

Student Demand for Alternative Modes of Course Delivery

In the following report, The Hanover Research Council focuses on the relative preference for face-to-face, online and hybrid modes of delivery generally. Additionally, we break down preferences for mode of delivery by demographic group. Finally, we engage the question of whether delivery method has a significant effect on learning outcomes.

Introduction

The learning society, an ideal founded on access to lifelong learning for all individuals, has been promoted since the early 1970s...In the 1990s, technological developments have opened up new possibilities for its realisation. In higher education, ready access to education irrespective of location - both before and beyond graduation - has been made possible by the capacity, undreamt of until recently, for rapid and widespread two-way communication of text, images and sound. There is no doubt that higher education has entered a remarkable era...¹

This passage was written in 1997 in an article that analyzed the results of a 1995 study on the impact of flexible coursework delivery on postgraduate learning in Australian universities. The authors' conclusions were hesitant. They acknowledged the capacity of new learning delivery to encourage "intellectual independence" but found that "on managing complexity or uncertainty and encouraging lively critical inquiry, [these modalities] fare less well."²

Over ten years after this article was published, a wide variety of flexible learning options and multiple pathways to degree achievement are now offered to postgraduates and undergraduates in Australian universities and in institutions around the world. The library webpage for the Swinburne University of Technology in Melbourne provides a glimpse into the wide range of possibilities now available. Users are invited to link to resources pertaining to several kinds of technology-mediated learning, including "open learning," "distance education," "computer assisted instruction," "interactive multimedia," and "video conferencing."³ To cite a second example, the website for Murdoch University in Perth highlights several ways by which students may chart their coursework: "full-time," "part-time," "internal/on campus," "external studies/distance education," "summer school," "winter school," "semester study," and "trimester study." The multi-site Charles Sturt University, a "major provider of distance education," operates a "Flexible Learning Institute" for the study and promotion of these modalities.⁴ And we should not fail to mention that Macquarie University's "Learning and Teaching Centre" is resourced to facilitate the further integration of new technologies and more innovative teaching practices into university classrooms and degree programs.⁵

¹ K. Beattie and R. James. "Flexible Coursework Delivery to Australian Postgraduates: How Effective is the Teaching and Learning." *Higher Education* 33:2 (March 1997), p.177.

² Ibid.

³ "Flexible learning and teaching." Swinburne University of Technology. <http://www.swinburne.edu.au/lib/subjectguide/flexiblelearning.htm>

⁴ "The Flexible Learning Institute." Charles Sturt University. <http://www.csu.edu.au/division/landt/flexible-learning/index.htm>

⁵ "Welcome to the Learning and Teaching Centre." University of Macquarie. <http://www.mq.edu.au/ltc/index.htm>

As the few examples highlighted here suggest, flexible and alternative course delivery options have proliferated since the 1990s. As pedagogical skills and technologies grow more sophisticated, there is increasing promise in the potential for creating more innovative and effective learning modalities. In fact, such new modalities may be necessitated by the changed technological landscape. The authors of the annual Horizon Report, a report which identifies and describes six areas of emerging technology likely to have a significant impact on teaching, learning, or creative expression in higher education within a year or less, two to three years, and four to five years, state: “Schools are still using materials developed decades ago, but today’s students come to school with very different experiences than those of 20 or 30 years ago, and think and work very differently as well. Institutions need to adapt to current student needs and identify new learning models that are engaging to younger generations.”⁶

According to a recent contributor to the journal *Campus Technology*, new technologies offer a radical and refreshing alternative to the “course content delivery” paradigm. Consider the following:

The “delivery of course content,” or the commoditization of knowledge, must be re-thought in this century. This approach might have collapsed on its own anyway, but the digital age has changed the playing field in so many ways, the collapse is happening faster. Fortunately, an alternative model beckons. Digital tools don’t have the limitations of paper-based tools, nor do classroom walls block out the world any longer. It is now easier to provide more authentic and experiential learning...⁷

Whatever the promise of this paradigm, there is a general consensus in the literature that student demand will continue to outpace integration of new models and technologies in higher education. At the same time, however, administrators are learning to navigate a “Service 2.0” culture in which “users” (or “consumers”) of education have come to expect highly sophisticated and customized learning experiences. Within this context, it is essential that educators and administrators understand *differentiated* demand. Student preferences may vary by age, cultural background, degree type, learning style, subject matter, etc.

While numerous delivery options now exist in higher education, in this report, we focus primarily on demand for traditional (face-to-face), wholly-online and hybrid delivery of courses and programs, as research has overwhelmingly focused on these three options. After discussing general preference for online and hybrid models of delivery as opposed to a more traditional model more generally, we discuss

⁶ “Alternative Delivery/Innovative Scheduling.” Middle Tennessee State University (2009), p. 2. http://www.mtsu.edu/strategic/docs/final/Ref_9_Alt_Delivery.pdf

⁷ T. Batson. “Not Your Parents’ ‘Course Content Delivery.’” *Campus Technology* (09/02/09), p.2. <http://campustechnology.com/Articles/2009/09/02/Not-Your-Parents-Course-Content-Delivery.aspx?Page=1>

preference for delivery mode by different demographic group. While we have tried to draw our data primarily from the Australian context, we have also included data on preferences and outcomes from the U.S. Finally, we discuss findings concerning the effectiveness of each model in terms of producing desired learning outcomes. We outline the major conclusions of this report below:

- ❖ **General Demand for Traditional Delivery:** A 2006 report by the Sloan Consortium indicates that 81% of students favor at least some face-to-face instruction in their coursework.
- ❖ **General Demand for Online Delivery:** A 2006 article indicated that demand for online courses through Open Universities Australia was predicted to outpace supply. A study of the VET sector found that most institutions offered a wide range of online courses. Together, these suggest strong demand for online courses in Australia. In the US, online course enrollment has accelerated: while 1 in 10 students were enrolled in at least one online course in 2002, in 2007 1 in 5 students were enrolled in at least one online course. Enrollment in online programs in the US increased by an average of almost 20% per year since 2002, whereas the student body overall has grown at an annual rate of only 1.6% in that time, indicating that an increasing proportion of the student body is turning to the online program option. A 2008 report by the Sloan Consortium on online education in the United States suggests that inflationary pressures will continue to create a disincentive for real-time classroom learning, making the prospect of pursuing a degree online even more attractive.
- ❖ **General Demand for Hybrid Delivery:** Little evidence of growth in blended *course* offerings in the U.S. was found in the 2002 to 2007 time period: in fact, while offerings of online courses grew between 2003 and 2005, offerings of blended courses decreased slightly. While respondents offered fewer blended *courses* than online courses, however, there was a slightly larger percent of blended *program* offerings than online program offerings. In its 2008 survey, Gartner found that hybrid or blended learning was the most rapidly growing delivery option when compared with online and traditional.
- ❖ **Preference for Delivery by Age:** According to a 2005 Eduventures survey, over 80 percent of potential students over 25 years of age reported that they would consider an online program, compared to 48 percent of respondents 18 to 25 years old. In other words, working adults remain strongly associated with interest in online delivery. However, Noel-Levitz reports that the availability of evening/weekend classes is the second most important enrollment factor adult students report that they consider when enrolling in an institution – indicating the importance of face-to-face traditional delivery, albeit at unconventional times. A 2005 report by the American Council on

- Education found that of the 31% of institutions that offer accelerated programs, 61 percent of institutions with accelerated programs allow students to complete them without taking classes during weekdays.
- ❖ **Discipline:** The 2006 Eduventures survey found that online delivery was concentrated in the disciplines of business, IT, education, and healthcare. In the Australian VET sector, services, hospitality and tourism was found to be the most common field of study (27% of all students) offered online, followed by engineering and surveying (21%). The Sloan Consortium's 2006 study of blended learning in the U.S. found that business and liberal arts and sciences have the greatest penetration among blended programs.
 - ❖ **Style of Learner:** Online education is most clearly suited to "independent" learners – those individuals who are self-motivated and self-reliant – and those who have a problem-solving orientation.
 - ❖ **Level of Learner:** The 2006 Eduventures survey found that students interested in associate, bachelor's and master's degrees were most open to wholly online delivery, although they were also open to campus-based and blended delivery. The 2006 Sloan Consortium study of blended learning indicated that while the largest proportion of classes continue to be offered in the face-to-face mode, graduate students and continuing education students are much more likely to have the option of taking courses online or in a blended format than are undergraduates. Similarly, Gartner's 2008 e-learning survey found that "complete graduate programs offered online continue to outpace complete undergraduate programs offered online." In the review of online education in the VET sector in regional Australia, NCVET found that the largest group of students was studying at certificate IV level
 - ❖ **International Students:** International student demand for Australian higher education is expected to exceed supply in 2020, and by 2025 there will be a shortfall of 22,692 international places on projected demand of 290,848. These numbers imply that to meet demand, Australian universities may want to invest further in online degree/delivery options. However, recent statistics indicate declining interest in fully online programs in South East Asia, and a survey of 469 transnational students in 2007 found that a majority of students opposed online provision. These findings suggest that, when branch campuses are found to be prohibitively expensive, the future of transnational programs is in programs that include face-to-face interaction *facilitated by an offshore partner* of the educational provider.
 - ❖ **Geographically Proximate Students:** In 2006, Eduventures found that "sixty-three percent of respondents who were willing to consider a wholly online program preferred the online provider to have some physical presence

(branch campus or main campus) at least within their state.” This indicates that education consumers prefer to combine online delivery and geographical proximity. In a related vein, the study of the extent of online education in the Australian VET found that many of the students who lived in metropolitan areas had access to courses delivered in a traditional mode, but chose to take online courses for the flexibility it afforded them. This is an increasing trend in U.S. institutions as well – whereas online courses used to cater solely to non-traditional students at a long distance from the campus, increasingly such classes are made available to the mainstream student constituency.

- ❖ **Learning Outcomes:** On the whole, there are few clear examples of technology contributing to improved student outcomes. At best, learning outcomes for students in online and hybrid courses match those of students in traditional settings. While there are reasons to believe that the hybrid model would produce more effective learning outcomes than the fully-online model in theory, it seems that the data is equivocal.

Preference for Mode of Delivery

In this section, we explore general preferences for mode of course delivery using data from both the Australian and US contexts. Evidence suggests that e-learning continues to grow in popularity, with the number of hybrid or blended courses increasing at the fastest rate, although online/hybrid courses certainly do not outnumber courses presented via the traditional (i.e. face-to-face) delivery method.

Online Learning

Measures of Demand for Online Education in Australia

In 1999, undergraduate enrollment at Open Universities Australia was around 15,000.⁸ In 2005, with the federal Government allowing students to borrow to cover the cost of courses, the number of students taking web-based and distance education units doubled. In 2006, Open Universities Australia served more 43,000 students (or 20,000 full-time-equivalent students). In terms of postgraduate programs, the numbers doubled to 700 from 2004 to 2005, and then doubled again to 1,400 in 2006. As a result, in 2005, OUA had a surplus of A\$1.8 million compared with an A\$634,000 deficit the previous year. A December 2006 article in the *Times Higher Education* indicates that demand for online courses would soon be greater than Open Universities Australia could supply.⁹

In 2003, the National Centre for Vocational Education Research (NCVER) undertook an effort to gauge the extent of uptake of online delivery of VET in regional and metropolitan Australia (which was defined as including Queensland, Tasmania, Victoria and Western Australia). To this end, data on recent and current enrollments in online courses/modules were gathered from eight VET providers across four states. One provider in each state had its main campus in a regional location. Figure 1 below lists the providers, the number of online students, the number of courses and types and levels of courses.¹⁰

⁸ G. Maslen. "Online Demand Outstrips Supply." *Times Higher Education* (12/22/06).
<http://www.timeshighereducation.co.uk/story.asp?storyCode=207268§ioncode=26>

⁹ Ibid.

¹⁰ S. Kilpatrick and H. Bound. "Learning Online: Benefits and Barriers in Regional Australia Volume I." NCVER (2003), p. 6. http://www.ncver.edu.au/research/proj/nr1F03_1.pdf

Figure 1: VET Provider Online Delivery

Provider	# Online Students	# Units/ Modules	Online Courses	Levels of main online courses
Bendigo Regional Institute of TAFE (BRIT) Victoria	552	4462	Wide range, including horticulture, harness racing, modules in electrical and electronics, mining safety, information technology	Certificate II, III, IV, Diploma
TAFE Tasmania (TAFE Tas)	393	367	Wide range, including call centre, information technology, business, fire-fighting, tourism, hospitality, building, library technician, engineering, law	Certificate II, III, IV, Advanced diploma
Tropical North Queensland Institute of TAFE (TNQIT)	167	1927	Wide range, including information, business, hospitality, tourism, workplace training, nursing	Certificate II and III
Central West College of TAFE (CWCT) Western Australia	173	640	Wide range, including information technology, business, tourism, hospitality, visual arts and technology, children's services	Certificate II and IV
William Angliss Institute of TAFE (WAI) Victoria	158	263	Hospitality VET-in-schools	Certificate II
Challenger TAFE Western Australia	123	244	Wide range, including business management, agriculture, offender management, information technology, maritime operations and assessment and workplace training	Certificate II and III
Wide Bay Institute of TAFE Queensland	58	220	Hospitality and tourism, small business management and workplace training and assessment	Certificate IV
Tasmanian rural schools (TRS)	30	250	Community services VET-in-schools	Certificate II
Total	1654	8373		

Source: Kilpatrick and Bound (2003)

Measure of Demand for Online Learning in US

Rapidly accumulating evidence suggests that the positive predictions have been borne out. Online and other forms of distance learning represent the areas of fastest growth in higher education in the United States.¹¹ Once regarded as the preserve of for-profit institutions and non-traditional students, online and e-learning programs are now recognized as the chief “mainstreaming” instructional delivery systems in higher education. The most recent survey data not only show that colleges and universities view online learning as integral to their strategic plans and initiatives, but that these institutions—particularly large public systems—have found in online learning a new means of expanding program offerings to new constituencies while managing costs.

In 2006, an Eduventures survey of 2,000 American consumers interested in postsecondary education in the next three years found “an encouraging gap” between experience with wholly online programs (10.6%) and stated preference for this mode of delivery (22%).¹²

Figure 2: Experience of Online Delivery – Totally Online v. Blended, 2006

	%
No online education experience (whether totally online or blended)	48.5%
Totally online course	29.1%
One or more courses that combined classes and face-to-face activities (blended courses)	24.9%
Degree/certificate/diploma that combined online classes and face-to-face activities (blended program)	16.6%
Totally online degree/certificate/diploma (online program)	10.6%

Source: The Sloan Consortium (2006)

Figure 3: First Preference by Delivery Mode, 2006

	%
A course/program that is primarily on-campus (web-facilitated)	24%
A totally on-campus course/program	22%
Totally online course/program	20%
Primarily online course/program (blended)	19%
A course/program that is equally balanced between online and on-campus (blended)	14%
A course/program by another form of distance learning (e.g. audio, video, CD-ROM)	2%

Source: The Sloan Consortium (2006)

¹¹ M. Parry. “Online Education, Growing Fast, Eyes the Truly ‘Big Time.’” *The Chronicle of Higher Education* (10/30/09), <http://chronicle.com/blogPost/Online-Education-Growing/8663/>

¹² R. Garrett. “Expanding Demand for Online Higher Education: Surveying Prospective Students.” Eduventures (2007), p. 50. http://www.sloan-c.org/publications/jaln/v11n1/pdf/v11n1_6garrett.pdf

As Figure 4 below demonstrates, significant disparities exist between the respondents' stated likelihood of taking a particular delivery mode, and their stated first preference. The authors of this study suggest that these disparities reflect consumers' "uncertainty about the inherent value of particular modes, and (more importantly) an openness to consider a variety of modes."¹³

Figure 4: Interest in Postsecondary Education by Delivery Mode Likelihood and Preference

	"Likely" or "Very Likely"	Unsure	"Unlikely" or "Very Unlikely"	Preference
Totally on-campus course/program	55	21	24	22
Course/program that is primarily on-campus	50	28	22	24
Course/program that is primarily online (blended)	42	29	29	19
Totally online course/program	40	26	34	20
Equal balance between online and on-campus (blended)	39	34	27	14
Another form of distance learning	25	33	43	2

Source: The Sloan Consortium (2006)

While "19% of consumers expressed a preference for wholly online delivery, 41% said, given other factors, that it was "likely" they would undertake a program/course wholly online in the next three years."¹⁴ This information seemed to bode well for the US online education market.

Figure 5 bears out the predictions of the Eduventures survey. It reproduces data from the 2008 survey of 2,500 colleges and universities administered by the Sloan Consortium, demonstrating that the increase in online course enrollment has accelerated over the past several years. In 2002, only 1.6 million of approximately 16.6 million students were taking at least one online course—less than 1 in 10 students.¹⁵ In fall 2007, the last year for which data has been collected and made available by the consortium, that number had risen by 12.9% to nearly 4 million (of 18 million) students, which represents more than 1 in 5 students enrolled in post-secondary institutions.¹⁶

¹³ Allen et al, Op. cit., p. 18.

¹⁴ Ibid.

¹⁵ "Staying the Course: Online Education in the United States, 2008." The Sloan Consortium. http://www.sloan-c.org/publications/survey/pdf/staying_the_course.pdf

¹⁶ Ibid.

Figure 5: Enrollments in Degree-Granting Postsecondary Institutions: 2002-07

Term	Total Student Enrollment	Annual Growth Rate	No. Students Taking at Least One Online Course	Annual Growth Rate	Online Enrollment as a % of Total Enrollment
Fall 2002	16,611,710	N/A	1,602,970	N/A	9.6%
Fall 2003	16,911,481	1.8%	1,971,397	23.0%	11.7%
Fall 2004	17,272,043	2.1%	2,329,783	18.2%	13.5%
Fall 2005	17,487,481	1.2%	3,180,050	36.5%	18.2%
Fall 2006	17,758,872	1.6%	3,488,381	9.7%	19.6%
Fall 2007	17,975,830	1.2%	3,938,111	12.9%	21.9%

Source: The Sloan Consortium (2008)

All evidence suggests that this upward trajectory will continue for a number of reasons. A majority of respondents to the Sloan survey concluded that inflationary pressures will continue to create a disincentive for real-time classroom learning and make even more attractive the prospect of pursuing a degree online.¹⁷ A similarly high percentage of respondents indicated a belief that the growing possibility of a “jobless recovery”—economic expansion coupled with rising unemployment—would produce a surge of out-of-work adults seeking higher education programs.¹⁸

Due to the appealing flexibility, the potential exists for online programs to draw students away from traditional programs. A second study conducted by the Sloan Consortium found that 3.94 million students, almost one fifth of the higher education student body, are enrolled in an online course. The study notes that enrollment in online programs increased by an average of almost 20% per year since 2002, whereas the student body overall has grown at an annual rate of only 1.6% in that time.¹⁹

On the other hand, Sloan reports that 81% of students favor at least some face-to-face instruction in their coursework.²⁰ Other studies show that online programs have more drop-outs than on-campus offerings: feelings of isolation or lack of community are often cited as reasons for dropping out.²¹ *The New York Times* reported in October 2009 that some California community colleges have seen enrollments jump by 35% this year, and that colleges around the country have been forced to schedule classes as

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ E.I. Allen and J. Seaman. “Staying the Course: Online Education in the United States, 2008.” Sloan Consortium (2008), p. 5. http://www.sloan-c.org/publications/survey/pdf/staying_the_course.pdf

²⁰ E. Allen. et al. “Blending In: The Extent and Promise of Blended Education in the United States.” Sloan Consortium (2006), p. 17. <http://www.sloan-c.org/publications/survey/blended06.asp>

²¹ P. Freddolino et al. “Increasing Access to Graduate Education: A Blended MSW Program.” *Journal of the Research Center for Educational Technology* 5:2 (2009), p. 31.

late as midnight and as early as 6 a.m. to meet the demand.²² These facts help to demonstrate that despite the popularity and increased availability of online courses, students still value traditional classroom methods and that online options may not significantly detract from on-campus enrollments.

Blended or Hybrid Learning

Hybrid degree programs, also known as blended programs, are courses of study that combine traditional classroom-based instruction with significant amounts of online instruction.²³ With each passing semester, hybrid degree programs become increasingly popular for students and universities alike. Such courses allow students to reduce time-consuming trips to campus while still benefiting from face-to-face instruction. Meanwhile, they allow colleges and universities to more effectively use classroom space and to reduce costs. For these reasons, hybrid courses are often praised as “the best of both worlds.”

There is no standard model for hybrid education. Some programs may have students split their time evenly between online and on-campus instruction; some may have students complete the majority of their work online with occasional intensive weekends of on-campus activity; and some require students to enroll in a combination of traditional classes as well as strictly online classes. Many types of institutions sponsor hybrid degree programs, ranging from large public institutions like Michigan State University to small private institutions like George Fox University.

Measures of Demand for Hybrid Learning in the United States

An “encouraging gap” between experience and preference was also found with hybrid learning. While 16.6% of respondents to the 2006 Eduventures survey indicated experience with blended programs, 33% included a preference for a blended program that is either primarily online or with equally-balanced online/on-campus components.

²² A. Goodnough. “New Meaning for Night Class at 2-Year Colleges.” *The New York Times* (10/27/09). http://www.nytimes.com/2009/10/28/education/28community.html?_r=1&ref=education

²³ P. Freddolino et al., Op. cit., p. 30. <http://www.rcetj.org/index.php/rcetj/article/view/5/9>: “Some consider blended as a mix of synchronous and asynchronous content, including audio and video but without any face-to-face components (Regan & Youn, 2008). The definition used in Sloan-C studies is that a course is considered blended or hybrid if 30-79% of the content is delivered online, with some face-to-face meetings (Allen & Seaman, 2007). Sethy (2008) notes that blended learning brings together...’seemingly opposite approaches, such as formal and informal learning, face-to-face and online experiences, directed paths and reliance of self-direction, and digital references and group connections’ (p. 32). For programs, blended can mean a combination of some courses on the web and others in traditional or web-assisted mode (Ostrow & DiMaria-Ghalili, 2005; University of South Florida, 2008), or it can combine online, face-to-face, and other types of technologies in all or most courses and in other components of the program (Graham, 2006).”

A 2006 report by the Sloan Consortium gauges the extent of the use of hybrid models in the U.S. The findings are based on “three years of responses from a national sample of over 1,000 colleges and universities.”²⁴

Sloan found that as of the middle of the decade, blended courses were not more prevalent than fully online courses. “Very similar proportions of schools report offering blended courses as offer online courses, with slightly more citing online offerings than blended.”²⁵ Sloan also found little evidence of growth in blended *course* offerings: in fact, while offerings of online courses grew between 2003 and 2005, offerings of blended courses decreased slightly. However, while respondents offered fewer blended *courses* than online courses, there was a slightly larger percent of blended *program* offerings²⁶ than online program offerings. Of the more than 2,200 schools surveyed, 36 percent sponsored hybrid programs²⁷ in a variety of fields from business to the humanities.²⁸

Despite the “best of both worlds” view that we offered in the introduction to this subsection, the Sloan consortium found that “academic leaders do not regard blended courses as holding more promise than fully online courses,”²⁹ with the only exception being the small number of schools which offer blended courses but not online courses.

Yet despite this seemingly negative attitude toward hybrid learning among academic leaders, it appears that hybrid learning is making headway. In its 2008 survey, Gartner, a major educational consulting group, found that hybrid or blended learning was the most rapidly growing delivery option when online, hybrid and traditional delivery options were taken into account.³⁰

Because of the trend towards more hybrid programming, university officials are curious about their potential impact on enrollment levels for on-campus degree programs. Some speculate that hybrid programs have the potential to overtake traditional programs, while others hope to use hybrid programs as stepping stones to attract more students to campus on a full-time basis. At present, sufficient data does

²⁴ “Blending In: The Extent and Promise of Blended Education in the United States,” The Sloan Consortium. <http://www.sloan-c.org/publications/survey/blended06.asp>

²⁵ Ibid.

²⁶ A “blended program is one where between 30 and 79 percent of the program content is delivered online. Institutions have a number of options in how they can choose to structure a blended program – they, might, for example, craft a program as a mix of fully online and face-to-face courses. Alternatively, an institution may decide the best option for a particular program is for all the courses to be blended in nature.” E. Allen, et al. “Blending In: The Extent and Promise of Blended Education in the United States.” Sloan Consortium (2007), p. 5. http://www.sloan-c.org/publications/survey/pdf/Blending_In.pdf

²⁷ Ibid.

²⁸ Ibid., p. 13.

²⁹ Ibid.

³⁰ M. Zastrocky, M. Harris and J. Lowendahl. “E-Learning for Higher Education: Are We Reaching Maturity. Gartner (3/27/08), p. 2. http://paws.wcu.edu/jlebaron/LMSTF/Gartner-Report_080331.pdf

not exist to determine the extent to which hybrid programs affect student enrollments for on-campus degree programs. However, the available evidence permits at least an exploration of the potential effects of hybrid programs on on-campus enrollment.

Hybrid programs are most appealing to students that have difficulty accessing on-campus programs on a regular basis. For instance, the University of Illinois - Springfield recently reported that 38% of students enrolled in its hybrid programs live outside of Illinois and 85% live outside of Sangamon County where the campus is located.³¹ The structures of different programs reflect institutions' intent to use hybrid programs to attract students from non-traditional areas. For example, Michigan State University's Master of Social Work hybrid program accepts roughly 25 students per year. In 2008, these students lived anywhere from 85 to 435 miles from the main campus, therefore frequent in-person activities were not feasible. Rather, in addition to completing online assignments, students attended a one-week "Summer Institute" on campus in June and face-to-face instruction sessions in smaller groups organized by geography once per month during the fall and spring semesters.³² In short, hybrid programs do not necessarily replace on-campus offerings, nor do they commonly draw more students to campus on a full-time basis. Rather, they complement existing program offerings by reaching out to new pockets of students who have the means to visit campus on occasion but not regularly.

Case Study: Effects of Hybrid Programs on Enrollment

A brief examination of existing hybrid programs demonstrates that the impact of hybrid degree programs on enrollment in on-campus programs is still unclear.

Bethel University in St. Paul, Minnesota offers a hybrid MBA program as well as a hybrid Master's in Education. The MBA program is primarily conducted online with face-to-face classroom sessions every six weeks in one of two locations. Students take one class at a time and receive a degree after approximately 26 months.³³ In the education degree program, most classes are delivered online and instructors designate specific occasions to meet on campus. Completion of the degree requires a minimum of 32 credits and courses are taken one at a time.³⁴ When asked about the popularity of these hybrid programs relative to their strictly on-campus counterparts, one senior admissions officer at Bethel replied that they appeared to "dilute" the number of students in the on-campus programs. The total number of students pursuing the degree has not decreased; however the officer suggested that in the absence of a

³¹ D. McCracken. "Fall enrollment shows transition taking place at UIS." News @ Illinois Springfield (11/9/09). <http://www.uis.edu/newsbureau/2008/09/fall-enrollment-shows-transition-taking.html>

³² Freddolino, Op. cit., p. 37.

³³ "Master of Business Administration (MBA): Evening, or Weekend Plus Online." Bethel University. <http://gs.bethel.edu/business-admin/index>

³⁴ "M.A. in Education K-12." Bethel University. <http://gs.bethel.edu/educ/education/index>

hybrid program, some of the students currently enrolled would have opted for the traditional course of study. The admissions director added that most if not all of the students in the hybrid programs are new to the university and had no previous involvement with either of the on-campus programs.³⁵

Biola University in La Mirada, California offers a hybrid Master's degree in Apologetics. As part of the degree, students are required to complete 36 credits, 20 of which have a residency or on-site component, and the remainder of which can be taken online. Included in the 20 hours of face-to-face instruction is a two-week stay during the summer that allows students to attend lectures, seminars and discussions with professors. On-site instruction also includes seminars on Thursday night, Friday night, and all-day Saturday. The program of study begins in the spring and finishes in the fall during which time students take single classes in four-week blocks.³⁶ Approximately 200 students are pursuing the Apologetics degree between the hybrid and on-campus degree programs. One admissions director at Biola estimates that 65% of those students are enrolled in the hybrid program and that they are new to the university. The director noted that the hybrid program is meant to attract distance learners and that it has not noticeably affected enrollment in the on-campus program.³⁷

Common sense leads one to believe that hybrid programs would affect on-campus student enrollments in some way. Perhaps a student commuting twenty miles each direction would find it more advantageous to take most of his courses at home, or perhaps a student living fifteen miles away from campus would so enjoy her classroom activities that she would transfer into an on-campus program. Nonetheless, the information available at present does not point to any clear relationship between hybrid programs and changes in on-campus student enrollment. This is primarily because most hybrid programs are designed to accommodate students who cannot regularly access campus to begin with. Furthermore, if given the option between an on-campus and a hybrid program, it is unclear as to whether most students' preference for face-to-face instruction or their desire for flexibility will prevail. In order to better assess the potential effects of hybrid programs on enrollment, more data is required about enrollment trends for different types of degrees, different types of institutions, and different courses of study. In light of their popularity, hybrid programs have attracted significant attention from colleges and universities over the past several years. Although little research is available that pertains to the effects of hybrid degree programs on enrollment in traditional academic programs, we were able to identify the following key patterns:

³⁵ Anonymous admissions officer. Bethel University. Personal communication. (11/5/09).

³⁶ "Program Overview." Biola University. <http://www.biola.edu/academics/professional-studies/apologetics/maca/distance/>

³⁷ Anonymous admissions officer. Biola University. Personal communication. (11/5/09).

- ❖ Hybrid programs are not likely to lead to significant increases in on-campus student enrollment levels. Rather than attracting students who can easily attend frequent classroom sessions, such programs are designed for students who have the means to visit campus on occasion but not regularly.
- ❖ Hybrid programs have the potential to decrease student enrollment in on-campus programs, although decreased on-campus enrollment is not assured. Online course offerings appeal to students for the flexibility that they provide. However, students also express a preference for traditional classroom-based models of education. It is unclear whether students have a greater preference for flexibility or for regular in-person interaction. Therefore it is difficult to determine whether students will gravitate toward hybrid programs if given the opportunity.
- ❖ Based on the evidence available at present, hybrid programs do not appear to significantly affect student enrollment in on-campus programs.

Web Conferencing

Along with the usual reasons associated with the uptake of distance education i.e. reduce costs (especially travel) and to provide greater access to the educational experiences, web conferencing may overcome “many of the problems in teaching and learning associated with distance education”³⁸ For instance, as we will describe in the last section, the level of student/teacher and student/student interaction is closely related to positive learning outcomes in distance education, or, alternatively stated “substantial research...supports the notion of conversation or dialogue and collaborative learning communities as being powerful learning contexts.”³⁹ In addition to flexible options for group learning and the ability to return to recorded session at a later date, a NCVER report on web conferencing found that “collaboration and interactivity enabled a greater sense of connection to the learning experience for both students and teachers.”⁴⁰ “Synchronous audiographic” web conferencing is a technology enables real-time e-learning. This technology typically includes “the capacity to see and hear participants and enables application sharing and collaborative functionality via shared whiteboards and text chat facilities. Social presence and responses are facilitated by a variety of emoticons and voting features, providing a mix of communication and participant management modes. Other functions include live video, file transfer and ‘breakout rooms’, which are used for small group interaction.”⁴¹ Unfortunately, “little research exists on the use of [or preference for] web conferencing for learning...in either the higher education or VET sectors.”⁴²

³⁸ S. Todhunter and T. Pettigrew. “VET goes virtual: Can web conferencing be an effective component of teaching and learning in the vocational education and training sector.” NCVER (2008), p. 13.
http://www.ncver.edu.au/research/proj/nd07150_1.pdf

³⁹ Ibid., p. 6.

⁴⁰ Ibid., p. 3.

⁴¹ Ibid., p. 6.

⁴² Ibid.

Preference for Mode of Delivery by Demographic Group

In this section, we explore whether differences in preference for mode of delivery exist by age, level of learner, style of learner, discipline, geographical proximity of learner to campus, and whether the student is international/domestic.

Age

As demonstrated by a 2005 survey by consulting firm Eduventures, adult learners have already demonstrated a high level of interest in online programs; over 80 percent of potential students over 25 years of age reported that they would consider an online program, compared to 48 percent of respondents 18 to 25 years old.⁴³

The results of the Eduventures 2006 survey of U.S. college students also challenges the idea that it is the youngest age groups, having grown up in the “computer age,” that are most open to online options. This survey of 2,000 consumers interested in postsecondary education found that a strong preference for campus-based study was expressed by the two youngest age bands (below 25), although most were open to online when it constituted a *minority* component of a campus-based experience.⁴⁴ The 25–34 age group demonstrated a much stronger interest in online-dominant options, although campus-dominant options retain priority. For the 35–44 and 45–54 age groups, campus-based study falls out of favor, dropping into last place; and online options vie for prominence. However, campus-dominant options experience a resurgence in the 55-65 category, and particularly for the 65 and older category. Ultimately, this survey reinforced the finding that working adults remain strongly associated with interest in online delivery. As this is the case, we explore this constituency in greater detail.

Adult Students

“Adult students” constitute perhaps the most important and dynamic category of learners who are at the intersection of face-to-face and more hybrid or experimental pedagogies. Donald Asher, a nationally-recognized writer on career trends, has recently argued that liberal arts colleges have good reasons to prioritize continuing education. Asher asserts that “students returning to school now outnumber first-time students.”⁴⁵ The article goes on to outline seven reasons why nontraditional students are returning in droves to take advantage of continuing education. Asher writes of “trigger events,” life-changing experiences (from divorce to the birth of a grandchild), which catalyze a desire for personal growth in a formal, facilitated setting.

⁴³ E. Chao et al. *Adult Learners in Higher Education: Barriers to Success and Strategies to Improve Results*. U.S. Department of Labor (2007), p. 12.

⁴⁴ Garrett, Op. cit, p. 51.

⁴⁵ D. Asher. “Top 7 Reasons to Go Back to School.” *Encarta*.
<http://encarta.msn.com/encnet/Departments/AdultLearning/?article=7ReasonsBacktoSchool>

Retirement-age seniors are attracted to the enjoyment of learning for learning's sake in a setting that also provides social interaction, a provision which is easily offered by liberal arts institutions. As Asher writes, "If you have always wanted to learn more about Shakespeare, or the Middle Ages, or local geology, or theoretical physics, then going back to school makes perfect sense."⁴⁶ He also cites the growing popularity of career changes or the need to match new responsibilities of an existing job with supplemental workforce training. Some nontraditional students, according to Asher, return to school to complete an unfinished degree, or they may opt for noncredit programs as a way to "try out" an institution or subject before committing to a degree course.

Since many adult students attempt to juggle multiple responsibilities, including work and family commitments, flexible program schedules play a crucial role in their decisions to attend school. According to Noel-Levitz's 2009 Adult Student Priorities Report, the availability of evening/weekend classes is the second most important enrollment factor adult students report that they consider when enrolling in an institution (after academic reputation)⁴⁷ – indicating the importance of face-to-face traditional delivery, albeit at unconventional times. Many schools have already taken steps to address this need; ACE reports that 65 percent of 1,026 postsecondary institutions surveyed in 2004 offer evening and/or weekend courses.⁴⁸

Another major concern for adult students is the length of time required to complete a program. Data collected by Bailey et al. indicates that about 78 percent of first-time, full-time community college students do not complete a two-year course of study within three years.⁴⁹ Further, it is not uncommon for part-time students to take six or seven years to finish their studies. With this in mind, the Department of Labor report suggests that programs of shorter-duration, broken into smaller components, (each with an immediate credential), can be very attractive to students wanting to demonstrate newly acquired skills to employers.⁵⁰

Building on this point, adult students who take a long time to complete their studies often attend school intermittently. Some institutions have responded with "open-entry, open-exit policies," which allow students to drop out of a course, take time off, and come back to it during another term, without having to repeat any course material. By eliminating the need to repeat courses, schools are able to streamline

⁴⁶ Ibid.

⁴⁷ "National Adult Student Priorities Report." Noel-Levitz (2009), p. 2.
<https://www.noellevitz.com/NR/rdonlyres/3C38438E-280F-4087-A312-0FE9673E637F/0/NatSatisfactionReportASPS09.pdf>

⁴⁸ B. Cook and J. King. *Improving Lives Through Higher Education: Campus Programs and Policies for Low-Income Adults*. American Council on Education (May 2005).

⁴⁹ T. Bailey et al. *Is Student-Right-To-Know All You Should Know? An Analysis of Community College Graduation Rates*. Research in Higher Education. 47:5 (August 2006).

⁵⁰ Chao et al., Op. cit.

http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/30/b1/d0.pdf, p.2.

their programs to provide flexible entry, exit, and reentry points – a very attractive option to adult students.

An alternative to the open-entry, open-exit approach is the accelerated degree program. Often balancing work, family, and school, adult learners generally wish to minimize the amount of time they spend in class. The ACE reports that 31 percent of all institutions – and 40 percent of institutions with 50 percent or greater adult student representation – have offered accelerated degree programs in some form. Further adding to their attractiveness, 61 percent of institutions with accelerated programs allow students to complete them without taking classes during weekdays.⁵¹

Another way to make programs more convenient for adult students is to award academic credit for learning that takes place outside of the classroom. In addition to accepting transfer credit for courses taken at other institutions, adult students may seek credit for nontraditional courses and life experiences, including coursework taken through the military, private companies, or trade unions, or for skills acquired at work.

This point is emphasized in Penn State University's analysis of its most recent adult applicant survey.⁵² The study was designed to learn why adult applicants who were offered admission to Penn State either did not accept the offer or accepted the offer but did not enroll. Among other issues, a number of participants indicated that they were concerned with having to take basic skills courses that represented work they routinely did on the job. Respondents believed that redundant coursework would increase the cost of their educations and the time it would take them to complete their degrees.⁵³ A CAEL report summarizes the issue: "To require an adult learner to take courses on that which is already known serves no goal other than to subject the learner to a needless or insulting delay on the road to knowledge."⁵⁴ Schools that find ways to break through such institutional rigidities are often able to offer more efficient programs to adult learners.

One method for avoiding redundancy is accomplished by offering assessments that evaluate "Academically equivalent learning" gained through nonacademic experiences. These assessments may be based on institutional or standardized examinations, portfolios that document individual learning achievements, courses approved by licensing bodies, or credit recommendations by organizations such as the American Council for Education.⁵⁵ Private, not-for-profit institutions have led

⁵¹ Cook and King, Op. cit.

⁵² "Best Practices for Attracting and Retaining Undergraduate Adult Learners." Pennsylvania State University. (January-February 2005). www.outreach.psu.edu/cals/files/news82.pdf.

⁵³ Ibid.

⁵⁴ *Serving Adult Learners in Higher Education: Principles of Effectiveness*. Council for Adult and Experiential Learning. (2000)

http://www.cael.org/pdf/publication_pdf/Summary%20of%20Alfi%20Principles%20of%20Effectiveness.pdf

⁵⁵ W. Maehl. *Lifelong Learning at its Best: Innovative Practices in Adult Credit Programs*. San Francisco: Jossey-Bass

the way in this regard, as more than half of them have “academically equivalent learning” policies, compared with 30-40 percent of other institutions.⁵⁶

Some institutions seek to combine online education with more traditional classroom instruction. For example, Indiana University Kokomo maintains a hybrid program that employs multiple forms of course delivery. While developing the program, the Indiana University Public Opinion Lab commissioned a survey of potential adult students. According to Stuart Green, vice chancellor for academic affairs at IU Kokomo:

The survey suggested that the region’s busy adults wanted to earn a baccalaureate degree but required a program that would accommodate their often hectic lifestyle. Those surveyed indicated that they had only about 11 or so hours to spend per week on their education but still wanted to move as rapidly as possible to the completion of a bachelor’s degree.⁵⁷

IU Kokomo initially responded with its ACCEL program, which offered classes on an 8-week schedule rather than the traditional 15-week term, lengthening classes to four-and-a-half-hours each week. Despite the program’s initial success in attracting adults, students and faculty found the long classes draining. In response, ACCEL was renamed the ACCELErated Evening College and now employs a combination of face-to-face classroom teaching and asynchronous online instruction. The goal is to reduce class time to two-and-a-half hours per week while maximizing learning flexibility through online course delivery.

Employment Status

The study of the extent of online use in VET in regional Australia found that over one-third of the students studying online were employed (significantly, the employment status for another third of the students was unknown.⁵⁸

Discipline

The 2006 Eduventures survey found interest in online delivery concentrated in the disciplines of business, IT, education, and healthcare. These disciplines not only are associated with the greatest interest in online delivery, but continue to offer the best combination of scale and online interest.⁵⁹ However, it was noted that consumers in a wide range of other disciplines also exhibited openness to online delivery.

Publishers (2000), p. 274.

⁵⁶ Cook and King, Op. cit.

⁵⁷ *Campus Innovations Address Needs of a Diverse Student Body*. Indiana University Kokomo (2003). <http://www.indiana.edu/~ocmhp/041103/text/iuk2.html>.

⁵⁸ Kilpatrick and Bound, Op. cit., p. 24.

⁵⁹ Garrett, Op. cit., p. 51.

Eduventures concluded that “the online higher education market of the future will prove a combination of enduring core and growing diversity.”⁶⁰

The growing size of the online student population for post-secondary education has made relatively obscure and unconventional courses and degree programs scalable. While university systems previously offered only popular and high-revenue potential programs in an online format—institutions now typically offer a full range of courses to online learners. This new approach complements efforts to expand offerings that capitalize on employment trends. The North Dakota University System (eleven campuses), for example, offers over 1,000 individual courses and 130 degree programs ranging from undergraduate certificates to graduate degrees.⁶¹ While this is a relatively extensive course selection, it is not uncommon to find more than 20 or 30 distinct degree programs offered through the online programs of many leading universities, such as the Pennsylvania State University World Campus and the University College at the University of Maryland, ranging from a Master’s in applied statistics to studies in restaurant and hotel management.⁶² Some institutions offer an even larger number of online programs, such as the University of Oklahoma Online, which showcases over 150 majors through its distance initiative.⁶³

In the Australian VET sector, the spread of fields of study offered online varied. However, services, hospitality and tourism was found to be the most common field of study (27% of all students), followed by engineering and surveying (21%).⁶⁴

The Sloan Consortium’s 2006 study of 2,472 institutions reported the following online and blended program penetration rates as of Fall 2003. They found that business and liberal arts and sciences have the greatest penetration among blended programs.

Figure 6: Online and Blended Program Penetration Rates, Fall 2003

	Online	Blended
Business	42.7%	47.9%
Computer and Information Sciences	35.1%	41.5%
Education	24.9%	36.5%
Health Professions and Related Sciences	31.4%	43.5%
Liberal Arts and Sciences, General Studies, Humanities	40.2%	47.8%
Psychology	23.6%	27.1%
Social Sciences and History	28.4%	31.6%
All Other Programs	36.2%	40.1%

Source: The Sloan Consortium (2006)

⁶⁰ Ibid.

⁶¹ Information provided by contact in the North Dakota University System Distance Learning Program.

⁶² Pennsylvania State University World Campus, <http://www.worldcampus.psu.edu/>; University of Maryland University College, <http://umuc.edu/index.shtml>

⁶³ “Center for Independent and Distance Learning,” University of Oklahoma. <http://cidl.ou.edu/>

⁶⁴ Kilpatrick and Bound, Op. cit., p. 24.

Style of Learner

The study entitled “Benefits and Barriers to E-Learning in Regional Australia” found that “students who enjoyed online study and completed courses quickly and successfully describe themselves as motivated and organized.”⁶⁵ In addition, a review of research on online education conducted by NCVET found that online learning best suits those with a problem-solving orientation and self-reliance.⁶⁶ This is to say that online learning is better suited for independent rather than dependent learners.⁶⁷

Level of Learner

The 2006 Eduventures survey found that students interested in associate, bachelor’s and master’s degrees were most open to wholly online delivery, although they were also open to campus-based and blended delivery.⁶⁸ Although interest in online programs is primarily concentrated at the master’s level or below, Gartner’s 2008 e-learning survey found that “complete graduate programs offered online continue to outpace complete undergraduate programs offered online.”⁶⁹

In the review of online education in the VET sector in regional Australia, NCVET found that the largest group of students was studying at certificate IV level (34%). Many students were also undertaking units at certificate II and III level.⁷⁰ Only 2 of the eight providers studied, however, had more than a handful of students studying at diploma or advanced diploma level.

In their combined study of blended learning in U.S. higher education, the Sloan Consortium found that the largest proportion of classes continue to be offered in the face-to-face mode, while slightly more courses are being taught online than in the blended mode. As Figure 7 demonstrates however, graduate students and continuing education students are much more likely to have the option of taking courses online or in a blended format than are undergraduates.

Figure 7: Face-to-face, Online, and Blended Course Offerings, Fall 2004

	Face-to-Face	Online	Blended
Undergraduate	88.5%	55.3%	45.9%
Graduate	39.7%	25.9%	21.9%
Continuing Education	38.6%	21.7%	11.3%

Source: The Sloan Consortium (2006)

⁶⁵ Ibid., p. 32.

⁶⁶ R. Brennan, M. McFadden and E. Law. “All that Glitters is Not Gold: Online Delivery of Education and Training.” NCVET (2001), p. 43. <http://www.ncvet.edu.au/research/proj/nr9008.pdf>

⁶⁷ Ibid., p. 42.

⁶⁸ Garrett, Op. cit., p. 51.

⁶⁹ Zastrocky, Harris and Lowendahl, Op. cit., p. 1.

⁷⁰ Kilpatrick and Bound, Op. cit., p. 24.

International Students

A 2002 article indicates that of the estimated 85,900 international students attending Australian universities, 70 percent were on campus in Australia, 7 percent were off campus by distance education, and 23 percent were studying at offshore campuses.⁷¹ More specifically, IDP Education Australia's biannual survey of international Students in Australian Universities reported that in Semester 1, 2001 there were 43,769 students enrolled in Transnational Programs at Australian Universities. Of these, 34,473 students were attending offshore campuses of Australian Institutions and 9,296 were studying off campus. This article suggests that online delivery of Australian course work could potentially accelerate local penetration of international markets.

This IPD survey documented current policies, practices and plans for online education for international students in Australian higher education (i.e. universities and a selection of vocational and Training institutions and organizations). The outcomes of the survey are presented below.⁷²

- ❖ While most respondents were unable or reluctant to provide details of the number of courses and enrollments in those courses, 11 institutions reported a total of 492 courses offered exclusively online. Of these, 8 institutions indicated they had more than 37,000 enrollments in exclusive online courses, with more than 1,300 of these being international students. The same 8 institutions indicated they had more than 3,000 online courses supporting traditional distance education, with 184,000 enrollments, of which almost 8,000 were international students.
- ❖ The number of enrollments in online education varies depending on the widespread use of technology within the country. Overall response from those users indicated a more positive view towards online education... The unforeseen outcomes of online education were: development of an understanding of the changing nature of knowledge, changes to teaching and learning styles and practices, higher and different demand from what was expected, and higher costs than expected.

According to IDP Education Australia, "demand for Australian international higher education will grow from 163,345 in 2005 to 290,848 in 2025."⁷³ The Australian university system has the appetite and capacity to provide 268,156 international student places on-campus in Australia, by 2025. Demand is this expected to exceed

⁷¹ Z. Erdinc. "Australia Online: Borderless University." *Turkish Online Journal of Distance Education* 3:4 (October 2002). <http://tojde.anadolu.edu.tr/tojde8/articles/australiaonline.htm>

⁷² Taken verbatim from *Ibid*.

⁷³ M. Banks, A. Olsen and D. Pearce. "Global Student Mobility: An Australian Perspective Five Years On." IDP Education (2007). http://www.idp.com/PDF/GSM_Brochure_Oct07.pdf

supply in 2020, and by 2025 there will be a shortfall of 22,692 international places on projected demand of 290,848. These numbers imply that to meet demand, Australian universities may want to invest further in online degree/delivery options.

However, fully online delivery of programs transnationally raises a number of concerns. Fully online provision is generally perceived to be less effective than options with a face-to-face component. One of the reasons is that face-to-face interaction is essential to effective teaching. Another reason is that the online curriculum is usually standardized across countries. This structure discourages the localization of the curriculum, which can be important to effective contextualization and interpretation the content of study materials.⁷⁴ Finally, dialogue with other students is important not only to assess learning, but to form a community with other students which can alleviate the sense of isolation often reported by international students.

Recent Australian statistics indicate that interest in fully online transnational programs in South East Asia is declining. In 2004, “the number of distance online students declined by 15%, while there was a 1% growth in on-campus students.”⁷⁵ Further, a 2007 survey of students in eight transnational computing programs offered in Hong Kong, Malaysia, Singapore and Vietnam by Australian universities (n=469) found that “the majority of students opposed fully-online provision of transnational programs and stressed the importance of face-to-face communication with both lecturers and fellow students”⁷⁶ (see Figure 8).

Figure 8: Percentage of Students in Favor of Online Delivery of Translation Computing Education Programs

	Hong Kong	Malaysia	Singapore	Vietnam
University 1	Program 1 (39%), p/t, both	Program 2 (56%), f/t, both		
University 2		Program 3 (35%), f/t, local	Program 4 (28%), p/t, local	Program 5 (29%), f/t, local
University 3	Program 6 (7%), p/t, both	Program 7 (7%), f/t, local		
University 4			Program 8 (14%), p/t, both	

Note: P/t and f/t refer to mode of study (part-time or full-time). Local and both refer to mode of teaching (only local staff or both Australian and local staff). No correlation between mode of study or mode of teaching and student perceptions was found.

Source: Miliszewska (2008)

⁷⁴ I. Miliszewska. “Transnational Education Programs: Student Reflects on a Fully-Online Versus a Hybrid Model.” *Hybrid Learning and Education: First International Conference* (2008), p. 80.

http://books.google.com/books?id=Cy0YwEofp2oC&pg=PT90&lpg=PT90&dq=demand+for+hybrid+education&source=bl&ots=AhtxW71mbu&sig=ua016z_EzTp5D4Gv7A60IOWrWr4&hl=en&ei=qIsNS4adjcWKLQeXyuDvDA&sa=X&oi=book_result&ct=result&resnum=9&ved=0CC0Q6AEwCA#v=onepage&q=demand%20for%20hybrid%20education&f=false

⁷⁵ Ibid., p. 83.

⁷⁶ Ibid., p. 84

The importance of face-to-face interaction provides reason for institutions to endorse hybrid learning models. Interviews conducted during Miliszewska's 2008 study of transnational education programs affirm that students prefer the hybrid model primarily for this reason: face-to-face communication was regarded as more conducive to learning, affording opportunity to share knowledge and as easier and more interactive.⁷⁷ Scholars have concluded that the future of transnational programs is in programs that include face-to-face interaction *facilitated by an offshore partner* of the educational provider.⁷⁸

Geography

Institutions that have implemented programs with significant online components cater to distance-learners. In a 2007 report from the Sloan Consortium, 90% of institutions surveyed identified increased student access as a primary motivator for offering or expanding online courses. These institutions also hoped to use online courses to attract new students and to grow their continuing education programs.⁷⁹

Interestingly though, it appears that the majority of consumers "most open to online delivery reject the notion of a truly national market."⁸⁰ Specifically, in its survey of 2,000 potential educational consumers, Eduventures found that "sixty-three percent of respondents who were willing to consider a wholly online program preferred the online provider to have some physical presence (branch campus or main campus) at least within their state." This indicates that education consumers prefer to combine online delivery and geographical proximity.

NCVER also found that "many online students reside in the locality of their provider's campus(es) and attend face-to-face classes for other units/modules."⁸¹ Of the nine online courses chosen for more detailed study, "thirty-five percent of students from the nine courses had access to nearby providers offering face-to-face delivery."⁸² This organization concluded that "online learning is a choice for most students in metropolitan locations who are not prevented by distance from attending face-to-face classes."⁸³

Whereas historically, institutions of higher education seemed to offer distance learning courses largely to "non-traditional" (adult) learners, evidence suggests that colleges and universities are now increasingly targeting a wider spectrum of students. As a wider variety of online course offerings becomes more commonplace, we found

⁷⁷ Ibid., p. 87.

⁷⁸ Ibid., p. 83.

⁷⁹ E. Allen and J. Seaman. "Online Nation: Five Years of Growth in Online Learning." Sloan Consortium. (2007), p. 17. http://www.sloan-c.org/publications/survey/pdf/online_nation.pdf

⁸⁰ Garrett, Op. cit., p. 52.

⁸¹ Kipatrick and Bound, Op. cit., p. 7.

⁸² Ibid., p. 25.

⁸³ Ibid., p. 26.

that large public universities, in particular, are choosing to make their online program offerings available to students from a host of backgrounds—traditional, non-traditional, residential, and distance learners. For instance, students enrolled in full-time on-campus programs do take advantage of online course offerings. As reported by *The Chronicle of Higher Education* in 2002, many full-time undergraduates living on-campus “flocked” to online courses, forcing students at some colleges to obtain permission from administrators to take courses online.⁸⁴ The Director of E-Learning Business Development at the University of Montana System noted that his institution does not target any specific type of student, but that approximately 65 percent of the system’s online deliveries are to students who also reside on campus. This contact further stated that this academic year, roughly 17 percent of the university system’s students were taking at least one online course.

It is also important to recognize, however, that while online learning is a choice for many, as noted in the 2003 NCVET report, students in regional areas do not have this luxury. Their remoteness from universities makes online education their only option. Hence, online offerings play an important role in expanding access.

⁸⁴ Young, Op. cit.

Learning Outcomes

In this section, we explore the effectiveness of online and blended education in terms of learning outcomes.

Online Learning Outcomes

Figure 9 below outlines the benefits of and barriers to online learning.

Figure 9: Online Learning Processes and Skills – Benefits and Barriers

Benefits	Barriers
If online learning is interactive it can reduce the isolation of distance learners (Lally & Barrett 1999; Harper et al. 2000).	Interaction must be designed in (Snewin 1999).
It has the potential to provide additional skills for learners in collaboration, co-operation (Oliver & Omari 2001; Schrum 1998).	Students may not have adequate literacy and computer literacy skills (Harper et al. 2000).
Additional information technology skills (Make et al. 2000).	
It can lead to greater control and responsibility towards learning (Schrum 1998) challenging learners to develop new skills and reconceptualise their identity as learners (Harper et al. 2000, p.25).	Observation and intervention are more difficult than in a face-to-face context (Chen et al. 2001).
An interactive, well-facilitated online environment can assist in the development of critical, reflective thinking (Holt et al. 1998).	Requires appropriate hardware and software skill development for staff and students. Students and teachers may not be familiar with online learning environments (Lally & Barrett 1999; Eastmond 1995).
Online learning can facilitate the development of metacognitive skills (Frederico 1999; Oliver & Omari 2001).	Students may not have the necessary metacognitive skills (Frederico 1999).
Learners have time to formulate responses and may therefore participate more than in a face-to-face environment (Holt et al. 1998, p.49).	Silent ("lurking") participants remain invisible to the group (Holt et al. 1998).
Everyone can see everyone else's contribution and build on them (Holt et al. 1998).	Coping with the volume of online data may be overwhelming (Holt et al. 1998).
	Loss of face-to-face interaction affects development of group identity (Holt et al. 1998).
Note: Learning styles and orientations influence positive or negative responses to online learning.	

Source: Kilpatrick and Bound (2003)

A number of studies have compared the effectiveness of "e-learning" with traditional "face-to-face" learning. We offer summaries of these studies below.⁸⁵ On the whole,

⁸⁵ Taken verbatim from J. Misko, J. Choi, S. Hong, and S. Lee, "E-Learning in Australia and Korea: Learning from Practice." NCVET (2004), p. 43-44. <http://www.ncver.edu.au/research/core/cp0306.pdf>

there are few clear examples of technology contributing to improved student outcomes.⁸⁶ The general consensus is that, at best, learning outcomes for students in online and hybrid courses match those of students in traditional settings.

- ❖ Neuhauser (2002) investigated the effectiveness of online learning by examining class differences in test scores, assignments, participation grades and final grades. She found no statistically significant differences between students who were undertaking a course online and in asynchronous time, and students undertaking the same course in a face-to-face situation. Neuhauser also found that student learning preferences had no impact on final grades for both groups, and that retention rates were identical. Neuhauser concluded that similar learning activities in online or traditional formats can be as effective as each other.
- ❖ Aragon, Johnson and Shaik (2002) also examined how learning style preferences impacted on student success in online and traditional environments. They concluded that learners could be “just as successful” in both types of environments, regardless of learning style differences.
- ❖ Johnson (2002), who investigated differences between online students and on campus students in a biology course, also found both types of delivery equally effective in terms of learning outcomes. No statistically significant differences between the two groups in their understanding of biology subject matter, skills in graphing, reasoning, and positive attitude to the subject of biology were found.
- ❖ Navarro and Shoemaker (2000) compared the performance of a group of students undertaking an online introductory course in macroeconomics, with that of students doing the same course in a traditional format. They found that the online students performed slightly better than the traditional students on a final exam. The researchers also found that, although the great majority of online learners were satisfied with the amount of teacher student interaction, well under half of online learners were satisfied with the amount of interaction with other students that was possible with this form of learning. Both groups reported high levels of satisfaction with the methodology they had chosen.

The Hybrid Model

As mentioned above, a benefit of hybrid programs is that they include a variety of teaching methods and tools. Consequently, professors report that students are often more engaged with the materials in hybrid courses because they can interact with information in the ways that best align with their learning styles. This in turn leads to

⁸⁶ Brennan et al, Op. cit., p. 36.

increased comprehension of class materials. It also leads to greater interaction between students and professors. In an online setting, students do not face the pressures of formulating their thoughts in front of an audience as they speak. Instead, they can reflect on questions and deliberately craft answers that more clearly express their ideas. As Chris Dede, professor of learning technologies at Harvard University's Graduate School of Education says, "Many people find their voice in a way that they don't in face-to-face sessions."⁸⁷ One of the striking features of hybrid programs is that, despite the physical distances between students, they often foster stronger learning communities than traditional programs because students interact with each other more frequently.⁸⁸

While there are reasons to believe that the hybrid model would produce more effective learning outcomes than the fully-online model in theory, it seems that the data is equivocal.

- ❖ Dziuban, Hartman and Moskal's (2004) found that "blended courses have the potential to increase student learning outcomes while lowering attrition rates in comparison with equivalent fully online courses. In this regard, we have found that the blended model is comparable to or in some cases better than face-to face."⁸⁹
- ❖ Reasons, Valadarez and Slavkin (2005) "examined the outcomes of two introductory courses in teacher education and health services employing similar pedagogical methods within three delivery formats (face-to-face, internet-based, and hybrid) in an effort to compare each of these modes of instruction. Results demonstrate that significant differences exist among the various formats and that the internet-based format could possibly lead to better student outcomes compared to face-to-face and hybrid formats."⁹⁰
- ❖ Brown and Liedholm (2000) "used scores on a final examination to analyze the performance of university students (studying principles of macroeconomics) in three different modes of instruction: live, hybrid and virtual. The different modes each used the same textbook, multiple choice examinations and email and course websites for communication. The live course used traditional instructor-led face-to-face methodologies. The hybrid course used this methodology and supplemented it with online materials. The virtual course was delivered online. They found that the virtual (online)

⁸⁷ J. Young. "'Hybrid' Teaching Seeks to End the Divide Between Traditional and Online Instruction." *The Chronicle of Higher Education* (3/22/02). <http://chronicle.com/article/Hybrid-Teaching-Seeks-to/18487>

⁸⁸ Freddolino. Op. cit., p.31.

⁸⁹ C. Dziuban, J. Hartman, and P. Moskal. "Blended Learning." EDUCAUSE Center for Applied Learning (2004), p.7. <http://net.educause.edu/ir/library/pdf/ERB0407.pdf>

⁹⁰ S. Reasons, K. Valadares and M. Slavkin. "Questioning the Hybrid Model: Student Outcomes in Different Course Formats." *Journal for Asynchronous Learning Networks*. 9:1 (March 2005), pp.88-91.

methodology was associated with poorer performance. This was especially the case for more complex subject matter. However, the students in the live class also spent more time and effort in the course, and this could have contributed to their superior performance.”⁹¹

- ❖ A study by Hodge, Tucker, and Williams (2004) that investigated student perceptions of online, traditional and blended delivery methods found that “those students who had access to online course materials and classroom instruction (that is, blended delivery) were more motivated by the instructor than those who received only one form of delivery.”⁹²

⁹¹ Misko et al, Op. cit., p. 44-45

⁹² Ibid., p. 44.

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