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## UNIFIED COMMUNICATIONS: DOES IT HAVE A ROLE IN THE CLASSROOM?

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### Abstract:

Unified communications (UC) is being widely adopted by business and industry. Research has shown that UC increases productivity. Within higher education, UC has been implemented to improve administrative functions. However, in the academic environment the use of UC as an educational tool has yet to be explored. This extended abstract proposes a research study to investigate student use of communication tools to support their academic studies and to use this data to propose a model for implementing UC as a means to support the teaching/learning process.

**Keywords:** Unified Communications, UC, communication tools

### I. INTRODUCTION

Technology has long been used to support and enhance education. However, there is often a lag between the time new technologies are introduced and when they are adopted or utilized in the classroom. This is the case with unified communications. While implementation of related technologies such as social media is undergoing experimentation, the integration of Unified Communications (UC) into the educational process has yet to be explored. However, in many non-academic organizations, unified communications has become a vehicle in knowledge transfer and knowledge sharing, both of which are key components of the educational process. Drawing on the literature demonstrating the success of UC to improve business productivity, this paper proposes an exploratory research study to investigate how students use communications tools to formally or informally enhance their academic endeavors. Based on the results of this study, a model for employing UC in higher education will be proposed.

### Unified Communications Defined

Unified Communications (UC) is the integration of real-time, near real-time and non-real time communication services based on the presence of the message recipient. Presence, in this case, is multi-dimensional. It refers to location as well as availability and willingness to engage in communication at a particular point in time. Many venues for messaging encompassing multiple formats currently exist; however, for the most part, the various messaging services are decentralized. Unified Communications represents a technological architecture that integrates multiple communications and multimedia services such as voice, email, fax, voice messaging, video conferencing and chat into a unified user experience [Pleasant & Jamison, 2008]. In other words, UC is the blending of otherwise disparate services so that communications is enabled by any means with anyone over any device.

## II. RELATED LITERATURE

Unified communications has its roots in business. Originally conceived as a way to improve telephone communications, UC has become transformational in the way many employees work [Martinez & Smith, 2010]. In terms of telephony, UC is used for various purposes within an organization such as for call screening, forwarding of calls to another number, on-screen directory dialing all with full control of phone features from the PC. Other uses include allowing workers to have the same communication tools regardless of their location through such tools as instant messaging, audio, video and web conferencing, file sharing, application sharing, and other collaboration tools that support a virtual team environment. The use of these tools increases worker productivity [Pleasant & Jamison, 2008].

Research on the use of UC in the classroom is basically non-existent. When UC has been mentioned in the context of higher education, it has been in its applications to improve administrative functions or campus infrastructure. For instance, vendors have reported that UC has been used to reduce phone costs, improve phone routing services, support activities such as video enhanced web-conferencing [Unified Communications for Higher Education, nd] or to implement a standardized communications infrastructure across multiple campus locations and facilities [Microsoft, 2012 and Watts, 2009]. There is, however, research regarding the use of instant messaging in higher education. Instant Messaging (IM) is a tool that allows for near-synchronous computer based one-on-one communication. IM is a key feature of unified communications and some argue that UC actually started as IM. IM applications include history-keeping, file transfer, real-time video and audio chatting, offline messaging, e-mails, appearance status, pop-up notifications, and buddy lists. In the businesses environment, one of IM's most appealing features is the fact that unlike the delayed asynchronous nature of e-mail, the current online status or presence of the intended recipient is displayed and allows for immediate response [Glass & Li, 2010].

Instant messaging is being used to support academics in higher education. Many university library systems have adopted instant messaging as a form of a live online reference service. IM reference has the same advantages as live chat. It provides an instant connection to a librarian. It allows patrons to receive personalized or anonymous help, without coming to the library or picking up the phone [Desai, 2003]. Research investigating the use of IM by college students has found that students use IM both to facilitate communications within their social relationships and also to complete their academic work. Students use these technologies to trade messages with friends, keep in touch over distance, communicate on projects and exchange new ideas. When instant messaging was first introduced in 1996, the technology was quickly adopted as a communication tool by the younger generation and its popularity has continued to grow [Lancaster, Yen & Huang, 2007].

There was a time when it was believed that IM use at work was purely social. However, research has shown that IM has benefits for the workplace. For instance, IM facilitates collaboration and mutual problem solving as it provides a channel for sharing, transferring and documenting knowledge [Ou, Davison, Zhong & Li, 2010]. Currently industry is touting the benefits of UC and envisioning how it will improve the teaching/learning process. However, the driver for UC in the classroom needs to come from empirical research rooted in the academic community.

## III. RESEARCH QUESTION AND PROPOSED METHODOLOGY

The proposed research methodology for this study is exploratory. Specifically the study will investigate two areas:

- What type of communications tools do students use? And how frequently do they use these tools?
- How often do they use the communication tools (represented in the UC framework) to support their academic work?

The proposed methodology for this study is survey-based. The participant population will be drawn from students taking a computer literacy course at a regional state university. Students enrolled in this course represent many different majors including those in the humanities, arts, business and science. Approximately 400 students enroll in this course each semester. Students will be asked to report on their use of communications tools and to track how often they use the tools for academic purposes. As this is an exploratory study, data collected will be reported using descriptive statistics. The results will be informative and used to assess whether or how UC might be used to support the teaching/learning process.

To formulate a final survey questionnaire, pilot study will be conducted. Students participating in this pilot project will be asked to provide answers to the following types of questions:

- Demographics (age, gender, level of education, major).
- General technology such (type of phone, type of PC, level of internet connectivity).
- Usage level for various UC features including voice, email, fax, voice messaging, video conferencing, audio conferencing, web conferencing, instant messaging/chat.
- UC usage level for various tasks including social and academic.
- What is your favorite feature of UC? Why?
- Do you feel your interpersonal relationship with classmates has remained the same, improved, or worsened since communicating via UC? Please provide an example.
- Do you feel your communication with instructors has remained the same, improved, or worsened since communicating via UC? Please provide an example.
- How would losing the ability to communicate via UC impact your relationship with your classmates? Please provide an example.
- How would losing the ability to communicate via UC impact your academic work? Please provide an example.
- What do you perceive to be the greatest educational benefit to the use UC in higher education?

#### **IV. Conclusion**

One of the major challenges presented by the multitude of communications channels currently available is the ability to bring together disparate systems in a unified presentation. Through the implementation of UC, business has found a way to address this issue and in doing so has demonstrated it positively impacts productivity. Students face the same challenges in their academic studies. The question remains, however, as to whether the same benefits UC technologies bring to the workplace will transcend the classroom. Conceptually, many benefits can be perceived. It appears that UC could potentially facilitate the exchange of knowledge as well as improve student/faculty interaction and student-to-student interaction especially when group work is involved. However, before UC can be proposed as an educational tool, we need to understand the communications technologies students are using and how they are using them to support their academic work. This proposed study will provide a starting point that addresses fundamental questions that form a basis from which additional research can emerge.

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## ABOUT THE AUTHORS

**Joy Fluker** is a doctoral student majoring in Information Systems at Dakota State University. She is currently working on her dissertation focused on impacts of Unified Communications. Joy also works as an adjunct instructor of Business Information Systems and Computer Applications and Systems at the University of Phoenix. She works full time as an IT Program Manager for Hewlett Packard in the Mergers, Acquisitions, Divestiture, and Outsourcing space. Joy has more than ten years of experience in the field information systems.

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