A CONCEPTUAL MODEL FOR VIRTUAL CLASSROOM MANAGEMENT

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ABSTRACT

Classroom management refers to the actions and strategies that teachers use to maintain order in a classroom. A Virtual classroom is an asynchronous-based online learning environment that delivers course materials to learners and provides collaboration and interaction using an asynchronous-based forum as the main platform to support the learners' independent study. In a physical classroom there is physical contact between the students and the instructor. This makes it easy for the instructor to enforce rules that are intended for effective classroom management. This physical contact is elusive in a virtual classroom and yet effective classroom management is desired. Virtual classroom is useful to the students for revision exercise; as a backup for physical classroom contact. This paper proposes a conceptual model using existing virtual tool to bring about an effective classroom management strategies in a Virtual classroom.

KEYWORDS:

Virtual Classroom, Classroom Management, Online learning

1. INTRODUCTION

The primary purpose of teaching is to impact knowledge. However, two factors can facilitate this objective. One is having a simplified and well explained course material and the other is ensuring its effective delivery. A well-managed classroom will guarantee effective delivery. Many works have been done in the area of preparing course material but less has been done in effective virtual classroom management. Virtual classroom is a product of necessity. It evolved out of the need to cater for the high demand for education and learning in the twenty-first century and succumbing several challenges associated to traditional classroom learning. It offers a range of possibilities such as personalization, studying where and when the students can. This paper is divided into five sections. The first section describe the concept of virtual classroom, its benefits and opportunities. The next section discusses the intricacies of classroom management while the last section explained the developed model and provides tip on its implementation.

2. VIRTUAL CLASSROOM

A virtual classroom is an online learning environment that contains all required course materials. A virtual classroom as described by Hsu, Marques, Khalid Hamza and Alhalabi (1999) is a learning system that provides the same opportunities for the teaching and learning process,

beyond the physical limits of the physical classroom walls (Hsu etal., 1999). Virtual classroom implementations via an online learning mode are usually web-based (Hsu et al., 1999).

The advent of the virtual classroom has made it possible for learners to explore the facilities of the Internet to create meaningful and constructive learning environments(Gabriel, 2004). Consequently, physical classroom features have been transformed into a virtual classroom with enhanced features. The primary difference between a virtual classroom and a physical classroom is that, a virtual classroom is learner-based. It gives the learners the flexibility of attendance at their convenience. Several online tools are used in the implementation of a virtual classroom. Some of these tools include online calendars, online help guides, online assessments books, examinations, emails, instant messages, chat rooms, discussion boards and file transfers. Virtual classroom facilitates active learning with the provision of enabling environment consisting of the learning tools, learning materials, and opportunities for contextual discussion (Yang & Liu,2007). It takes learning beyond the level of reading learning material provided in the virtual classroom but also active interaction with the instructor (Phillips, 2005).

A virtual classroom not only makes course materials available to the learners, but also provides a live, contextual and interactive environment for them. In addition, teachers can control the learning and teaching process as they do in the traditional classroom(Yang & Liu, 2007). However, there is no one, single way to implement a virtualclassroom. There are various mechanisms that can be employed to implement a virtualclassroom as done by educators. Bower (2006) has used the Macromedia Breeze meeting platform to implement the virtual classroom. The platform provides the following facilities:

- General Presentation Delivery – Power Points, general documents converted to Flash Player format
- Screen Sharing – entire desktop, application or window, with remote control capabilities
- Webcam – multiple speeds, ability to stream
- VoIP – adjustable broadcast quality to suit connection
- Text Chat – send to all or selected individuals
- Whiteboard – various colours/fonts/transparency levels, drag and drop, undo,document overlay capabilities
- File Upload/Download – selected from computer or Breeze content repository
- Polling – with presenter access to individual responses
- Attendee List – including status indicator (‘fine’,‘slower’, etc)
- Web Launcher – launches all users to the same URL
- Notepad – to summarise and provide instructions.

Hiltz and Wellman (1997) used asynchronous learning networks (ALNs) to implement the virtual classroom. Conversely, Koppelman and Vranken (2008) used synchronous technology to implement the virtual classroom. Hiltz (1988) emphasized collaborative learning in implementing her virtual classroom. The idea of deploying group work activities in synchronous online classroom spaces has been investigated by Bower (2007). Virtual classroom could also be manifested as shared 3D virtual worlds(Bailey &Moar, 2002).

An online learning environment such as the virtual classroom has advantages which include flexibility, interactivity, interoperability and stretching the spatial and temporal barriers, (Curran, 2002; Huang & Hu, 2000; Wheeler, 2000, Khalifa& Lam, 2002; Kinshuk&Yang, 2003).

Although online learning systems have many advantages over traditional physical-contact learning, they have certain limitations that hinder the learning process. Some of its limitations include no human teacher expression and explanation, most of existing learning materials are combinations of text and graphics, lack of oral presentation by the instructor, no synchronisation and match between course materials and their explanations, and lack of contextual understanding as wellas just in time feedback and interactions (Chou, 1999; Leidner&Jarvenpaa, 1995; Lim&Benbasat, 1997; Sloane, 1997; Weeler, 1998; Wulf, 2000).

3. VIRTUAL CLASSROOM MANAGEMENT

Iverson (2003) defined Classroom management as "the act of supervising relationships, behaviors, and instructional settings and lessons for communities of learners". He considered classroom management as a preventive activity which will reduce indiscipline. Arends(2007) corroborated Iverson's view by asserting that "preventive management is the perspective that many classroom problems can be solved through good planning, interesting and relevant lessons, and effective teaching". With Arends assertion, it become imperative that the teacher in charge of teaching must have acquired the necessary learning pedagogy(i.e. the combination of knowledge and skills for effective teaching).

For a virtual classroom, a different approach known as Virtual Pedagogy is required. Effective use of virtual learning pedagogical frameworks lead to development of higher order learning and critical thought among students. These attributes are achievable through reflective and collaborative work and assessments using online tools such as groups, asynchronous, discussion boards and synchronous communications – virtual classrooms and conference rooms.

In recent time, three models of learning pedagogy exist for e-learning: Maye's Conceptualisation Cycle, Laurillard's Conversational Mode and Salmon's E-tivities. The most prominent and relevant to the focus of this paper is Maye's Conceptualisation model.

3.1 MAYE'S MODEL OF LEARNING PEDAGOGY

Maye's model involves three stages he called the conceptualization cycle.

Stage one or Level one: e-learning conceptualization The purpose of this stage is to provide the learner with an awareness of what they need to learn and understand, this is when the educator uploads resources, such as PowerPoint files or word handouts, to a Web Based Learning Environment (WBLE), such as Moodle or a class website, Mayes calls such online resources "Primary Courseware" and their purpose is to provide students with information which they need to understand and learn if they are to be successful on that particular course.

Stage two: e-learning construction stage (students perform task). This stage provides learners with meaningful online tasks that allow them to apply the concepts outlined to them in the conceptualisation stage, Mayes calls such online activities "Secondary Courseware" and these usually take the form of online self marking tests which then provide students with feedback based upon their responses or final score.

Stage three: e-learning dialogue stage (students given feedback). This is the stage where learning actually takes place using technology & the benefits of doing so can be observed, both in terms of the student experience and in efficiency gains in running an online course, allowing students to interact with one another to gain a common understanding of the topic and thus taking some of the pressure away from the tutor. This is achieved by students participating in effective Computer based Communication (CMC) with their teachers and fellow students whereby their understanding of the concepts outlined in stage 1 and applied in stage 2 can be accessed via online discourse which will bring to light any misconceptions about the subject and allow these to be addressed via meaningful online two way conversations.

3.2 The Virtual Classroom Management Architecture

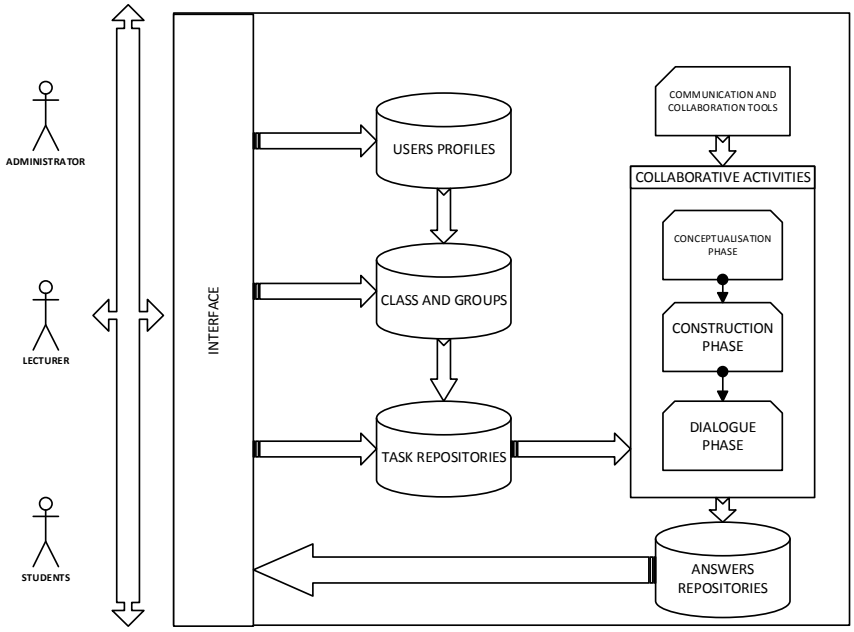

Figure 1: Architecture of a Virtual Classroom

The diagram above shows the architecture of the proposed virtual classroom management model. From the diagram, it can be observed that there are three categories of users that participate in a virtual classroom. These are: The Administrator, The Lecturers and The Students. These users interact with three sets of data repositories through an interface. The three users also collaborate and interact in three phases process. The phases of collaboration are conceptualization phase, construction phase and dialogue phase. All these have been previously explained under the Maye's Model of Learning Pedagogy.

3.3 The Virtual Classroom Use-Case Diagram

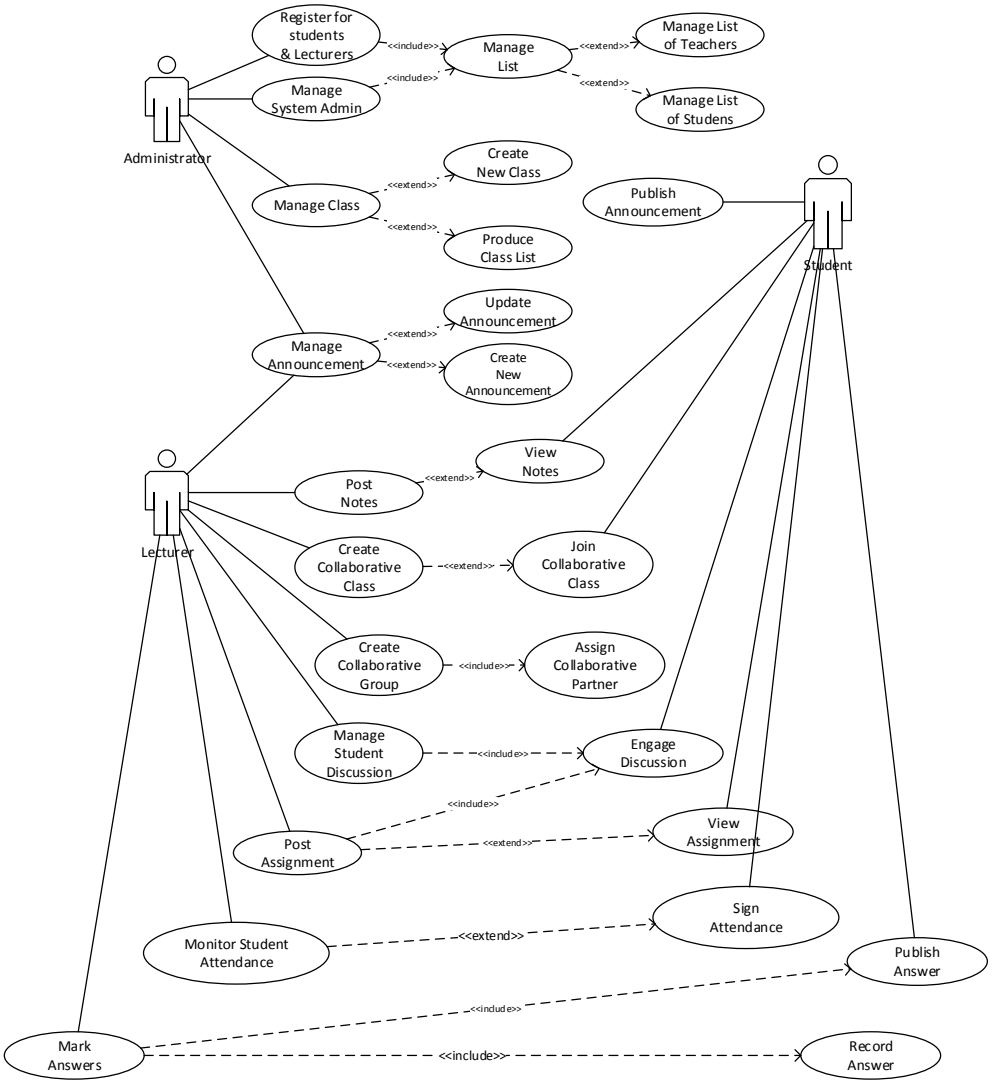

Figure 2: UML diagram for The Virtual Classroom

The Use Case Diagram further described the interaction and collaboration that takes place in the proposed virtual classroom model. From the diagram, the responsibilities assigned to each category of users are well spelt out. Take for example, the role of the lecturers are: post notes, create collaborative class, manage student discussion, post assignments, mark answers and manage announcements, while that of the students are view notes, join collaborative class, engage in discussion, view assignment and published answers.

4. CONCLUSION

In this paper, a virtual classroom architecture for classroom management was developed. This architecture featured the three phases of collaboration as proposed by Maye's Model of Learning Pedagogy. The architecture was further expanded using the Use Case diagram. The Use Case diagram described the three principal actors in a virtual classroom and how discipline can be

enforced using the available online tools. The roles of each actor was explicitly stated in a way that will make its implementation easy.

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