cannot remove any topic from the curriculum. The contents of the NUC curriculum are integrated into the academic handbook that a department gives to its students.

It is important to ensure that lecturers are guided by the contents of the curriculum in the preparation of their lecture materials and students are exposed to the curriculum to enable them plan for their reading and preparation for examinations.

Developing appropriate lecture materials therefore requires the application of appropriate evaluation techniques. One major model for the learning evaluation is the Berkeley Evaluation & Assessment Research (BEAR model) developed at University of Berkeley. The BEAR model makes available a set of techniques which lecturers can use to measure their teaching impacts on the students and have mechanism for feedback and follow-up. Wilson

and [2] posit that the model establishes that format and coverage of the instructional package have to be reflected on the tasks given. However, though the model correlates curriculum to lecture material development, it did not create a platform for the evaluation of lecture materials compliance to set standards.

This research, therefore, understanding the primary functions of NUC presents an appropriate lecturing evaluation techniques for assessing the quality and contents of each lecture material used on students in line with set benchmarks of NUC curriculum.   The benefits of evaluating lecture materials are as summed up by Wiggins, (2015) [3], who is of the opinion that when evaluation is effective, there should be adequate feedback, teachers would be able to assess their progress, student performance can be assessed and appropriate education standards could be set which would help in improving the overall performance of the academic system.

Quality education is education that is tailored towards the growth and progress of a society. It is education that meets up with acceptable established standards. For quality education to be obtained there is need for continuous evaluation of course contents and impacts on students. Almy (2011) [4], identified evaluation as being important to enable teachers know their strengths as well as areas in which they need to improve. However,[3] sees the merit of evaluation to be directly correlated to the merit of the evaluator. Lunsford and Walleghen (1998) [5], are of the opinion that the problem with evaluation is that people are not excited with the outcomes as no one cares to start something new. They opined that the focus of evaluation should be more on the social side than on the technological side.

Curriculum evaluation according to UNESCO (2016) [6], aims to examine the impact of implemented curriculum on student achievement so that the official curriculum can be revised if necessary. It also helps review teaching and learning processes in the classroom. The major objective of curriculum evaluation therefore is to ensure that the curriculum is able to improve the quality of student learning. It is therefore important to assess students' learning in order to ascertain the quality of teacher's impact and student understanding

that is derived from the curriculum. Assessment of students learning therefore serves as feedback to policy makers on what to do with curriculum.

Pellegrino, [4], found out that individuals acquire a skill much more rapidly if they receive feedback about the correctness of what they have done. One of the most important roles for assessment therefore is the provision of timely and informative feedback so that practice of a skill and its subsequent acquisition will be effective and efficient.

Texas University (2016) [7], grouped methods of assessment as being formative (low-stakes) and summative (high-stakes). Formative assessment includes informal techniques such as written reflections, polls/surveys, checks for understanding, wrappers, and informal techniques such as in-class activities (quizzes, online learning modules), and class deliverables while the summative assessment includes exams, papers, projects, and presentations, and portfolios. Angelo and Cross (1993) [8], are of the opinion that classroom assessments should evaluate the extent to which students have learned the intended course curriculum.

[6], are of the opinion that one of the cardinal goals of assessment is to collect and review instructional materials with emphasis on syllabi and course outline.

METHODS AND MATERIALS

This research involves a technique that is flexible and interactive using graphical user interface that is secured and easy to use. The interface was designed using a web development tool, Adobe Macromedia Dreamweaver; PhP, Apache as the web server and MySQL for the database. The design was made possible using structured system analysis and design methodology that broke the system into smaller understandable modules.

DISCUSSION

The developed system has different modules that work together to produce an efficient system. The modules are password, administrator, lecturer and coordinator. Password module enables access to be granted to an administrator, coordinator or lecturer. An administrator has the sole responsibility of creating access platforms for coordinators and lecturer registration.

13

IDOSR JOURNAL OF COMPUTER AND APPLIED SCIENCES 2(1):10-18 , 2017.

A coordinator is a person at the department who is responsible for collecting NUC curriculum and ensuring that the departmental academic board studies the curriculum and knows whether to expand it to accommodate modern findings and demands from the local environment. After a department has finalized on a curriculum, the coordinator forwards the copy to the administrator.

When registered, lecturers can log in and submit their lecturer materials. They can view the percentage of compliance of the material they submitted with the initial database developed from NUC curriculum.

The administrator receives curriculum from the course coordinator in a department. He also receives lecture material from a lecturer. After receiving the curriculum and the lecture material, he forwards the two documents to the lecture material evaluation system for evaluation. The evaluation involves assessing the percentage compliance of the lecture material with the curriculum.

After the evaluation, the result is given to the administrator as feedback. The administrator gives the result to a lecturer as feedback. Also, the administrator acknowledges a successful submission of course curriculum by a course coordinator.
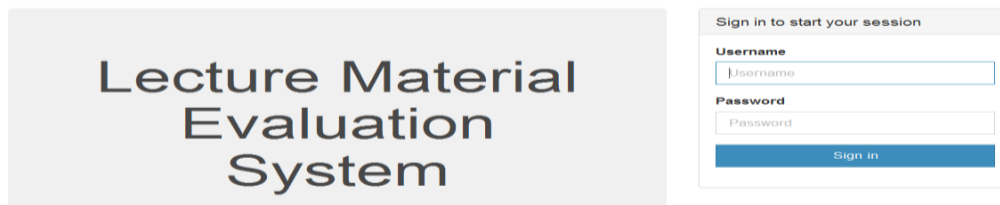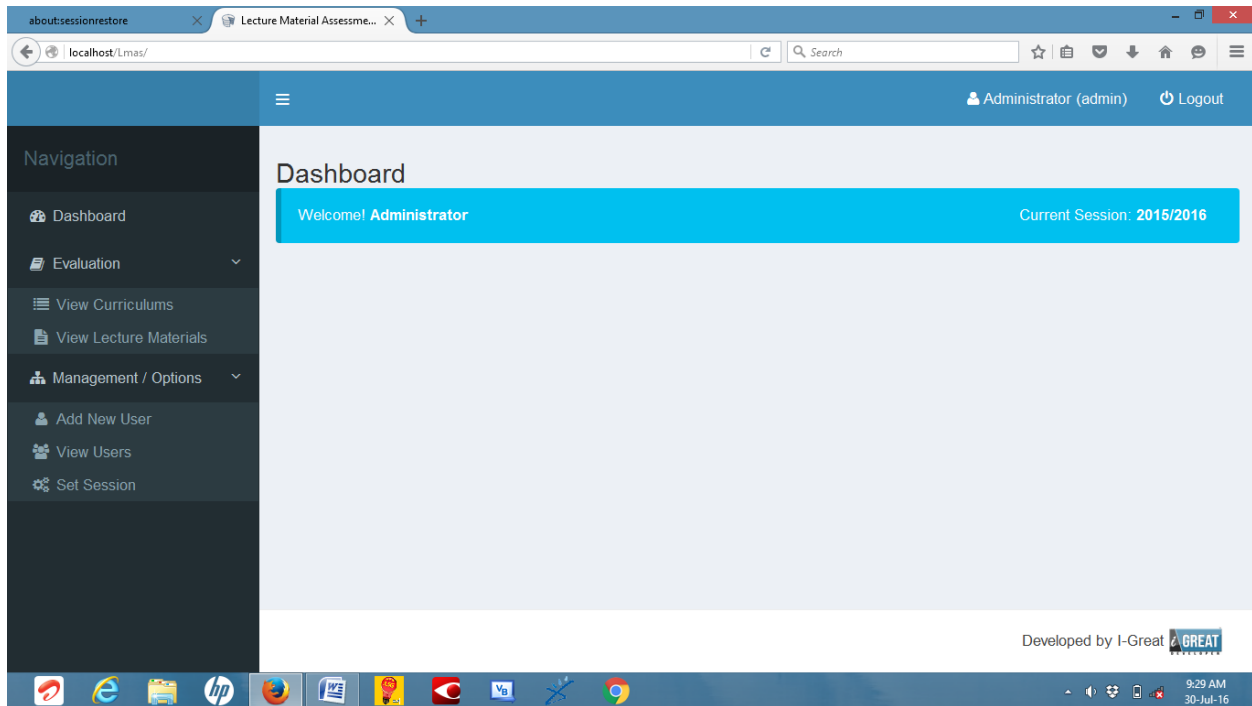

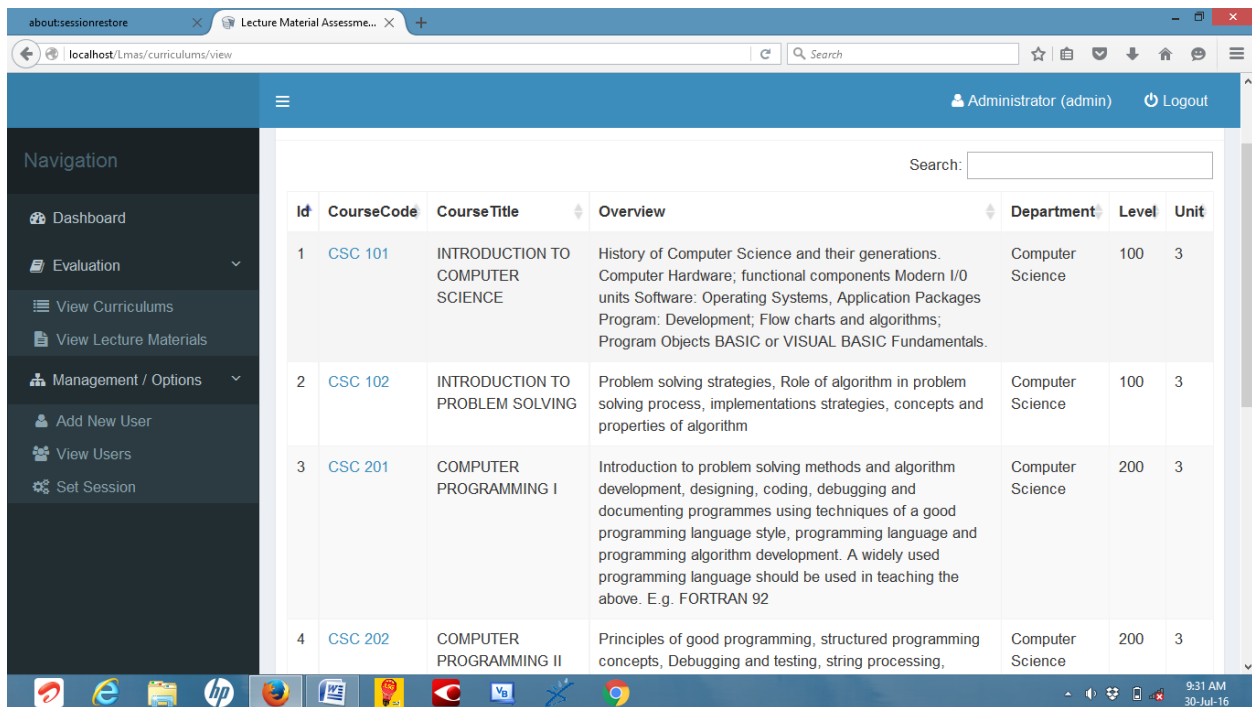Fig. 1. Password Module

Fig.2. Administrator module

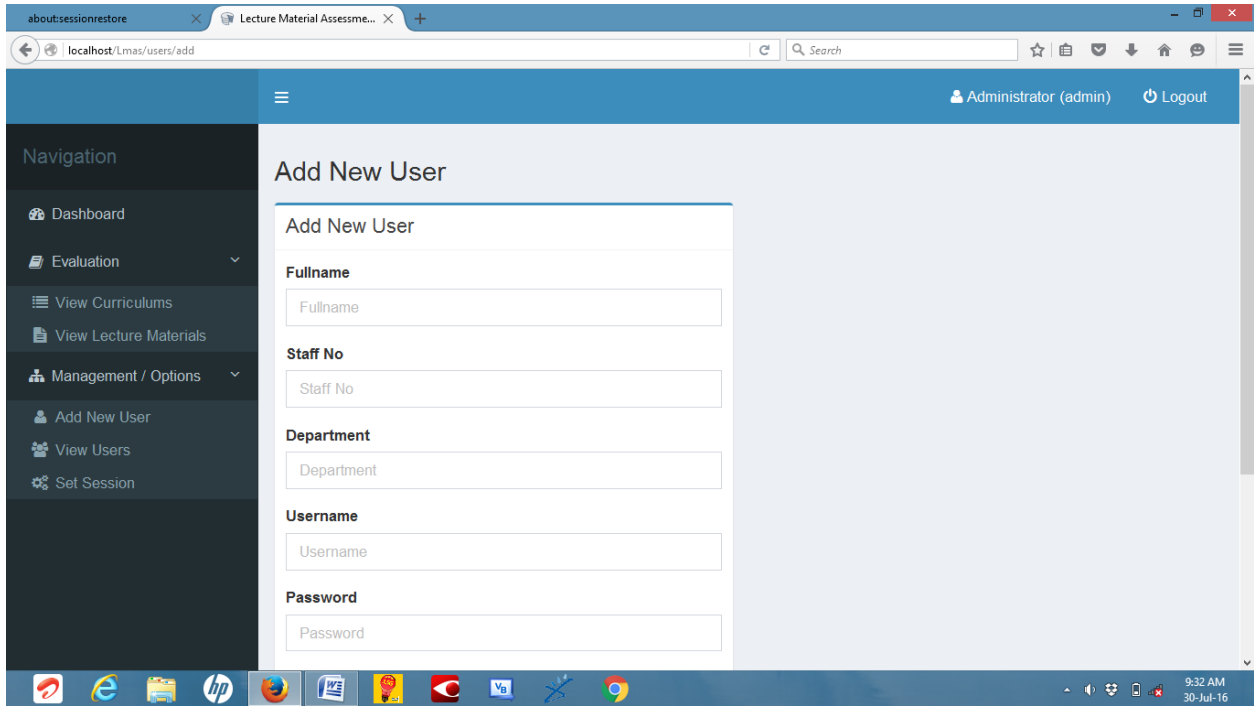Fig.3 Registered courses for evaluation
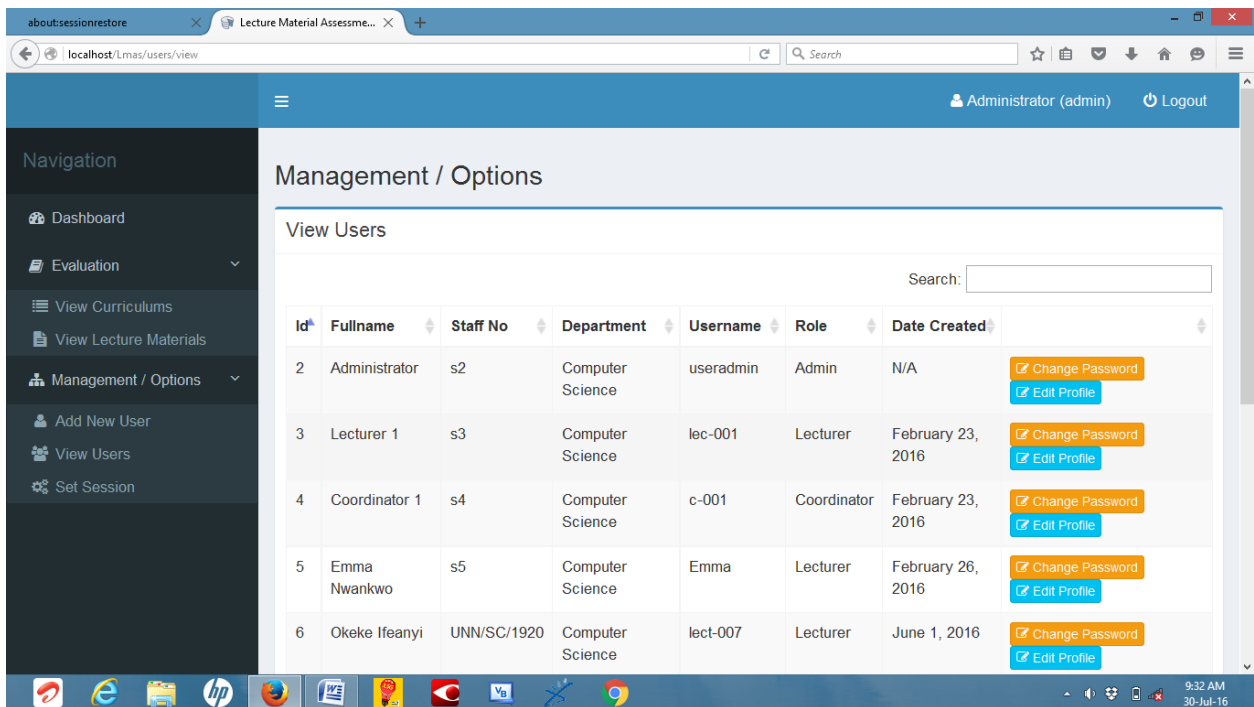
Fig.4. Interface for adding new user.
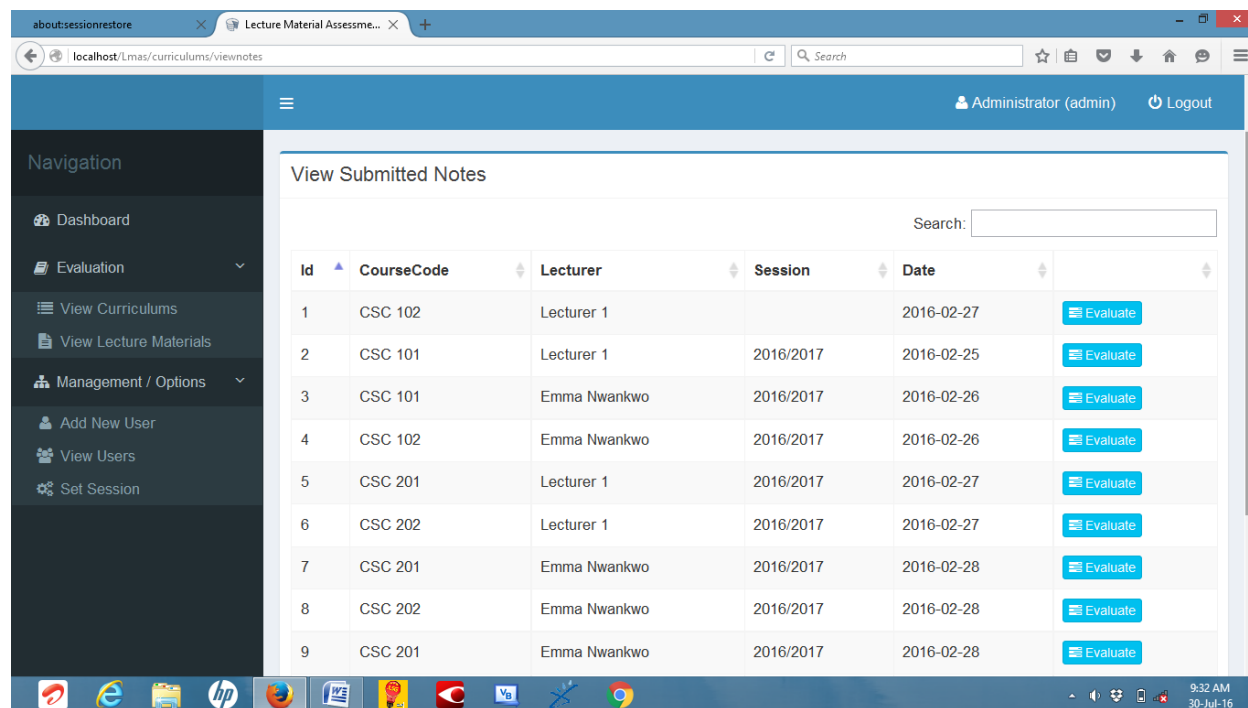

Fig. 5. View of registered users

Fig.6. The evaluation interface

Fig.1. is a password module. The password module enables access to be granted to users of the system. Specifically, the administrator is responsible for control of the system privacy.

Fig. 2. is the Administrator module. The module is an interface that registers a new administrator. An administrator is responsible for collecting copies of NUC curriculum from departmental coordinators and lecture materials from lecturers. He also causes the system to carry out the evaluation. There could be more than one administrator to enhance efficiency, however, a new administrator has to be registered by the old administrator. The administrator has to register the coordinators and lecturers.

Fig. 3. is an interface that shows samples of a list of courses that are submitted by lectures for evaluation. A lecturer collects an enhanced copy of NUC curriculum from the departmental curriculum coordinator and develops his lecture material in line with the curriculum. He forwards the lecture to the administrator who evaluates the compliance of the lecture material with the curriculum.

Fig.4. is an interface that shows the details of the fields required for adding new staff. The staff could be a coordinator or lecturer. The fields include full name, staff no., department, and password.

Fig. 5. View of registered users. The interface shows a list of registered coordinators and lectures.

Fig.6. is an interface that shows the process for evaluation of the lecture material compliance with NUC curriculum.

CONCLUSION

The resultant system has the capability of achieving the following results: (i) a system that uploads and stores the curriculum for each course obtained from NUC (ii) a system that provides a platform for lecturers to submit their lecture materials for evaluation, (iii) a system that quickly evaluates the lecture material submitted by a lecturer making comparison with the stored curriculum from NUC and (iv) a system that produces the percentage of compliance of the lecture material with NUC curriculum. With a given percentage of compliance, a lecturer can refine and improve on the contents of the lecture material. The report generated would enable management of institutions to know the level of course content and curricula implementation in their respective universities.

REFERENCES

1. Lucas,G. (2005). *George Lucas Education Foundation.*
   a. http://www.edutopia.org/assessment-guide-description.Retrieved on 13th March 2014.
2. Bligh,D. (2000). *What's the use of lectures?*http://books.google.co.uk/books.about pg. 154
   a. Retrieved on 12 March 2014.
3. Wiggins, G. (2015). *Relearning by Design.* New Jersey: Ewing.
4. Almy, S. (2011). Fair to Everyone: Building the Balanced Teacher Evaluations that Educators and Students Deserve. Teacher Quality. *Education Trust.*

5. Lunsford, K. &Walleghen P. V. (1998*). Evaluating "Evaluation": Purposes, Texts and Contexts.*http:// irs.ed.uiuc.edu. retrieved on 12th August 2016.

6. UNESCO (2016). *Curriculum Evaluation.*
7. Texas University (2016). *Grouped methods of assessment.*
8. Angelo,T. A. & Cross, K.P. (1993). *Classroom Assessment Techniques.* San Francisco: Jossey-Boss.