Abstract
Purpose – The purpose of this paper is to outline the development of a Skype-based, study abroad reference service.
Design/methodology/approach – The paper discusses the criteria used for technology and situates the project in the literature on study abroad reference services.
Findings – Using Skype, a free video-conferencing software, allows librarians to offer reference services to study abroad students effectively, easily, and without new technologies or significant cost.
Originality/value – The paper offers other librarians strategies for developing and launching similar programs and shares challenges encountered to prepare librarians for success in their own projects.

Introduction
Despite more students studying abroad, libraries struggle to provide timely and comprehensive reference services to this population. Champlain College’s Information Literacy Librarian recently visited their study abroad campus in Dublin. While there, students bombarded her with questions despite the extensive online resources available through the college’s library website. The need for reference help was obvious. On her return, she approached the Emerging Technologies Librarian to develop a pilot project using technology to deliver personalized reference services for these students.

Throughout the planning process, we became aware of opportunities and challenges: the manageable size of the Dublin campus and the Dublin campus director’s interest in the project were encouraging. At the same time, we were acutely aware of the scarcity of time and resources among librarians. We shared our concerns with the Dublin faculty and staff in order to balance their needs with our own.

After experimenting with a number of free videoconferencing technologies, the Emerging Technologies Librarian struck gold when Skype released its most recent version that included screen sharing between users. Screen sharing allows librarians to recreate the individualized reference interview by guiding students through resources and offering immediate assistance even an ocean away.

Within this article Champlain College is used as a case study to outline the creation, development, and implementation of a Skype-based, study abroad specific reference
Background and context
Champlain College is a professionally focused residential four year college located in Burlington Vermont. The student population totals 2000 full time undergraduate students. In addition to residential classes, the school also has a budding study abroad program with campuses in both Montreal and Dublin. Champlain College’s program in Dublin opened in the fall of 2008. Currently, the average number of students in Dublin is 30 per semester. The College anticipates that the number of students will increase to over 40 students per semester with a cap at 70 students. The program is primarily for Champlain students in their third year. However, the program was recently opened to students enrolled at other institutions. The campus conducts approximately 10-13 courses per term. The course offerings depend on the academic program of the students attending. A number of courses specific to Ireland include: Irish Culture through the Fine Arts, Cultural Immersion through Irish Literature, Modern Irish Social History, Early Irish History, Northern Ireland History, and Global Environmental Science. There are approximately ten faculty associated with the Dublin Campus, all part time. The Director of the Dublin program, who is full time, also teaches one course each semester.

Students in the study abroad program are encouraged to be their own advocates and operate more independently than they might at their home campus in the United States. During their pre-departure orientation, students are reminded of the more independent academic culture in Dublin. Students’ access to physical libraries in Dublin is limited to public libraries. However, students continue to have the same access to electronic materials via the Champlain College Library website as they do in when they are on campus in Vermont. The real issue is whether students take advantage of those resources.

Champlain College’s Information Literacy Librarian visited the Dublin campus in March, 2009. While talking with students, she remarked to the program’s director that students seemed to be struggling to use online resources. He agreed and went on to describe the challenges students have meeting the research requirements of their assignments. Clearly, students were unaware of the extensive resources available to them while they were abroad. The librarian left the campus wondering how to make students aware of those resources and to offer assistance from afar.

Literature review
Colleges increasingly emphasize study abroad as a means to create the global citizen. Indeed, Brustein argues that without internationalizing our campuses, North American colleges and universities are in danger of failing to prepare our graduates for the global world (Brustein, 2007. Colleges and universities continue to review and develop approaches to this problem (Brustein, 2007; Kutner, 2009). Yet the library’s role in internationalization seems conspicuously absent from programs, curricula, and support structures in these efforts despite the call for increasing student research. A search for literature on libraries’ efforts to support students who are studying abroad suggests this is an area demanding more research. Kutner’s recent article (Kutner, 2009) provides a
much needed study and discussion of students’ use of their home-library’s resources while abroad including students’ awareness of home institution’s resources, students’ confidence in using those resources, and data-driven suggestions for ways to move forward in serving these students. Recent articles by White et al. (2009) and Booth (2008) further suggest this is a growing area of interest within the library community.

Just as libraries struggle to reach students on their physical campuses, so libraries face the challenge of how to reach students when they are abroad. A number of approaches to this challenge are discussed in the literature. Booth (2008) hints at the valuable role virtual reference programming can play in study abroad support. Wang and Tremblay (2009) advocates for a dedicated component to the Library Homepage for study abroad students. Hammond (2009) takes a more philosophical approach when she asserts the importance of re-conceptualizing the library’s public services for increasingly internationalized students and programs. White et al. (2009) describes the way Dickinson College implemented a liaison librarian to global education (study abroad) and the steps taken to instigate reference services for study abroad, including Skype-based reference. White advises listening to the needs of students as well as additional constituents in order to create valuable services and to promote the library to various stakeholders (White et al., 2009, p. 192). Wang and Tremblay (2009) also discusses the importance of reaching out to study abroad administrators to discuss the needs of the study abroad community. A common thread within the literature is that we must understand the needs of our students studying abroad if we are to provide effective, usable services.

However, considerations of student needs should not be limited to library resources alone. Kutner (2009) suggests that the importance of technology usage should be taken into account as study abroad programs design curricula. The value of this cannot be overlooked. Woo (2006) makes clear that students are using Skype to connect with family and friends while studying abroad. The same value associated with staying connected to students’ personal networks while abroad can also be applied to their academic network. Maintaining a strong connection between the home institution and the student abroad is certainly important to a student’s success in acclimation (Wang and Tremblay, 2009). For a small institution like Champlain, connecting with students abroad also enables librarians to maintain relationships with them that will continue to develop during their final year at the College. By tapping into technologies students already use when abroad, the library is more easily poised to provide effective, usable, and value-driven services to students.

Discussion about the value of Skype as a general reference tool (Booth, 2008) exists side by side with sound rationale supporting the development of virtual reference service specific to study abroad students. Kutner’s research shows that many students that study abroad are regular library users who feel comfortable using their home-institution’s resources. “However, when study respondents were asked about the possibility of accessing library databases for research from abroad, 36 percent were not sure or disagreed about this possibility, and 45 percent were either not sure or had little to no confidence in their ability to perform this task.” (Kutner, 2009, p. 169). Kutner speculates as to why students struggle with these tasks despite them requiring the same steps they undertake when accessing materials from their off-campus apartments. Kutner suggests that this is a reason why libraries need to provide students information on accessing materials from off campus before they leave for study abroad.
We agree with Kutner that providing students with information about accessing materials before they leave is vital to their success abroad. But, we don’t think providing that information alone is enough. Their lack of awareness and possible unwillingness to access materials while away from campus is the reason why libraries need to provide dynamic, synchronous reference services for students once they are away. With the increasing capabilities of Skype, libraries can offer traditional reference and instruction (Wang and Tremblay, 2009) in untraditional ways.

The technology
The Emerging Technologies librarian and Information Literacy librarian met several times to discuss what requirements would be necessary when selecting a technology to deliver the desired reference service to users on our Dublin campus. Through these discussions we arrived at four specific criteria that the tool must meet:

1. The tool must include video conferencing capability. In order to conduct an in-depth reference interview it was desirable for the librarian and researcher to be able to see one another, in order to pick up on expressions, non-verbal cues, and body language.

2. The tool must have the capability for screen sharing. The ability for researchers to see librarians’ screens is extremely useful in showing different library resources and search techniques. In addition, the ability to see a researcher’s screen is useful in that it facilitates teaching and troubleshooting problems.

3. The tool must be either inexpensive or free. Owing to the fact that budgets are stretched in almost every sector, and the fact that this was a pilot project, we could not expect to get a significant amount of resources devoted to this endeavor.

4. The tool must be simple to install and easy to use or something with which they are already comfortable. In our experience, students are often not patient enough to learn and install an overly complicated tool.

The technology selection process was an iterative one. It involved research and testing of different possible tools until one met all the aforementioned criteria. A few early candidates were abandoned without even testing them due to either prohibitive cost or lack of necessary features. After some dead ends and several conversations with other colleagues, the Emerging Technologies Librarian identified a Skype plug-in called Yugma SE (www.yugma.com/blog/2009/02/23/new-yugma-se-skype-edition-for-instant-web-conferencing/), which came close to meeting all the criteria. Skype (http://skype.com) is a voice and videoconferencing software that facilitates free calls from anywhere with an internet connection. Yugma SE enhances the functionality of Skype by adding a screen sharing capability. This was a free download so it met the fourth criterion that the authors outlined. Unfortunately it was confusing to install and properly setup. In addition, while we were testing it, we found that there were difficulties that arose when trying to use the plug-in on a Mac.

As we were still testing this plug-in and attempting to make it simpler for students to use, the Emerging Technologies librarian learned from a colleague at another institution that a beta version of Skype had recently been released that included screen sharing ability. This new version, Skype 4.1 Beta for Windows, 2.8 Beta for Mac, was then
downloaded by the authors and tested. Now that the screen sharing functionality was included with Skype and not through an additional plug-in that was necessary to download, it was significantly more user friendly. It quickly became evident that the newest version of Skype met all of our criteria. It included the ability for both (1) videoconferencing and (2) screen sharing, was (3) free to use, and as evidenced by the literature, (4) was a technology students were already using to connect with family and friends (Woo, 2006).

Challenges
There were several challenges that we identified before and during the process of implementing a Skype-based reference service. The very novelty and uncertainty of the project itself was a challenge. A single experience that the Information Literacy librarian had in Dublin might not equal an ongoing need for students. Moreover, writing an article about the process of a pilot project was intimidating simply due to the fact that the results and success of it were uncertain. However, the prospect of critically examining, evaluating, and assessing a completely new service was a tremendous learning opportunity.

The project hinged on having usable and accessible technology. As described above, we worked out the issues related to the software, but additional technology concerns still existed. What was the computer infrastructure like at the Dublin campus? Would students have their own laptops while abroad? Are these particular students familiar or comfortable with downloading and using Skype? The success of this service depended on students having access to certain technology and being able to use it.

Within the library, other challenges arose. As a small library, evaluating the impact of a new service on librarians’ workloads was crucial. This question was the most important when deciding whether to initially include Champlain’s other study abroad site in Montreal in this project. This second study abroad site is more established than the Dublin site with more students attending each semester. However, students at Montreal have access to a library through the Universite de Montreal. And, because of the close connection made with the Dublin staff, we decided to keep the pilot small and manageable by limiting it to the Dublin campus. We are continuing to evaluate if and when to expand the program to Montreal.

Questions of expanding the program and workload also surfaced as we thought about the opportunities this reference project could open up to Champlain’s significant distance education program. Again, while it was exciting to think about the opportunities Skype reference could provide to students, we were deliberate in limiting the service to a single study abroad site with the possibility of offering it at a second. Issues of workload, personnel, and bandwidth constrained us from expanding the project too fast too soon. As this project was only a pilot it was confined to two people being available to answer questions. If we received a surfeit of questions in addition to our current responsibilities of teaching, regular reference shifts, and position-specific tasks, the workload could become overwhelming. While this was a valid concern we decided that if the project had that much success, solutions could be implemented. The technology could be easily downloaded onto other staff members’ computers and, just as we integrated IM reference into our reference schedule, we also could integrate Skype reference if need be. We could adjust accordingly and devote more staff and resources to the service in future semesters.

In reality, the opposite was much more of a concern. Getting students to use the service was an additional challenge that surfaced. Research shows that reference is
declining in institutions of higher education (Applegate, 2008; Martell, 2007). It can often be difficult to get students to make use of reference services even when you are both in the same country and on the same physical campus. Being an ocean away certainly increases this problem. Making students aware of the service was difficult simply because of the lack of contact. We realized that it would be necessary to build partnerships with faculty and administrators at the Dublin site to effectively market the service and make the project a success.

From the beginning, it was clear that getting institutional support both here in the US but also at the Dublin campus would be necessary for the project to succeed. Fortunately, both the director and operations manager from Dublin visited Burlington in the summer giving us an opportunity to pitch the Skype-a-Librarian idea to them and discuss the project in greater detail. In addition, the library director at Champlain College has an entrepreneurial philosophy of “let’s try it and see if it works.” This positive attitude towards innovation allowed us to move forward with this pilot project in the spirit of experimentation and learning.

The most valuable and vital connections made were with the Director and Operations Manager in Dublin, the gatekeepers to the students and faculty. The Director of Champlain College Dublin visited our campus in the U.S. for one week in the summer. We met with him to share ideas for improving students’ work while abroad using Skype, a technology that he was already using regularly for administrative purposes with the Burlington campus. While the Director was familiar with Skype, he was unaware of the additions of the file sharing and screen sharing functionalities in its newest version. The result of this meeting was threefold: first, this valuable new functionality was demonstrated to the Director through the library. The Director, being unfamiliar with the role and services of the library, was not aware of the leadership role that we play on campus in experimenting and implementing technology to support learning. Seeing this in action, we believe, allowed him to see the library from a different perspective, as a partner in devising technological solutions for education. Second, the Director became immediately confident that students’ work could improve because of this service. Third, the Director immediately scheduled us to address the Dublin campus’s adjunct faculty, via Skype, for their pre-semester orientation.

Inclusion in this orientation helped us chip away at another challenge: reaching out to adjunct faculty. Champlain College’s Dublin courses are primarily taught by adjunct professors who have not visited our Vermont campus. Therefore, these professors are unaware of the wealth of resources available to them and their students through the Champlain College Library. Including the librarians in their pre-orientation meeting provided adjuncts the opportunity to literally “see” the librarians, have a brief overview of the library web site, and learn about the Skype-a-Librarian service. However, while the reception by these professors was positive, orientations such as these encompass a great deal of information for faculty and this service could be disregarded or forgotten. Outreach to faculty members is a challenge on the local campus; at the international campus it poses a true hurdle. While we appreciated the opportunity to engage with these faculty members, we did not expect them to start touting the program to students immediately. Rather, we are taking a more measured outlook, expecting further collaboration with them as students more familiar with the service attend the campus and as success stories from other faculty members become more regular.
To generate interest and raise awareness about this new program, the library created a flyer for the Dublin staff to post in the academic building. Creating and editing the flyer offered another opportunity to build a relationship with the staff at the Dublin campus. The Director offered feedback on the language of the poster, including making the language more culturally appropriate and catchy (Figure 1).

Results
Besides a pre-orientation session for faculty members, the Skype-a-Librarian program has enabled us to provide a small number of students with reference as well as provide library instruction to full class.

The Information Literacy librarian arranged an instruction session with the Global Environmental Science course, taught by the Dublin program’s Director. Using Skype’s screen-sharing functionality, the librarian walked students through a variety of tasks and screens to help them prepare for a research assignment. The librarian used this opportunity to share resources available to students while abroad as well as key features of the library homepage (http://library.champlain.edu). These included how to look for ebooks through the library catalog and an environmental studies subject guide, which would provide them access to databases that were particularly useful for their assignment. She also pointed students to the online reference collection with valuable encyclopedias on Earth Sciences and Geology. The librarian was able to answer questions from students and the professor, and she reminded students that they could receive individualized research help via Skype. The professor pointed out the Skype-a-Librarian flyer to students. Prior to the Skype-a-Librarian project, students did not receive any

Figure 1.
library instruction or research assistance beyond professor’s individual efforts. This was the first organized, library-led instruction session for students studying abroad.

A number of students contacted the library through our more familiar routes following this session including email and IM reference. However, one student emailed asking for a personalized session via Skype. Using the file sharing functionality, the student shared his assignment with the librarian enabling her to ask more in-depth, specific questions during the 35-minute call. He also shared his outline and introduction with her so she could see where he already had done research and where more information was needed. Using the screen sharing functionality, the librarian walked the student through a number of searches in the databases. The librarian and the student were able to read abstracts together, discuss their relevance to the topic, review bibliographies, and explore new search terms for improved searching. When the student encountered different results in a search, he shared his screen with the librarian so she could identify differences between their searches. The student ended the call saying “This is amazing . . . I am actually excited to get started on this paper.” The librarian reminded the student to share his experience with his classmates and to feel free to call anytime!

**Moving forward**

Creating a study abroad reference service from scratch has been challenging. There were several notable lessons that would benefit others when developing a similar program. First, building partnerships with professors and administrators from the abroad campus is critical to the success of the program. Showing the benefits of the service to faculty and staff abroad creates additional advocates for the library. Once faculty and staff abroad recognize the usefulness of this service they often invest in the project’s success. Our experience exemplifies this with administrators putting up marketing flyers, making the library a part of new faculty orientation, and directing students to the service.

Second, in addition to building partnerships with faculty and staff, it is also important to cultivate relationships with students. Creating relationships with students both at home and abroad can aid in building a successful program. If students are regular library users at home, they are much more likely to continue to use library services when they are abroad (Kutner, 2009, p. 169). Students who use existing distance reference offerings like e-mail and IM are an ideal audience for Skype reference. Most importantly, the value of students sharing experiences with each other cannot be overstated. If there is a successful Skype reference session with a student, he or she could be your biggest promoter. Word of mouth marketing is real, personal, and honest (Barber and Wallace, 2009). Students are often more liable to believe a friend who tells them about their successful reference interaction. Success will often lead to more success.

A third lesson we learned is the value of critically evaluating technology and using it in an intentional, deliberate way. Following a visit to the Dublin campus by the Information Literacy librarian it became evident that there was a need for in-depth reference help. Instead of first seeing a technology and trying to identify what it could be used for in the library, we started with a need. Then, in trying to solve this problem, we discussed different technologies including video conferencing. Finally, different video conferencing tools were evaluated based on criteria deemed necessary for the project to work well. First recognizing a need and then thoughtfully matching the need to a technological solution yielded exceedingly positive results in this project.
Finally, and perhaps the hardest lesson, is one of expectations. A program such as a Skype-based reference service takes time to build. Like any other new initiative, such as IM reference when it was in its infancy, it is unwise to expect immediate results. Having overly high expectations can lead to disappointment or premature perceptions of failure. One thing we would have done differently is to be more explicit about our expectations for the project and to set realistic goals, offering us a way to measure our success or take stock of our shortcomings. We include Skype-based reference questions in our reference statistics, which allows us to measure the growth of the service over time. We also include Skype-based instruction sessions in our instruction statistics. However, we are keenly aware that it takes time build awareness of a new service. It also takes time for students to become comfortable and see the value in such a service. Of course it is prudent to reevaluate the service periodically in order to discern its effectiveness and continued worth, but becoming discouraged too quickly is a mistake.

From these lessons we identified next steps in moving the program forward. One key step would be to increase marketing of the service, not simply in Dublin but also in Burlington before students leave. Orientation would be a logical place to reach students before they travel to Dublin. One way we have moved forward is to include the Skype-a-Librarian flyer that students will see in the hallways in Dublin in the pre-departure orientation packets, distributed by the Study Abroad Office. Even if only glanced at, including the flyers in these packets encourages student recognition. We hope this will lead them to be more willing to use or ask about the service when they encounter the flyer again in Dublin. We will also briefly mention the service to students in information literacy sessions as another way to get help even while abroad. Another possible way to market the service would be to have a web page on the library site dedicated to study abroad students where they could learn more about what services and resources are available to them (Wang and Tremblay, 2009).

In addition to traditional marketing, another step the authors identified was the possibility of using social media in the promotion of the service. Talking about Skype reference on either the library or Dublin study abroad Facebook pages could yield more traffic and additional awareness of the service. Librarians could also collaborate with the operations manager in Dublin to highlight the service on the informational wiki for students that the Dublin campus already maintains. A video testimonial from students who used the service with great success could also be uploaded to a video sharing site and be exceedingly useful in the promotion of this program.

**Conclusion**

Students studying abroad do not always realize the wealth of materials available to them from their home institutions. A dynamic, synchronous reference service, like Skype-a-Librarian, enables libraries to offer students research assistance and connect with them while abroad. Our initial experiences are cause for optimism. Moreover, for us, conducting a pilot project like this was a valuable learning experience. The mere act of attempting it provided much more understanding and insight into our relationship with an important, though distant, part of our Champlain College community. Furthermore it provides important lessons to remember when attempting a similar pilot project in the future. First, build relationships with faculty and staff abroad. This cannot be stressed enough. As gatekeepers, they will be a main conduit to students and relationships with them will facilitate the successful development of the project.
Second, take student needs into consideration while developing specific criteria for selecting a technology. Finally, be patient as the program grows. It takes time for students and faculty, especially adjunct faculty, to become aware of the service and recognize the service’s value. A project like Skype-a-Librarian can, over time, demonstrate the library’s value to students, even an ocean away.

References

Further reading
Branzburg, J. (2007), “Talk is cheap: Skype can make VoIP a very real communication option for your school”, Technology & Learning, Vol. 27 No. 8, p. 36.

About the authors
Sarah Faye Cohen is Information Literacy Librarian at Champlain College in Burlington, VT. In addition to her work at the library, she also teaches courses on the impact of technology on society. She blogs at The Sheck Spot (http://thesheckspot.blogspot.com), where she explores technology, libraries, teaching, and anything else that tickles her fancy. Sarah Faye Cohen is the corresponding author and can be contacted at: cohen@champlain.edu

Andy Burkhardt is the Emerging Technologies Librarian at Champlain College in Burlington, Vermont. His professional interests include exploring new technologies, social media, and finding innovative ways to connect people and information. He blogs about those things at: http://andyburkhardt.com