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Using Skype as an Academic Tool: Lessons Learned

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Several years ago I witnessed a graduate student speaking to person on his laptop screen. I asked, "who are you talking to?" He said to his wife in Turkey. I asked what software are you using? He said Skype, and it is free. Thus began my entry into the world of Skype. At first chance I downloaded Skype onto my personal computer. Since that time I have used Skype as a communication and instructional tool for academic purposes. Skype software allows communication (audio, video, and text) between and among various electronic devices (computers, mobile phones, smartphones, I pods, etc.) over the Internet. You can use it with or without headphones, microphones, and/or speakers (in the text or pure visual modes). After the free download to your personal computer (or "app" on an iPod for example) when prompted you create a personal name or "handle" and password, you then share your Skype Name as a contact with persons of your choosing. To establish a learning community you merely add contacts (or in my case) I ask them to add me to their contact list. When I receive their request, I give them a brief welcome and we begin our Skype communication and instructional relationship. Once you establish your contacts, you can also change your presence on Skype (how others view you electronically). For example if you do not want to be disturbed then "Do Not Disturb" is selected. A bright green icon indicates your "online" status and you are ready to go!

One Teacher, One Student

I tell my students if they see the green icon (online), it is alright to ask questions on the instant messaging (IM). Within the icon is the number of new messages sent to you. I have found this practice not to interfere with my current work; it is really not a distraction, it is a convenience. The students get immediate response. Skype automatically keeps a record of the IM conversations you have with all your students and/or clients. This function also works asynchronously in that you can leave a message and the next time they log in they will receive it. If you are advising students this is invaluable as you historically can view your archived conversations (over at least a 30 day period), which gives you a written record of your discourse. Another convenience is you can also send and receive files within your IM conversations (and of course there is a record of what was sent). You can also send files asynchronously, when one person is not online. So you can receive assignments and download them to folders on your personal computer. Here I will sometimes create a personal folder for each student. I use Dropbox, which allows me access to the students' folders on multiple electronic devices and/or different computers. (Dropbox.com is a free service that gives an individual user 2GB of free storage that can be accessed anytime and anywhere).

At times, audio conversations via Skype are required for more personalization and deeper understanding of the issues and concerns of your students. If you are on a computer you will need a microphone (internal or external) and speakers (internal or external) or a headset which contains both. Privacy is an issue here for the instructor and the student. A headset takes care of some of this, but you do not know who is listening on the other end of the conversation. Smartphones can also send and receive audio with Skype however the technical details are very different depending on the device, but the user interface of Skype is virtually the same. For student advisement I usually IM the student first

and ask “can you talk privately now” and then I call them by clicking the “call” button on Skype. Please note: Skype to Skype calls are free anywhere in the world.

Audio and video are also free and more of a luxury than a necessity in the academic and learning environment. Video calling allows you to see and hear the person you are conversing with and vice-versa. With a video call I sometimes use the screen share function of Skype so the student can see my computer screen on their computer (and hear me as I narrate). For tutoring, and/or sharing procedural knowledge this is a great tool. In line with Mayer's and Moreno's cognitive theory of multimedia learning, Skype enables you to “show and tell”—focus on verbal and visual representations which integrate prior knowledge to construct new knowledge [1, 2].

One Teacher, More than One Student

There are many ways you can distribute this application. The method I have found to work well is a Skype Extra entitled Yugma (http://www.c4lpt.co.uk/Top100Tools/yugma.html). The free version of the application allows for Web conferencing for up to 10 participants at one time. So, for example you might have a PowerPoint presentation you want the group to view while you narrate. First you would invite each student to attend the meeting Skype (join meeting). You would have a real time roster of who is attending and is currently online (status). I will usually call the role and ask the students to acknowledge verbally, and they greet the rest of the class. I do this for classroom management, but also to test their electronic connection for any problems. I usually begin with the advanced organizer stating what we are going to do and what we aim to accomplish. I go through the PowerPoint much like a traditional class, noting and discussing student comments and using insightful questioning [3]. I have found by empirical testing that between 60 to 90 minutes is the most a group can handle of this type of instruction in one setting. For novice users and those not comfortable with the technology, I encourage them to bring their laptop into the traditional class and follow along while I instruct. When they gain more confidence and comfort with the technology, they make decision to attend the class from their home, office, or other environment. Students attend while on vacation, traveling and/or professional business from anywhere in the world. I have taught using this method from my home, office, and a traditional classroom. For a modest fee you can purchase a professional edition of Yugma, which will allow more than 10 users/clients. You can also use the video and audio mode here as well, but only as needed and I would recommend five or less users. So small group instruction might be facilitated in this manner, when the visual mode really adds to the learning activities.

Student to Student

Many of my courses involve a team and/or collaborative project, more recently a collaborative research project (CRP). Design of this type of assignment was informed by “engagement theory,” which states that learning activities should: (1) occur in a group context (e.g. collaborative teams); (2) are project based; and (3) have an outside focus (authentic) [4]. The theory goes on to state that students are intrinsically motivated due to the meaningful nature of the learning environment and activities through interaction with others on worthwhile tasks. With this type of assignment, whether done traditionally or online, problems arise within team communication. Skype facilitates team communication by allowing users to create groups. So teams can share data and information within their group. They can also IM each other within the group and/or have a real time meeting online at a designated time. Some of my student groups have used the video conference feature as they believe it adds to the group process and tasks that they need to accomplish. Sometimes students talk to other students (peer to peer) in their course using this medium as well. They discuss content, pending assignments, and also self-create study groups. The “study group” learning function of Skype emerged from the software application itself. This allows students to use their mobile phones, smartphones, iPods, iPads, and various

computers to converse.

Advanced Operations with Skype

I have found three advanced applications worthwhile for teaching, learning, and instruction. The first is the digital pen and tablet by Genius http://www.geniustablet.com/index.aspx . Using the tablet and pen with Skype and Yugma you essentially have a blackboard and chalk. I will sometimes write on PowerPoint and/or a blank piece of paper, lecture notes, ideas, definitions, etc. You can also electronically save your active discussions and notes and distribute them to the group or class later. The second application is to use Skype to present a guest speaker from around the US or around the world. You create a one-to-one video call with your guest speaker using Skype. You then use a screen projection system at the receiving end of the broadcast, where the group can see and hear the guest speaker (and ask questions). Remember this essentially free. You should test your sound system and video resolution, but I have found this to work great with the addition of some small speakers added to the PC. G-recorder is a free Skype Extra application that allows for recording of chats (IMs) and calls. We sometimes use these functions for data collection, however, privacy is an issue and consent by the participants should be obtained. However you can record and save conversations in this fashion using G-recorder.

Recommendations and Conclusions

Skype was been shown to be a worthwhile, academic software tool. What is presented here is only the beginning of the story. Active experimentation, creativity, and new applications will emerge from the mix of humans, software, and hardware. There are numerous Web 2.0 tools available for instructors http://www.c4lpt.co.uk/recommended/top100-2010.html . These tools could be mixed and matched for many instructional purposes. Testing and active experimentation involve taking risks and always having a backup system if the primary learning system does not work. Planning is a necessary function of working with new technologies in educational settings. However, even the best laid plans will self-adjust as the actual learning activities take place with new technologies. This "emergent learning" is very new to many instructors. You can build into it some checks, tests, benchmarks, but you should not feel you need to control all the learning activities. I have found concentrating on the end product and/or outcomes of the learning is most important. How the student gets to the results, valued outcomes, and/or end products might vary considerably from student to student. This personalization, learner-centered, and customization of instruction supports learner-centered psychological principles established nearly two decades ago [5, 6].

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About the Author

Dr. Martin Sivula is a former Director of Academic Computing and is a Certified Data Educator (CDE). In the early 1990s he served as a quantitative researcher and data analyst for the Public Education Fund study of the Providence (Rhode Island) Public Schools, which produced the Providence Report on Blueprint for Education (PROBE) Study (1991-1995). From 1994 through 2000 he served as a researcher and grant administrator for the Health Education Leadership for Providence (HELP), an organization to implement technology applications into the Providence Public Schools. Since 1999 he has served as a PT3 grant evaluator for Wheelock College's (Boston, MA) technology implementation and capacity building efforts. Recent research includes: Sivula, M. W., Hybrid graduate education: Assessing student comfort with technology interventions, *Ubiquitous Learning An International Journal* 3, 1 (2011), 35-42.