

Students' Readiness for and Attitudes Toward Hybrid FL Instruction

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ABSTRACT:

Due to increases in enrollment, hybrid course delivery models, in which part of the instruction happens online, have become a popular solution to financial and space problems. Yet, little is known about the institutional preparedness for the implementation of hybrid language courses, especially the students' computer literacy and access as well as the attitudes toward hybrid instruction among college students beyond the studies conducted by Barrette (2001), Winke and Goertler (2008) and Winke, Goertler and Amuzie (2010). This study compares the general student population reported in Winke and Goertler (2008) with students in two hybrid first-year Spanish courses and students in a non-credit bearing beginning German course. General computer literacy and access were found to be high in all three groups, however, specialized skills were lacking even in the hybrid group. Incidentally it was found that students select a hybrid course not for their own technological savvy or their belief in the delivery format, but rather for the same logistical reasons that often prompt an institution to hybridize the curriculum: the flexibility in space and time.

KEYWORDS

Computer Literacy, Blended Language Learning, Hybridity

INTRODUCTION

College enrollment hit a record high with 18 million in 2006, and is expected to continue increasing until 2016 (National Center for Educational Statistics, 2007). At the same time, online and hybrid course offerings also increased (Kraemer, 2008a). The nation- and college-wide enrollment increase may be due to but also managed by online and hybrid courses. Assuming that the enrollment patterns in foreign languages somewhat parallel general trends as the Modern Language Association enrollment report suggests (Furman, Goldberg, & Lusin, 2007), the foreign language profession will (a) have to deal with an increase in students and (b) may have access to even more learners, if we offer online or hybrid courses. The purpose of this paper is to explore (1) the reasons for and benefits of a hybrid delivery model for foreign language courses, (2) to explore the challenges of and reservations regarding such a delivery mode, and (3) to assess the readiness of institutions, instructors, and in particular students for hybrid language instruction. This study compares the results of the technology and language learning survey of all students enrolled in basic language courses (first and second year) in the major languages (French, German, Spanish) presented by Winke and Goertler (2008) with those in a hybrid first-year Spanish course, and those in a non-credit bearing evening beginning German course at Michigan State University. In preparing for the hybridization of our curriculum, we encountered two assumptions: (1) tech-savvy students will lean toward hybrid courses; and (2) non-traditional stu-

dents are a prime target for hybrid and online courses. However, neither could be confirmed or disproven by the data set in Winke and Goertler (2008). Hence an expansion study looking specifically at hybrid course students and non-traditional students was needed.

LITERATURE REVIEW

In order to situate our study, we will review common reasons for and benefits of offering hybrid courses. Then, we will discuss the challenges of implementing hybrid courses and the preparedness of institutions, teachers, and students. To clarify, we adopted the Sloan-Consortium definition of hybrid or blended instruction, which states that hybrid courses take place partially in an online environment and partially in a face-to-face environment (Sloan-Consortium, 2005).

Reasons for and Benefits of Hybrid Courses

The reasons for implementing hybrid or technology-enhanced language courses vary and often depend on the perspective of the stakeholder. They can be categorized as follows: (1) space and financial savings for the institution; (2) improvement of the quality of instruction; (3) access to more (non-traditional) students; (4) engaging the digital natives in a learning mode they know; (5) flexibility; (6) articulation; (7) logistical issues; and (8) trends. The biggest motivation for this study was to investigate reasons (3) and (4) further.

1. Space and financial savings

Recent enrollment trends in overall college enrollment (Kennedy, 2008; NCES, 2007) and foreign language enrollment in particular (Furman et al., 2007) are showcasing the need for more language classes at the college level. However, in the face of budget cuts, it is unlikely that additional instructional staff will be hired or additional instructional space will become available at public universities in the US. Many universities already report having reached their space limits both in terms of finding classrooms for their classes as well as enough course offerings for the number of students interested in them. Foreign language classrooms in many places have reached class sizes between 25-30 (Kraemer, 2008b), much larger than the suggested class size of 15-20 (Association of Departments of Foreign Languages, 1993). Overcrowded classrooms are often a prime reason for offering hybrid or online courses (NCAT, 2001; Sanders, 2005). Offering courses in a hybrid format frees classroom space at least part of the time. Additionally, in many models, instructional staff have to teach more hybrid sections than traditional sections, therefore lowering the instructional cost per course and making more courses available at the same cost, thereby increasing incoming tuition (Goertler & Winke, 2008; Sanders, 2005). More access to non-traditional students creates more income potential (Chenoweth, Ushida, & Murday, 2006; Scida & Saury, 2006; Strambi & Bouvet, 2003).

2. Improvement of instruction

In addition to the needs-driven reasons for hybridizing the curriculum, there are also quality arguments. Some program directors believe that face-to-face class-time is used inefficiently and that with the help of online technologies the classroom could be more efficiently used for a focus on communication (Goertler & Winke, 2008; NCAT, 2001; Sanders, 2005). In upper division content courses, a blended format or a technology-enhanced format was suggested as a way to provide an additional, necessary, and desired focus on form that content instruction often lacks (Kraemer, 2008b; Kraemer, 2008c; Zyzik & Polio, 2008). In addition, technology-enhanced instruction is also seen as an environment that offers immediate feedback opportunities (Blake, 2007; Chappelle, 2007; Goertler & Winke, 2008). Furthermore, a new form of instructional delivery offers a change of pace and brings variety to the teaching of foreign languages (Arnold, 2007). Technology-enhanced activities also allow the instructor to connect students to the target culture and its people (Arnold, 2007; Belz, 2003).

While some people see a potential to increase the quality of instruction in a technology-enhanced or hybrid language course, others are skeptical that the quality of instruction is comparable (Blake, 2001; Goertler & Winke, 2008). However, comparison studies have found hybrid instruction to be as effective if not more effective than face-to-face instruction (for summaries see Blake, 2007; Goertler & Winke, 2008; Grgurovic, 2007; Kraemer, 2008b; also see Chenoweth et al., 2006; Sanders, 2005).

3. Access to more (non-traditional) students

While most major languages are struggling with keeping up with the demands for classes, some of the less commonly taught languages (LCTLs) or languages taught at smaller institutions are struggling with filling classes to a point where they become cost-neutral. Several of the LCTLs at Michigan State University have class sizes of less than five students. Hybrid or online instruction has been seen as a great opportunity in these situations because it allows the colleges to draw from a broader audience that includes non-traditional students (Chenoweth et al., 2006; Sanders, 2005; Scida & Saury, 2007, Strambi & Bouvet, 2003). Non-traditional students are often older than typical college students, may work at the same time as attending college, may go to college for an additional career or to advance their career, and they often attend school on a part-time rather than a full-time basis. Hybrid instruction not only offers more flexibility to non-traditional students but also to inter-institutional projects. Online and hybrid courses allow institutions to collaborate with each other to pool resources.

4. Engaging the digital natives

It has been argued that today's students are part of the digital-native generation. The ECAR study of 27,000 undergraduates at 98 institutions in the United States referred to this generation of students as the net generation (Caruso & Salaway, 2008). The net generation is made up of digital natives who grew up with digital technologies such as the computer, CD or MP3 players, etc. (Prensky, 2006). The ECAR study found that the undergraduates have good access to technology (80% laptop, 53% desktop). Most students used college websites, presentation software, text messages, spreadsheets, course management systems, downloaded music and video, and instant messaging. The report concluded that students feel skilled in such core applications for coursework.

Prensky (2005, 2006) argues that because digital natives are so technologically skilled they need a different learning environment than the one traditionally available at universities; thus, he suggests incorporating multimedia and interactive learning environments. Some even argue that students are more engaged within such an environment (Prensky, 2005) and, therefore, exhibit a better work ethic by staying on task for a longer time and producing better quality work (Sanders, 2005).

Educational leaders have also pointed out that students today have insufficient information literacy, the ability to find, evaluate, and properly integrate information. Of special interest here is information literacy in a digital environment, which the Educational Testing Service (2008) defines as students' ability to navigate, critically evaluate, and make sense of the wealth of information available through digital technology. The perceived underdeveloped information literacy prompted the Educational Testing Service to develop a test called the ISkills test (ETS, 2008; Foster, 2006). During the initial piloting of the instruments, it was confirmed that graduating seniors and college students do not have sufficient information literacy (Foster, 2006). Yet, information literacy and digital literacy are required skills in today's job market (McHale, 2005). If digital literacy is an educational goal of college education, digital skills and practice need to be integrated across the curriculum. Therefore, giving all students equal access to literacy training on computer technology is an educational goal that needs also to be met in the foreign language classroom. As Barrette (2001) pointed

out, technology skills not practiced will be lost, and skills will improve with practice. A hybrid foreign language course offers opportunities for practice in using digital technologies which should result in improved digital literacy for all.

5. Flexibility

One of the greatest advantages of hybrid instruction is its flexibility in time and space (Chenoweth, et al., 2006; Sanders, 2005; Scida & Saury, 2006; Strambi & Bouvet, 2003). On the one hand, it results in the above-mentioned possibilities to save money and space, but it also makes it a convenient model for teachers and students (Arnold, 2007; Goertler & Winke, 2008; Strambi & Bouvet, 2003). The ECAR study of undergraduate students' instructional technology use also established that students (65.9%) saw its advantage and convenience (Caruso & Salaway, 2008).

6. Articulation

Interestingly, language program administrators stated that hybrid instruction improved their coordination efforts, vertical articulation, and standardization in their program (Goertler & Winke, 2008). The participants in Goertler and Winke (2008) were language program coordinators typically in charge of coordinating first- and second-year instruction. The inclusion of pre-packaged exercises in an online format ensures that at least those components are used the same way across sections, thereby improving horizontal articulation. Including similar technology tools for similar task types at different levels can improve vertical articulation. In addition, technology allows a supplementary content focus in the lower level courses and a supplementary language focus in the upper level courses (Kraemer, 2008c). In addition, Sanders (2005) reported that the hybridization of the first year Spanish program resulted in better horizontal articulation, i.e., articulation across sections. Both Sanders (2005) and Kraemer (2008b) also found that the hybrid format resulted in a stronger sense of community among students. In both studies this was an incidental finding, and the authors suggested that the added computer-mediated communication components forced students to engage with each other and, thereby, improve their sense of community.

7. Logistical issues

Language program coordinators reported that hybrid instruction was the preferred mode of instruction by instructors in charge of beginning language courses and students (Goertler & Winke, 2008), which was not confirmed by the student survey conducted by Winke and Goertler (2008) or by the ECAR study (Caruso & Salaway, 2008). This might suggest that language program coordinators' impressions may be inaccurate or that there are great differences between institutions. The difference in results could also be explained by the data collection method. Since Goertler and Winke (2008) conducted their survey online, the respondents may have been more favorable toward technology than the participants in Winke and Goertler (2008), who completed the survey on paper. We would argue here that due to the response rate and the delivery format of the survey, the Winke and Goertler (2008) results are more representative.

Usually, offering hybrid instruction also results in better options to track students' progress, assess their engagement with the tasks, and provide second language acquisition research with more information about the language learning process (Banados, 2006; Blake, 2007; Chapelle, 2007; Fischer, 2007; Kraemer, 2008b; Prensky, 2006). Employing tracking devices in hybrid or online instruction also results in increased accountability for both teachers and students. The information is online and stays online for others to verify.

8. Trends

Another reason for the implementation of technology is what we will refer to as peer pressure. Trends in education suggest that hybrid and online courses are on the rise across

fields (Kraemer, 2008a). As mentioned in the beginning, the increase in college enrollment may have necessitated an increase in hybrid and online courses. There has been a steady increase in courses with online components. In fall 2006, 20% of college students were enrolled in online courses and more than two-thirds of higher-education institutions offered online courses (Babson Survey Research Group as cited in Kennedy, 2008). In comparison, the Postsecondary Education Quick Information System report on Distance Education at Degree-Granting Postsecondary Institutions 2000-2001 stated that 56% of the institutions offered online courses (NCES, 2007). In looking at the *Chronicle of Higher Education*, especially its *Wired Newsletter*, there is an indication of a trend toward hybrid and online instruction across disciplines.

Unfortunately, national data about online and hybrid course offerings in foreign languages is not available. Kraemer (2008a) summarized a variety of reports that all indicate that online teaching and learning is on the rise, especially hybrid or blended learning environments, with the Humanities being one of the leading fields. Little is known about the percentages of blended or online language courses and the ratio of online/blended courses and traditional courses. Based on published research on hybridization projects (French: Chenoweth et al., 2006; Scida & Saury, 2006; Spanish: Sanders, 2005; Chenoweth et al., 2006; Strambi & Bouvet, 2003) as well as the survey conducted by Goertler and Winke (2008), it is suggested that most blended courses are offered in the major languages (French, German, and Spanish), likely in part because of the enrollment numbers, the use of Roman alphabets, and the availability of materials for these languages.

Challenges and Preparedness for Implementing Hybrid Courses

Hybridization has supporters as well as opponents. The issues believed to be beneficial by some, such as the space saving and the flexibility of time, are perceived as downfalls by others, since this format reduces face-to-face time. Also, some say that hybrid is a cost saving method (Sanders, 2005), while others argue that it increases costs (teachers in Goertler & Winke, 2008). These seemingly contradictory points can in part be explained by the diverse models of hybrid instruction, the variety of technological tools, and the cost calculation method. Only when pedagogy drives the implementation of technology can it be a successful endeavor (Blake, 2001).

The perceived and real challenges in implementing technology-mediated course elements can be summarized in the following categories: (1) logistics; (2) time, space, money; (3) materials; (4) effectiveness; (5) articulation; and (6) preparation.

1. Logistics

The biggest challenge in applying technology and the biggest reason why language program directors do not implement technology-mediated course components are the lack of access to technology and issues in the reliability of such technologies (Chenoweth et al., 2006; Goertler & Winke, 2008). Even when technologies are available somewhere on campus, they are not perceived as accessible if they are not in close proximity to the teaching space (Chambers & Bax, 2006; Goertler & Winke, 2008). Often technology problems can be traced to a lack of technical and pedagogical support (Chambers & Bax, 2006; Goertler & Winke, 2008). In addition to these infrastructure issues, language teaching professionals also are concerned about plagiarism and test security (Chapelle & Douglas, 2006; Goertler & Winke, 2008). Additionally, feedback features and automated scoring may not work as well as desired or planned (Chapelle & Douglas, 2006).

2. Time, space, and money

As we discussed above, some argued that a hybrid course format resulted in time, space, and financial savings. However, others argue that hybridization means an increased time

commitment on the part of the teacher (Chambers & Bax, 2006; Goertler & Winke, 2008; Kraemer, 2008b). The Midwestern language program coordinators reported that a lack of extra time is preventing them from trying out a hybrid curriculum (Goertler & Winke, 2008). While the language program coordinators might not themselves teach the courses, they would still be left developing the courses, and overseeing the course implementation. The Web-based Education Commission confirms their fears in reporting that online teaching takes up to 500% more time (Web-based Education Commission, 2000). In the face of such an increased time commitment, teachers are usually not presented with a benefit in return, such as additional pay or recognition toward tenure. In fact, teachers teaching hybrid courses in the formats that have been suggested as cost-saving for the institution may earn less money per actual hour worked and their progression towards tenure may suffer as a result of the increased time commitment.

When asked about hurdles for hybridizing the curriculum, language program coordinators also stated that the lack of additional funding for resources, materials, training, development, and implementation is one of the main reasons for staying away from technology-mediated course components (Goertler & Winke, 2008). They also believed that a hybrid course would at least initially increase costs (Goertler & Winke, 2008). Most studies that reported a decrease in instructional costs (i.e., costs for teaching staff) did not factor in the additional expenses for the infrastructure for the hybrid course (e.g., additional equipment, training, support staff, etc.), and/or the developmental costs (e.g., materials writers, programmers, materials, software, and hardware, etc.). Since these costs were often covered by grants in the reported hybrid projects, such numbers were not factored into the cost calculations. Yet in programs without grants these need to be factored into the needs assessment.

3. Materials

In addition to the logistical issues, teachers also reported that they prefer traditional teaching formats because adequate materials are missing for online language teaching, especially in the LCTLs (Goertler & Winke, 2008). Additionally, the short lifespan of technology-enhanced materials makes their implementation challenging (Blake, 2001).

4. Effectiveness

While empirical studies comparing face-to-face and hybrid instruction reported that learning outcomes were comparable (for a summary see Goertler & Winke, 2008; Kraemer, 2008c), the perception of its effectiveness paints a different picture. Language teaching professionals fear a decrease in quality due to the decrease in face-to-face teaching time and contact with the students (Goertler & Winke, 2008). Students have been found to navigate through CALL materials in an inefficient way (for a summary of studies see Fischer, 2007). Yet, one might argue that students navigate just as inefficiently through non-technology-mediated materials, it is just harder to detect it than with technology-mediated materials. Students have also been found to not take advantage of the capabilities of the tools they own (Caruso & Salaway, 2008; Fischer, 2007).

Additionally, despite the voices calling for a technology-mediated teaching environment to engage the digital natives, the ECAR study found that net students "are not looking for extensive use of IT when it comes to their academic course work" (Caruso & Salaway, 2008. p.10). The main argument against hybrid and online instruction that the undergraduates mentioned was the lack of face-to-face time and the missing interaction with the instructor. In that sense, students also question the effectiveness of online and blended courses.

5. Articulation

While practitioners and researchers have reported increased vertical and horizontal articulation as a result of the hybridization of basic language courses, articulation within a course is problematic. The transitions between online and non-online course components and the integration of technology-mediated activities into the syllabus often leave much to be desired (Chambers & Bax, 2006; Kraemer, 2008b). Even when the integration was carefully planned, it is often not perceived in such a manner by the students (Kraemer, 2008b).

6. Preparation

It was implied in the discussion above already that a lack of institutional infrastructure is the main hindrance in a successful implementation of technology-mediated course components (Chambers & Bax, 2006; Goertler & Winke, 2008). Institutional support (e.g., no reward for technology-mediated material development in tenure reviews, no teaching releases for development time, inadequate technology and pedagogical support in development, implementation, and evaluation of technology-mediated materials) is also often absent. Furthermore, teachers and administrators do not always have a sufficient understanding of the complexities of technology-mediated instruction to hybridize or lead the hybridization of the curriculum (Arnold, 2007; Chambers & Bax, 2006; Kessler, 2006). In addition to the lack of preparation, many teachers have a reserved or negative attitude toward technology (Blake, 2001). Many teachers can only fathom technology to play a supplementary and not an integral role in foreign-language education (Arnold, 2007).

As has been mentioned before the students also are not adequately prepared to engage in a technology-mediated course (Foster, 2006; Messineo & DeOlllos, 2005; Winke & Goertler, 2008). Student computer literacy is often assumed, since traditional college students generationally are part of the digital natives. In addition to age, research has also found a digital divide (Salpeter, 2006)—a difference in computer access and literacy, based on ethnicity, gender, household income, and educational level (Messineo & DeOlllos, 2005). This means that even though a student might be born in the right year to be a digital native, he or she may not be a digital native due to one of the other factors.

Foster (2006) reported on discussions about computer and information literacy suggesting that they were necessary skills for all students, but held by only a few. However, Messineo and DeOlllos (2005) found that all students claimed to be familiar with computers. Students had good general access and skills, and somewhat positive attitudes, but differences were found in regards to age, gender, and ethnicity.

The only published studies that specifically addressed students' computer access and literacy for the foreign language classroom that we are aware of are Barrette (2001), Winke and Goertler (2008) and Winke, Goertler and Azumie (2010). All three studies found that students had basic computer literacy, but were inadequately prepared and had inadequate access to the technologies that are perceived as especially valuable for language learning (such as multimedia materials).

Preparing for Hybridization

Chambers and Bax (2006) encourage CALL practitioners and researchers to consider all factors that influence CALL implementation in order to assist the normalization or educational reform process. It is clear from enrollment trends and changes in our student population that a foreign language pedagogical reform is necessary. We argue here that there are several good reasons to hybridize the curriculum: (1) an increase in demand for language instruction; (2) potential institutional savings and an increase in institutional income; (3) potential to decrease class sizes and therefore increase effectiveness of instruction; (4) engaging the typical students through a learning model familiar to them; (5) potential for

providing valuable information to students, teachers, and researchers through tracking and automated analysis and feedback options.

As mentioned earlier the hybridization faces several challenges and hidden costs, such as potential decrease in actual hourly wage due to the increased time commitment, the need for more instructional technology infrastructure, and potential additional costs to students who may be asked to pay a larger technology fee or have to purchase additional equipment. In light of those facts, it is paramount that an institution that blends the curriculum conducts an infrastructure needs analysis with students and teachers, after which it conducts a cost-benefit evaluation of a hybridization project. For example, if it turns out that, contrary to stereotypical beliefs about the current generation of college students as digital natives, they do not have the necessary access to and skills in the technologies most beneficial for hybrid learning, then the institution will either have to abandon the hybridization plans or find additional funds for training and support. Even if it was found beneficial initially, continuous monitoring of the learning outcomes and the hidden and the apparent costs needs to ensure that the hybridization is beneficial for all or at least most stakeholders. Furthermore, additional technological advances necessitate that the needs analysis and evaluation is an iterative process. For example, it is likely that publishers will have to make changes to their online components in order to make them more valuable. A Quia (<http://www.quia.com/>) workbook that only accepts a limited number of answers is frustrating to all, an online workbook that accepts answers and provides feedback based on an existing learner corpus is more valuable to students, teachers, and researchers.

In conclusion, while we see a lot of reasons for hybridizing the curriculum, we also believe that institutions, teaching staff, and learners are not ready for a hybridization of the foreign language classroom based on the previous research discussed above and our findings about students' readiness, which will be discussed in the following section. As mentioned above, we believe thorough needs analyses are necessary to identify which courses to hybridize, how, and when. This study adds to the profession through a needs analysis of three different student populations: basic foreign language students in the major languages (where most hybridization projects take place) as reported in Winke and Goertler (2008), a first-year Spanish course labeled hybrid by the institution, and a beginning German non-credit-bearing course for non-traditional learners (a population typically seen as a prime target for hybrid and online courses). As mentioned earlier, this study is an expansion of Winke and Goertler (2008) that was inspired by two unconfirmed assumptions: (1) students who are interested in technology would prefer hybrid courses and (2) non-traditional students are a prime target for hybrid and online courses. If (1) were true, then blended courses would require little additional technology training. (2) assumes that non-traditional students are interested and skilled enough to take online and hybrid courses. If that is not the case, then they might not be a good target for online courses.

RESEARCH QUESTION

Most published hybridization projects investigated first- and second-year courses in French, German, and Spanish. In order to assess if such a hybridization would be feasible given the computer literacy and access of students in this institutions' beginning and intermediate French, German, and Spanish courses, we conducted a survey-study. Michigan State University is a large research university without a campus-wide language requirement but with a campus-wide computer requirement. We will review the computer literacy and access of the students described in Winke and Goertler (2008)—911 students in regular first- and second-year French, German, and Spanish courses—and compare their literacy and access with those of (a) students enrolled in two regular first-year Spanish hybrid courses; and (b) students enrolled in a first-year continuing education German course (i.e., non-traditional students) in which technology was used for supplementary learning. The research question guiding this study is:

1. What are the general computer literacy, computer access and attitudes toward technology-delivered language instruction of foreign-language students?
 - a. How do literacy, access, and attitude of the overall student population compare to students enrolled in a hybrid course?
 - b. How do literacy, access, and attitude of the traditional students and the hybrid students compare to non-traditional students enrolled in a technology-supplemented beginning German course?

METHODS

The current study compares two case studies with a campus-wide initiative assessing computer literacy, access and attitudes. Initially, a survey on computer literacy, computer access, and attitudes toward computer-mediated language learning was administered to all students enrolled in foreign language classes at the end of the semester (Ahn, Hsieh & Sydorenko, 2008; Winke & Goertler, 2008). We focus here on the 911 students reported in Winke and Goertler (2008), which were those participants who were enrolled in a first- or second-year course in French, German, or Spanish. Not all students answered all questions, so some participants had to be excluded from some of the following analyses. In a subsequent semester, this research team took a more detailed look at the two other groups described above. Just like with the original study, surveys were administered at the end of the semester. The Spanish course was advertised as hybrid and some class-time was replaced by self-study with online materials. The German course was not advertised as hybrid; however, it did use online materials for supplementary learning. The three studies will be referred to by the name of the lead investigators: (1) the overall student population study will be referred to as "Winke and Goertler"; (2) the hybrid case study in Spanish will be referred to as "Gaff"; and (3) the adult continuing education case study in German will be referred to as "Bollen."

Context for all Studies

The three studies were conducted at Michigan State University, a large public university in the Midwest. In contrast to comparable colleges, this institution has large class sizes in their lower-level language courses with typical class sizes between 25-30 students (Goertler & Winke, 2008; Kraemer, 2008b), though the campus-wide faculty-to-student ratio is comparable to other institutions with 1 to 16. According to the University Registrar's office in the semester the study was conducted, 75% of the undergraduates were Caucasian, 81% from within the state, and 2% of the courses were at least partially online according to official records (a 9% increase from the previous year). The university has a campus-wide computer requirement but no campus-wide language requirement. At the time of the study, to our knowledge, only the Spanish language program offered language courses designated as hybrid courses. Other courses may have had technology-enhanced components, but were not officially listed as hybrid or online courses.

Despite the fact that all regularly enrolled undergraduate students are required to own a computer, nothing had been known about the students' computer literacy or access at the onset of the study at the institution. It should be noted that while the university has a computer lab dedicated to the study of foreign languages, it is not a convenient location for all language units. For many of the language units, taking their students to the lab constitutes a 15-minute walk. In a survey of language program coordinators at the institution discussed in this study (Goertler & Winke, 2008), some instructors did not consider the language lab as a valid option and reported not having access to a language lab. Classes are typically offered in the building in which the instructors have their offices, hence a 15-minute walk, especially if one teaches courses back-to-back, makes the lab an inconvenient teaching environment. Furthermore, many of the classrooms are equipped with technology carts for the teachers, hence, there is no immediate need to go to the lab. The computers in the classrooms are PCs, whereas the computers in the computer lab are Macintosh computers, which

may further contribute to the underuse of the computer lab. Teachers and students do use the online services that the computer lab offers, but only some view the language lab as a valid teaching environment. Unfortunately, as a result, the lab appears to also be under-advertised by teachers, as will be discussed later, due to the fact that not all students surveyed recognized the access to technology and technology assistance they had through the language learning computer lab.

General Description of Instruments

The case studies reported on here are survey-based. The surveys asked students to speak to their access to technology, their technology skills, and also their attitudes toward technology-mediated language instruction and specifically hybrid instruction (see Winke & Goertler, 2008). Winke and Goertler's survey served as the model for the surveys administered in Gaff and Bollen. Derivations from the original survey will be pointed out in the discussion of the case studies. All surveys were administered at the end of the semester.

In order to avoid bias and achieve a high return rate, the survey was offered in a paper-based format. To be able to obtain data from the entire population, sacrifices had to be made. Self-report data bears the risk of participants over or underestimating their abilities. Furthermore, the Likert scale items only provide the students' response to the item, not an explanation of their answer. However, due to the large sample size of the overall population, these sacrifices were considered unavoidable.

RESULTS

Case Studies

1. General student population — Winke & Goertler (2008)

Winke and Goertler (2008) analyzed a subset of the data collected from all students enrolled in credit-bearing foreign language courses during the fall semester 2007. They analyzed a subset of the data: the surveys from the 911 students (319 male and 567 female) enrolled in the basic language courses (first and second year) in the major languages (French, German, and Spanish) who completed the survey (for a review of the entire population see Winke, Goertler, & Amuzie, 2010). While they found that students had general computer skills and access, they did not have sufficient access and skills according to their self-report data to be able to participate in a hybrid language course that would require handling sound and video data. Furthermore, students' desire to learn a foreign language in a hybrid format was split fairly evenly in the three categories: yes, maybe, and no.

2. Hybrid course — Gaff

In the subsequent semester, Gaff administered the original paper-based survey to two sections of hybrid second-semester Spanish. The survey was completed by 37 students (17 male, 19 female, and 1 not reported). The hybrid Spanish course met face-to-face three times a week for 50 minutes each (the traditional (non-hybrid) courses met five times per week for 50 minutes each). Students in the hybrid sections were expected to complete activities in the online workbook for two additional hours a week and work with the online textbook on their own. The online workbook assignments were no different from typical homework assignments, except that they used an online platform. The online textbook activities were also similar to what students would do in a face-to-face class, except that they were completing these assignments on their own time without interaction with others online or face-to-face. Although students were expected to complete these online activities, they were not required to turn in any of their work, nor was it verified if students had completed the activities. In contrast to our expectations, the students in the hybrid courses were not participating in computer-mediated communication, and did not have to create or edit audio or video files. While the university labeled this course hybrid, the actual implementation of

the course significantly differed from our expectations and descriptions of hybrid courses in the professional literature as discussed earlier. The course was hybrid in the sense that class-time was replaced with online activities, however, it took the format of self-study.

The semester Gaff's study was conducted, the hybrid course was in an early iteration that was focused on making more classes available to students without increasing teaching staff. The initial solution was this hybrid course implementation: one hybrid teacher teaches three courses a year with up to 22 students per section and one non-hybrid teacher teaches two courses a year with up to 30 students per course. With this system the number of students taught by each instructor was roughly the same. In order to keep the time on campus and the grading load comparable, the class time was reduced and replaced with self-study exercises that required no additional grading. While the goal of the hybridization, to make more courses available at the same cost, was achieved, there was no real pedagogical innovation. The course has since been revised in response to feedback from students and teachers.

The survey was not changed from the original survey, except that one question was added: "Why did you choose to take this hybrid Spanish course rather than a traditional face-to-face course?" The data was analyzed both quantitatively and qualitatively. The students' comments were grouped into categories. Percentages were calculated for the Likert-scale items to compare the results to Winke and Goertler (2008). Responses for each item were coded using a 4-point scale (from 1=not at all to 4=easily). Each student's responses were averaged and this number was assigned as their technology score. This number was used to assign a general level of technological proficiency to each student.

The data show that most students either owned or could easily access a computer (see table 1). In contrast to the larger original sample from Winke and Goertler (2008), all of the hybrid students surveyed by Gaff said that they could find access to a computer. Similar percentages of computer ownership were found in the Winke and Goertler as well as the Gaff population. Ownership of other technology tools was also similar between the two groups, with the hybrid group (Gaff) having slightly more access in most cases except for microphones and webcams (speakers 70% in the Winke and Goertler study vs. 81% in the Gaff study; headphones 92% vs. 97%; microphone 35% vs 31%; printer 83% vs. 86%; internet 95% vs. 100%; webcams 37% vs 36%; digital camera 72% vs 78%; and video camera 21% vs. 22%). Overall access was good; however, considering the demands of hybrid foreign language courses as they have been described in the professional literature, microphone and webcam access below 50% is problematic. Yet, given the tasks that students in this hybrid course were involved in, webcams were not necessary and microphones were required only rarely. Since they had no perceived need, it is not surprising that the access to microphones (44% vs. 35%) and webcams (36% vs. 31%) was low. However, before implementing a more pedagogically and technologically advanced hybrid course, these low access numbers have to be taken into consideration. While students might purchase these additional computer accessories if needed for a course, it cannot be assumed that they will.

Table 1
Summary of the Participants' Ownership of and Accessibility to Technology Tools

Tool	Can't get it - %		Can find it with difficulty - %		Can find it easily - %		Own it/have it - %		Total responses - N	
	WG	G	WG	G	WG	G	WG	G	WG	G
PC desktop	2	0	4	0	62	67	32	33	870	36
PC laptop	3	0	5	11	20	16	72	73	886	37
Mac desktop	16	5	24	32	55	54	4	8	852	37
Mac laptop	16	11	21	19	41	62	22	8	869	37
Computer speakers	2	0	7	3	21	16	70	81	887	37
Headphones	1	0	1	0	7	3	92	97	894	37
Microphone	12	11	32	14	21	44	35	31	872	36
Printer	0	0	2	0	15	14	83	86	891	36
Internet access	0	0	0	0	4	0	95	100	892	36
Webcam	12	6	24	25	27	33	37	36	878	36
Digital camera	35	6	6	3	19	14	72	78	883	36
Video camera	12	8	30	22	37	47	21	22	869	36

WG = Winke & Goertler (2008); G = Hybrid course data set from Gaff

In addition to some technology access limitations, there also continue to be issues with computer literacy even with the hybrid students. Students were asked to self-report their abilities to perform various computer-based tasks, such as sending attachments via email, creating free email accounts, and typing foreign characters in documents. Students were comfortable performing basic computer and online tasks (see Table 2), but were less comfortable with the kind of multimedia tasks that may be expected of them in an ideal hybrid foreign-language course.

Table 2
Summary of the Participants' Abilities to Perform Computer-based Tasks

Tool	Not at all - %		With difficulty - %		With very little difficulty - %		Easily - %		Total responses - N	
	WG	G	WG	G	WG	G	WG	G	WG	G
non-English characters	5	0	22	11	36	49	37	41	893	37
Insert pictures & graphs	1	0	4	0	21	11	75	89	894	37
Insert audio and video	6	3	26	22	29	49	39	46	893	37
Develop website	25	27	35	46	23	14	17	14	890	37
Navigate the Internet	5	0	1	0	6	3	92	97	892	37
Save/download files	0	0	2	0	9	5	89	95	891	37
Create tables	1	0	7	3	20	14	72	84	890	37
Play audio files	0	0	2	0	12	8	86	89	892	37
Play video	1	0	2	0	10	11	87	86	890	36
Zip files	9	8	17	22	23	32	51	35	887	36
Post messages	1	3	2	0	5	5	92	92	891	36
Email	0	0	1	0	6	5	93	95	893	37
Create accounts	1	0	3	0	8	8	88	92	890	36
Start/ install programs	1	0	3	0	11	11	85	86	891	36
Copy files	2	3	7	5	18	22	72	70	883	36
Copy audio	2	0	8	16	19	22	71	62	889	37
Create audio CD	3	3	6	3	17	24	75	70	887	37
Record & edit sound	11	11	29	24	24	38	36	27	891	37
Upload video	12	14	27	19	25	32	35	35	888	37
Edit video	20	22	34	27	22	32	24	19	889	37

WG = Winke & Goertler (2008); G = Hybrid course data set from Gaff

We divided the tasks into different ranges of readiness. If 90-100% of students felt comfortable to perform a task easily or with little difficulty, the task was considered at the ready level. This means that no additional training would be needed if such a task were implemented in the course. The students with difficulties (0-10%) could be referred to campus resources for individual help. If 75-89% of students felt comfortable to perform a task easily or with little difficulty, we assumed that such a task was trainable. This means that if such a task were included in a course, some training at the beginning of the course would be necessary for all students, resulting in some of the hidden costs discussed earlier. If 50-74% of students thought they could easily or with little difficulty perform a task, we assumed that students were unprepared to participate in a course that would require such a task. This means that if such a task were applied to the curriculum, significant and recurring technology training and available human resources during the course implementation would be required. If 0-49% of students thought they could easily or with little difficulty perform a task, we assigned it a rating of impossible. In a course requiring such a task too many students would require extensive training and support to comfortably employ the technology skills. The required training and additional support infrastructure would outweigh the benefits of the tool, and therefore, we recommend against including those tasks in a hybrid or online course as training would be too costly and may result in logistical challenges with students off-campus.

Most of the tasks were in the same range for the two sets of participants (see Table 3). Ready comfort levels in both data sets were reported for inserting pictures and graphs (96% in Winke & Goertler vs. 100% in Gaff), navigating the Internet (98% vs. 100%), saving and downloading files (98% vs. 100%), creating tables (92% vs. 98%); playing audio files (98% vs. 97%), playing video files (both 97%), post messages in an online discussion forum (both 97%), sending and receiving emails including attachments (99% vs. 100%), creating accounts (96% vs. 100%), starting and installing programs (96% vs. 97%), copying files from the computer to a CD or DVD or vice versa (90% vs. 92%), creating audio CDs from MP3 files on the computer (92% vs. 94%)

Table 3
Student Populations' Readiness for Hybrid Instruction*

Level Study	Impossible (0-49%)	Unprepared (50-74%)	Trainable (75-89%)	Ready (90-100%)
Both Groups: Winke & Goertler and Gaff	Develop/maintain a website	Handle zip files Record & edit sound Upload video		Insert pictures/graphs Navigate the Internet Create tables Play audio/video files Post messages Email Create accounts Start/install programs Copy files Create audio
Winke & Goertler only	Edit videos	Non-English characters Insert audio/video		Copy audio
Gaff only		Edit video	Copy audio files	Non-English characters Insert audio/video

* readiness levels are calculated from the data presented in Winke & Goertler, 2008 and those collected by Gaff

In both data sets, downloading and unzipping a file archive was at an unprepared level with the original group scoring higher: 74% versus 67% in the hybrid course. Unfortunately, both the hybrid course and the overall basic language student population in the major languages only felt comfortable at an unprepared level in recording and editing sound files (60% vs. 65%) and in uploading videos from a camera (60% vs. 67%). It is, however, comforting to see that at least the hybrid course felt more comfortable than the original group. In both data sets, developing and maintaining websites was a task rated at the impossible level, with the original group scoring higher: 40% versus 28% in the hybrid course. It is unclear, however, whether students interpreted this item to mean 'to be able to develop and maintain a website with or without the assistance of a content management system' or if they assumed it meant 'having knowledge of HTML code'.

Having discussed how similar the hybrid course was to the overall basic languages student population, we will now focus on some of the differences between the two groups. The hybrid course achieved a higher readiness level for typing non-English characters (90% or ready vs. 73% or unprepared in the original survey), inserting audio and video files (95% or ready vs. 68% or unprepared). While the difference in comfort level was only five percent between the groups in editing videos (46% versus 51%), it meant that in the original group it was an 'impossible' task and in the hybrid course it was an 'unprepared' task that could be trained with tremendous effort. Interestingly, the original group showed a higher readiness level for copying audio files to and from the hard drive with the ready level (90%) versus a trainable level in the hybrid course (84%).

Unfortunately, we have to conclude from this that even the students enrolled in a hybrid course have only somewhat adequate computer skills for a successful experience in a hybrid or online language course. However, it appears that tasks that students had to commonly use in their particular hybrid course (such as typing special characters) were more developed in the hybrid course. The significant difference in population size may also play a role in the results.

The average technology score for the 37 students in the hybrid course was 3.47 with a standard deviation of 0.329. The highest score was 4 (n=2) and the lowest was 2.75 (n=1). In the original data set, 879 basic language students in the major languages provided sufficient information to be assigned a technology score. The average score was 3.44 with a standard deviation of 0.42. Only 3 students received a score lower than 2 and 50 students received a maximum score of 4. Contrary to our suspicion, it does not appear that students with higher technology skills gravitate to the technology-enhanced courses. As will be discussed later, the decreased face-to-face time and the perceived time saving were the main reason for selecting a hybrid course.

When asked directly if they would be interested in taking a language course where part of the course is completed online, of the 37 hybrid students, 35% said yes, 43% said maybe, and 19% said no. Considering that these students were enrolled in a hybrid course, their responses could be interpreted as being due to dissatisfaction with the particular model of hybrid language instruction they were experiencing. In the general population reported on by Winke and Goertler, 22% responded with yes, 35% with maybe and 39% with no.

To gain further insights into the motivation for taking a hybrid language course, the hybrid course students were also asked directly why they chose to be in a hybrid Spanish course rather than a traditional face-to-face course. The majority (70%) said that they chose the hybrid course because they only had to come to a face-to-face class three days a week instead of five. Just over half (51%) said that it was easier to fit a 3-day-a-week class into their schedule over a 5-day-a-week class. Given the 19% difference between these two answers, one might conclude that students do not value class-time, which would be contrary to the findings of the ECAR study (Caruso & Salaway, 2008). At the very least, we conclude that the distribution of class-time is causing students some dissatisfaction. 14% said that they chose the hybrid Spanish course because they had taken a hybrid Spanish course the previous semester and enjoyed it. While the first three reasons may not be the arguments with which to promote a hybrid course, it is still important to understand students' motivations to select a course. For example, students may be operating under the misconception that the course will be less work. This needs to be addressed early on in the semester, if not during registration for the course. The ability to learn in a more flexible manner and enjoyment of using technology were each cited as reasons by 5% of the students.

Contrary to initial expectations, there were few differences between the general language student population and those enrolled in a hybrid foreign language course in regards to

computer literacy, access, and attitude toward hybrid instruction. The results suggest that students in the hybrid courses are representative of the general population and simply elected to take a hybrid course for utilitarian reasons, namely the perceived time saving or time flexibility. As was suggested earlier, this clearly indicates a need to deconstruct students' misperceptions about hybrid courses and mirrors similar findings in the literature about teachers' perspectives (Arnold, 2007). However, even toward the end of the semester when this survey was administered, they were still not overwhelmingly capable of skills that are often required to successfully complete a hybrid course. This seems to contradict Barrette's (2001) findings that practiced technology skills improve. Yet, as has been mentioned before, this hybrid course was more similar to a self-study course than to the hybrid courses that have been reported in the literature. This may explain why the only skills the students appear to have learned is typing non-English characters and inserting multimedia files. The only improved access appears to be access to the technologies available in the language lab.

3. Non-traditional students – Bollen

While both the general study by Winke and Goertler and the hybrid study by Gaff focused on typical undergraduate students, in her case study, Bollen investigated a voluntary non-credit bearing German-language course (10 weekly 3-hour sessions) that was offered to the general public. As a non-credit bearing course, all components of the course (in-class assignments, homework, and supplementary materials) were voluntary. The course met face-to-face and many supplemental materials that students were strongly encouraged to utilize were made available online. While the students attempted to access them, even minor technological problems discouraged them from using these resources. Yet, students did report finding the activities and resources useful.

Six of the nine students completed the survey. All participants were older than 50 years (two were older than 65). Three participants were still working in the administrative or educational field, three were retired, and 84% had at least a Bachelors degree. All students reported an upcoming trip to Germany as their main motivation to learn German. Students spent between zero and two additional hours studying for the class. Due to their age and the type of course they were enrolled in, these students were considered non-traditional students. Non-traditional students are often considered good clients for online or hybrid education due to their time constraints and distance from a university. However, due to their age, they are expected to have lower computer literacy (Selwyn, Gorard & Furlong, 2006). This poses a challenge and an opportunity at the same time. While the time and space flexibility that technology offers may allow more learners to have access to courses, those learners may also be the ones with limited computer access and literacy. If that is the case, then they require extensive training in order to be part of a hybrid or online course. On the positive, if Barrette's (2001) findings that use of technology leads to improved skill in using technology are confirmed, then this also poses an opportunity to close the digital divide through hybrid foreign language courses supported by an iterative training model as suggested by Kolaitis, Mahoney, Pomann, and Hubbard (2007).

The study used a post-course questionnaire and interviews to collect quantitative and qualitative data. The survey was based on Winke and Goertler (2008) and abbreviated to adapt to the time constraints with this student group.

Based on the survey results, 100% of the participants had easy access to a computer at home and/or work, and used the computer almost daily, both for work and personal use. All have used computers for more than five years, and 67% reported feeling comfortable or very comfortable using them. These results do not confirm Selwyn, Gorard and Furlong's (2006) finding that older adult language learners have less computer access. They reported

that the age group of 41-60 had 66% direct computer access at home, dropping to only 24% for people over 61.

In order to compare the Bollen case study subjects, students were assigned a technology score. Since the non-traditional German students took an abbreviated survey, technology scores were calculated differently for the Bollen case study than the other two case studies. Students in the non-traditional German course were asked directly how comfortable they felt with computers (from very uncomfortable = 1 to very comfortable = 4). Those answers were used as the technology score. While the computer access is similar to the more traditional foreign language student population, the comfort level was lower in the non-traditional course (see Table 4) with a mean score of 3. The large standard deviation can be expected given the small sample size.

Table 4
Technology Scores

	Winke & Goertler (N=879)	Gaff (N=37)	Bollen (N=6)
Mean	3.44	3.47	3.0
Standard Deviation	0.42	0.33	1.27

The participants engaged in computer activities ranging from standard applications like emailing, writing, and Internet surfing to accounting, playing games, and web site maintenance. Home Internet access was available to all; however, 33% reported being on a dial-up modem and no participant had high-speed Internet access. Slower Internet connections are not adequate for streaming video or downloading larger files — a problem for delivering content for hybrid or online courses and even supplementary materials like those used in this course. This means that a hybrid course utilizing advanced technologies, such as streaming video, would allow more learners to have access to the course due to the flexibility in time and space, yet would only give access to the course to those with better Internet connections, typically of a higher socioeconomic status living in urban or suburban areas.

When asked about their desire in taking a hybrid course, only one student answered yes (17%), 3 students indicated maybe (50%), and two students were opposed (33%). The trend away from online elements is even clearer in the case of a pure online class: 5 out of 6 students said no (83%); one conceded to maybe, qualifying the statement with "If I have help with MY computer." As illustrated in Table 5, the older students are comparable to the traditional students in their interest in hybrid foreign language instruction. Fewer non-traditional students committed to 'yes'. However, 50% considered it. Students stressed their appreciation for instructor presence and face-to-face time as their reasons against hybrid instruction, similar to the ECAR study findings (Caruso & Salaway, 2008). Looking back at the reasons for taking a hybrid course expressed by the traditional students, they appear to value student-instructor time more than the non-traditional students enrolled in the hybrid courses in our study.

Table 5
Interest in a Hybrid Course

	Winke & Goertler (N=911)	Gaff (N=37)	Bollen (N=6)
Yes (3)	22%	35%	17%
Maybe (2)	35%	43%	50%
No (1)	39%	19%	33%
Mean	1.75	2.10	1.84

Overall, the attitude toward CALL in the language classroom does not differ dramatically between younger students and the older adults in this study. Both groups have basic computer literacy, albeit on different levels, which can be employed in the language curriculum. Both groups need more training and support with more complex CALL tasks (Barrette, 2001). However, it is interesting to note that while the interest in hybrid foreign language education was lower for the non-traditional learners, their belief in the usefulness of CALL was higher in comparison to the traditional college students. This reported usefulness is surprising, considering the fact that the older learners quit online activities as soon as they encountered even minor technological problems.

DISCUSSION

As Winke & Goertler (2008) and Messineo and DeOllos (2005) have pointed out, university students' general and personal computer skills are good. However, professional use, skills in using, and access to more specialized soft- and hardware are more limited. This somewhat mirrors the findings of the large-scale ECAR study. However, that study did not differentiate between private and professional technology use. While we had expected the students in the hybrid section (Gaff) to be more computer literate, have more access, and have a more positive attitude toward hybrid instruction, that was not the case. We expected the hybrid course to have higher access and literacy and better attitude because it was assumed that those who prefer technology for communication and learning would select the hybrid course. Additionally, based on Barrette's (2001) results that technology skills increase with practice and decrease without practice, we also assumed that students involved in a hybrid course would have better computer skills by the end of the semester. This assumption was mostly not confirmed. This could be explained by the fact that the course labeled hybrid by the university used few of the technologies reported in the hybrid literature as part of a hybrid course. There were only a few instances in which these assumptions were confirmed. More hybrid students reported being able to use characters specific to the language they were studying and more reported knowing how to insert multimedia files. When interviewing one of the instructors, it was confirmed that typing in Spanish online was part of the course requirements. This may not be part of the non-hybrid courses. When the instructor described the course, it also became clear that some of the tools we had initially assumed to be included in a hybrid course (such as video and audio materials created or edited by the students), were not included in this course. Hence, differences in creating and editing multimedia were not found between the two groups. This also confirms that hybrid courses differ greatly in format from each other, making comparisons of instructional delivery format effectiveness challenging, if not impossible. It is, therefore, of utmost importance that different formats of hybrid education are researched and reported upon and that detailed information about the format of the hybrid course is included in the research reports. Additionally, the implication of this finding is also that not all hybrid courses require the skills we had initially assumed to be necessary. A replication of this study at an institution with a well-established pedagogically and technologically innovative hybrid curriculum might shed more light on the issue of computer literacy and access differences between hybrid and non-hybrid students.

In terms of access to hard- and software the students were also similar. Ownership was comparable across groups and comparable to the other studies on undergraduate computer literacy (Caruso & Salaway, 2008; Missineo & DeOllos, 2005). While access in general was also akin, there was a difference in access to microphones. On the one hand, the hybrid students had a low ownership rate of microphones; on the other hand more of them stated that they could easily access a microphone. Since all other items were comparable, we are assuming that the students completed some of their work for the course in the language-specific computer lab, which had microphones, in contrast to most other computer labs on campus. This finding suggests that students in the hybrid course were made aware of the

language lab, while the overall student population was not. Interestingly, 25% of the hybrid students still maintained that they only had difficult or no access at all to microphones.

Looking at the differences, or lack thereof, between the general student population and the hybrid students in terms of computer literacy and access, our belief that the technology-enthusiasts would select a hybrid course was not confirmed. Most students opted for the hybrid course due to convenience inherent in the flexibility of the course model, which is one of the main reasons for the attractiveness of such an instructional delivery model for all stakeholders. The danger of this motivation is that pedagogical considerations and ethical considerations affiliated with the integration of technology may be neglected.

Since the hybrid students selected a hybrid course, we assumed that they would be more favorable toward hybrid instruction. While this was substantiated, it was disconcerting that 19% of them would not want to take another hybrid foreign language course. This might imply that 19% of the students were not satisfied with their learning outcomes in the hybrid course despite its benefits. Further research is needed to substantiate this hypothesis. At the time, the Spanish program used two different textbooks for the two different delivery formats, which meant that students who took a first-semester hybrid section would have to purchase another textbook for the second semester, which made it unlikely for students to switch sections. We suspect that this made it harder for students dissatisfied with the delivery format to switch sections mid-year or mid-semester, compounding negative attitudes. Additionally, most of the online components of the course were online workbook exercises and additional readings with no interactive components. This implementation of the hybrid foreign language course may have decreased some of the improved language development benefits and benefits in community building that have been reported in other studies (see for example Sanders, 2005; Kraemer, 2008b). As mentioned before, this hybridization project was driven by logistical needs (demand for classes and limited financial and space resources) and in its early iteration the pedagogical concerns were downplayed. In contrast to many of the reported hybridization projects, this hybridization project did not receive additional funding and had to operate with the resources available. Unfortunately, it is our suspicion that many hybridizations occur without additional financial assistance. This needs analysis was not only able to document that student training, a hidden cost of hybrid courses, is needed, but also documented the incidental finding that hybrid courses can take very different formats when they are not funded by large grants. This study also documents that the hybridization of the curriculum is an iterative process that constantly conducts needs analyses and evaluations by all stakeholders, including potential stakeholders such as future (non-traditional) students.

The second part of the research question asked to compare the traditional (Winke & Goertler and Gaff) with the non-traditional students (Bollen). Hybrid and online instruction has been seen as a possibility to access more non-traditional students (Winke & Goertler, 2008; Sanders, 2005). However, since non-traditional students are often older, there was some concern about their readiness (Selwyn et al., 2006). Prensky (2005) would not call most of them digital natives, but rather digital immigrants, that is, technology users who did not grow up with digital media, and instead had to learn it like a foreign language. His assumption is that older users of technology, digital immigrants, will never have the same comfort as younger users, digital natives. In this study, this generational difference was not found. The non-traditional students were comparable in terms of their computer access, computer literacy, and their attitudes toward hybrid instruction. This lack of difference has to be viewed with some caution due to the low number of participants in this case study. Furthermore, the non-traditional students in this course were educated and had experience with using technology through their work-life. One might have received different results if this study had been conducted at a community college rather than a research institution or at an institution with a more established hybrid course.

In summary, students have general computer literacy and computer access, but lack expertise in and access to multimedia tools. This finding is both positive as well as negative in the evaluation of students' readiness for hybrid delivery models. On the one hand, students are able to engage in the activities required in a low-tech hybrid course that combines textbook-based self-study with online workbook activities. On the other hand, students are not readily prepared to participate in a higher-tech hybrid course that also includes podcasting, virtual realities, video-conferencing, and creating and editing of sound and video files. This lack of preparedness would make it challenging to implement some of the most promising tools, such as: podcasting for listening, speaking, and pronunciation (Lord, 2008); speech recognition software for pronunciation and intonation development (Blake, 2007); pragmatic skill development in virtual realities (Sykes, 2008; Sykes, Oskoz, & Thorne, 2008); wikis for collaborative writing (Warschauer & Grimes, 2007); blogging for the development of critical literacy (Bloch, 2007) and intercultural competence (Elola & Oskoz, 2008); or online speaking activities using authoring tools (Kraemer, 2008b). Students are ready for courses that include more traditional formats of computer-mediated communication (CMC) such as discussion forums, chats, and email. CMC has been found beneficial for language learning (see for example Ortega (1997) for a summary), discourse dynamics (Abrams, 2001; Beauvois, 1998; Warschauer, 1996), and student attitudes (Blake, 2000; Ene, Goertler & McBride, 2005).

CONCLUSION

The purpose of this study was to investigate different student populations' readiness for hybrid instruction from a perspective of access, literacy, and attitude. The results of the study provide suggestions for language teachers and language program administrators for the implementation of hybrid foreign language courses. The rationale for providing such information was the steady increase in foreign language enrollments and hybrid course offerings without a thorough understanding of the students' needs and capabilities.

In conclusion, students are ready for some versions of hybrid course deliveries but not for all. Those hybrid courses with the greatest pedagogical potential (including interacting video and audio tools) would require significant student training and infrastructure support. Furthermore, not all students are in favor of hybrid courses and not all students may benefit from such a course format. Hence, institutions should always attempt to offer multiple delivery formats of one course using comparable course materials. Students should be assisted in selecting the appropriate course format and always be encouraged to switch if the current delivery format is not yielding the results desired. Further training is needed in order to make work requirements and the activities in each delivery format explicit to all stakeholders, so that they can make an educated selection.

In regards to implementing a hybrid section, we recommend a hybrid course that is engaging, interactive, with individual feedback, and several community building components. The technology tools used should include those that students are ready to use (discussion forums, chat, email, online workbooks, navigating the Internet) as well as new technologies (such as blogs, wikis, speaking activities, podcasts, speech recognition software). When implementing technologies that are not familiar to the vast majority of the students, a training component has to be part of the hybrid course and such costs have to be factored into the instructional costs.

This argument brings up another implication of our study: the changed role of the instructor (Wildner-Bassett, 2008). Studies have already reported that the time commitment for instructors can increase with hybrid instruction (Web-based Education Commission, 2000), that the instructor becomes more of a guide and facilitator (Wildner-Bassett, 2008), and that the instructor has to attend to technological problems and questions prior to and during

course implementation (Sanchez-Serrano, 2008). This in return will necessitate technology expertise of the instructional staff, which has been argued to be lacking (see for example Kessler, 2006). Furthermore, it will also demand an institutional infrastructure that can support technology use and provide access to technology, which is likely to cost more than face-to-face courses.

Our suggestions for further research are an investigation into the infrastructure of instructor and student support for hybrid foreign language instruction, and empirical studies investigating the effectiveness of different hybrid course models in comparison to traditional courses and in comparison with each other. We investigated computer literacy in college students based on the finding from Scida and Saury (2006) that computer literacy and access as well as attitudes toward technology will influence success in a hybrid course. If only technologically savvy students are successful in hybrid education and students overall are not, then either the institutions have to provide more training or not implement such hybrid courses. More research is needed investigating the relationship between computer literacy and success in computer-mediated instruction.

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