



Distance Learning at PBCC

A History and Enrollment Overview

Academic Affairs

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Introduction

Palm Beach Community College was an early pioneer in the world of distance learning. In the 1970's, PBCC planned a "media" based campus that was to be the fourth PBCC campus, before the Boca Raton site opened. The media campus was campus 4, hence the missing digit between the Belle Glade campus (3) and the Boca Raton campus (5). The Media campus offered some courses through the newspaper and television, essentially modeled after correspondence education courses.

What we have come to know as "distance learning" at PBCC began to emerge in the early 1990's with the first telecourses which were offered through the Palm Beach County Government Channel 20, and videoconferencing with the School District of Palm Beach County. In the 1990's educators around the country began to explore how the newly developed Internet could be used as a learning tool. In 1995, Pardner Wynn introduced a free web-based interactive course at testprep.com for SAT test preparation, which is credited with being the first interactive web-based course.

(http://en.wikipedia.org/wiki/History_of_virtual_learning_environments).

With the emergence of the World Wide Web in 1995, PBCC began to develop courses that could be offered fully online. On PBCC's 1997 web site, distance learning was referred to as "the virtual college" offering 27 web-based and 21 telecourses

(<http://web.archive.org/web/19991018232034/www.pbcc.cc.fl.us/southweb/aa.htm>).

The Internet courses were developed with the WebCT platform, which started in 1997 at the University of British Columbia. WebCT is now a commercial product owned by Blackboard. For a more complete history of virtual learning environments, please see the web page at http://en.wikipedia.org/wiki/History_of_virtual_learning_environments

In 1999, the college applied for a substantive change to its accreditation to offer distance learning. The report was prepared in 1999 and submitted to the Southern Association of Colleges and Schools (SACS). The complete report is included in the Appendix of this document.

Types of Distance Learning at PBCC

Distance learning classes can be grouped into three general categories:

Internet Delivery – these are often referred to as "online classes" and can be "pure internet", where all instruction is delivered online, and "hybrid" courses where part of the instruction is face to face and part is online. Pure internet is the most popular of these types of internet delivered classes.

Course in a Box and Telecourses – In this category, students attend an in-class orientation session and then are loaned a set of videocassettes or DVDs that contain the main course content. The class then reconvenes 4-6 times during the semester to discuss the materials and take examinations. In telecourse courses, a publicly broadcast television station is used to deliver PBCC produced television courses or those licensed from educational media companies.

Videoconferencing – PBCC has videoconferencing classrooms at each of its four campus locations, which allows students to interact in real time. In addition, PBCC has a video link to Indian River Community College to teach nuclear medicine classes to students across the county lines.

Distance Learning Enrollment Trends

Distance learning enrollment has grown substantially since 1999, mostly through pure internet courses.

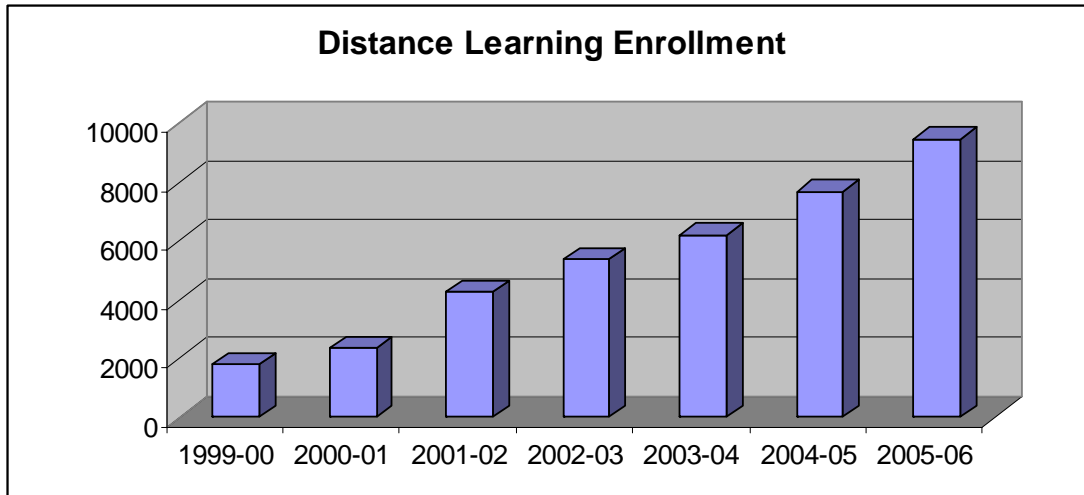


Figure 1 – Distance Learning Enrollment at PBCC

This figure shows that in 1999-00, 1,800 distance learning enrollments were recorded while in 2005-06 that number had grown to 9,461.

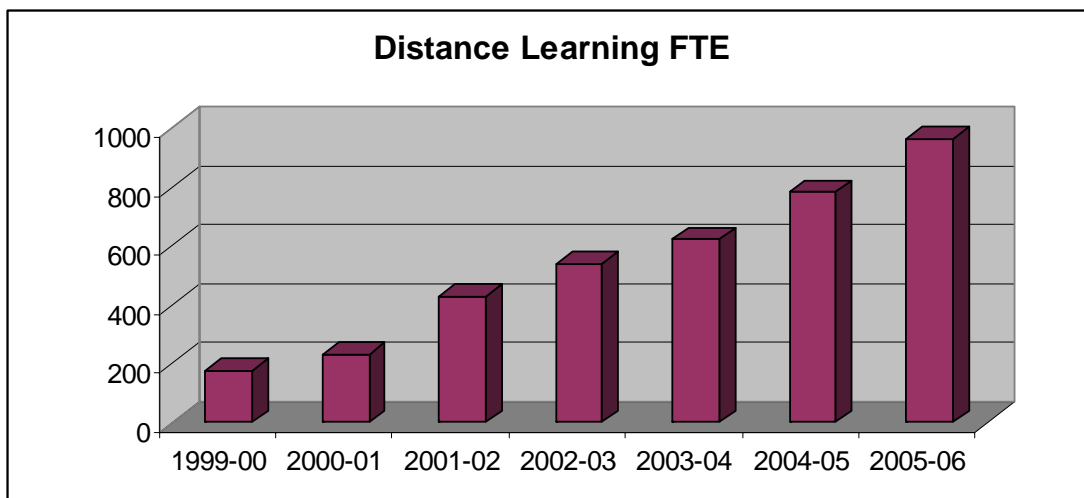


Figure 2 – Distance Learning FTE

FTE distance learning has seen a similar growth pattern, rising from 176.4 FTE in 1999-00 to 966 FTE in 2005-06, so that distance learning comprises 8.5% of the total credit FTE generated.

Average class size has increased as students have adapted and embraced distance learning classes.

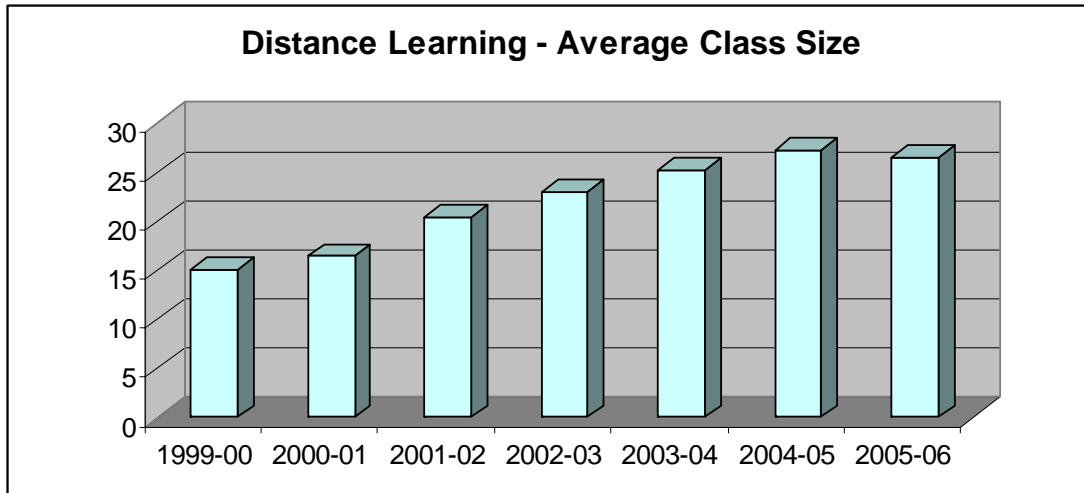


Figure 3 - Distance Learning Average Class Size

In 1999-00, average class size in distance learning classes was 15.1. In 2005-06 average class size had risen to 26.5, equaling the average class size in face-to-face classes.

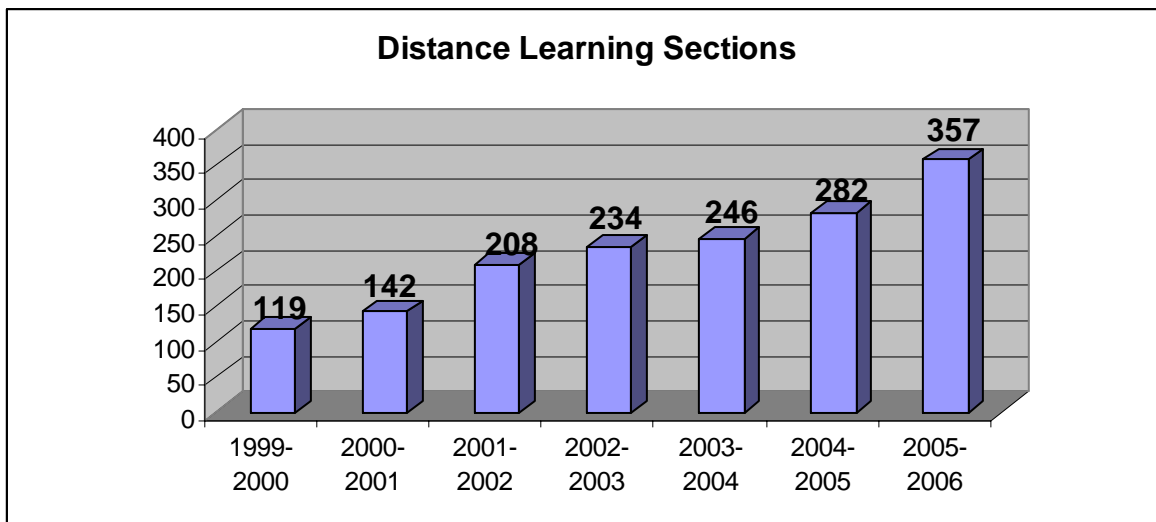


Figure 4 – Distance Learning Sections, 1999-2005

Enrollment is a function of the number of sections offered. The 2005-06 year saw a dramatic increase in the number of distance learning sections offered.

The following tables provide detailed term by term data on distance learning enrollments.

Table 1 - Distance Learning 1999-2002

	Sum '99	Fall '99	Spr '00	<i>RY 99-00</i>	Sum '00	Fall '00	Spr '01	<i>RY 00-01</i>	Sum '01	Fall '01	Spr '02	<i>RY 01-02</i>
Total distance learning sections	18	46	55	119	32	51	59	142	41	75	92	208
Total seats	638	1,300	1,374	3,312	796	1,233	1,457	3,486	1,125	2,131	2,578	5,834
Total enrolled	262	707	831	1,800	498	748	1,099	2,345	829	1,593	1,840	4,262
Seat occupancy rate	41.1%	54.4%	60.5%	54.3%	62.6%	60.7%	75.4%	67.3%	73.7%	74.8%	71.4%	73.1%
Average section size	14.6	15.4	15.1	15.1	15.6	14.7	18.6	16.5	20.2	21.2	20.0	20.5
Total FTE generated	25.6	68.5	82.3	176.4	48.8	73.9	109.9	232.6	82.9	159.5	185.0	427.4

Table 2 - Distance Learning 2002-2005

	Sum '02	Fall '02	Spr '03	<i>RY 02-03</i>	Sum '03	Fall '03	Spr '04	<i>RY 03-04</i>	Sum '04	Fall '04	Spr '05	<i>RY 04-05</i>
Total distance learning sections	53	98	83	234	44	90	112	246	62	106	114	282
Total seats	1,699	2,706	2,435	6,840	1,449	2,634	3,258	7,341	1,909	3,263	3,607	8,779
Total enrolled	1,227	2,010	2,142	5,379	1,230	2,329	2,647	6,206	1,670	2,854	3,173	7,697
Seat occupancy rate	72.2%	74.3%	88.0%	78.6%	84.9%	88.4%	81.2%	84.5%	87.5%	87.5%	88.0%	87.7%
Average section size	23.2	20.5	25.8	23.0	28.0	25.9	23.6	25.2	26.9	26.9	27.8	27.3
Total FTE generated	122.3	200.7	215.0	538.0	121.7	233.9	267.4	623.0	169.5	289.1	323.8	782.4

Table 3 - Distance Learning 2005-2006

	Sum '05	Fall '05	Spr '06	<i>RY 05-06</i>
Total distance learning sections	77	125	155	357
Total seats	2,507	3,931	4,672	11,110
Total enrolled	2,193	3,350	3,918	9,461
Seat occupancy rate	87.5%	85.2%	83.9%	85.2%
Average section size	28.5	26.8	25.3	26.5
Total FTE generated	223.1	339.9	403.1	966.0

Other Enrollment Trends – Blending Face to Face Classes with Distance Learning and Grade Distributions

Blending Face to Face Classes with Distance Learning

Another way in which to characterize distance learning enrollments is to look at how students take distance learning classes in combination with classroom classes. Although intuitively we may assume that distance learning students only attend online, the majority of distance learning students also attend face to face classes, although that margin is lessening. For example, in Fall 2001, of the 1,285 distance learning students, 71% were also taking classes on campus. In Fall 2005, of the 2,360 students who took distance learning classes, 1,560 or 66% were also taking classes on campus.

The following tables present detailed data on students exclusively distance learning classes and those who blend distance learning with campus classes.

Table 4 - Fall Distribution of Distance Learning Students

	Fall 2001		Fall 2002		Fall 2003		Fall 2004		Fall 2005	
Total unduplicated headcount	18,512		19,487		19,976		20,112		20,394	
Students taking exclusively traditional courses	17,227	93.1%	17,890	91.8%	18,154	90.9%	18,015	89.6%	18,034	88.4%
Students taking exclusively distance learning courses	373	2.0%	427	2.2%	518	2.6%	634	3.2%	800	3.9%
Students taking mix of traditional and distance learning	912	4.9%	1,170	6.0%	1,304	6.5%	1,463	7.3%	1,560	7.6%
<i>Total number of students taking distance learning</i>	<i>1,285</i>	<i>6.9%</i>	<i>1,597</i>	<i>8.2%</i>	<i>1,822</i>	<i>9.1%</i>	<i>2,097</i>	<i>10.4%</i>	<i>2,360</i>	<i>11.6%</i>

Table 5 - Spring Distribution of Distance Learning Students

	Spring 2002		Spring 2003		Spring 2004		Spring 2005		Spring 2006	
Total unduplicated headcount	18,258		18,881		19,730		19,646		19,098	
Students taking exclusively traditional courses	16,842	92.2%	17,187	91.0%	17,772	90.1%	17,396	88.5%	16,316	85.4%
Students taking exclusively distance learning courses	447	2.4%	480	2.5%	576	2.9%	738	3.8%	923	4.8%
Students taking mix of traditional and distance learning	969	5.3%	1,214	6.4%	1,382	7.0%	1,512	7.7%	1,859	9.7%
<i>Total number of students taking distance learning</i>	<i>1,416</i>	<i>7.8%</i>	<i>1,694</i>	<i>9.0%</i>	<i>1,958</i>	<i>9.9%</i>	<i>2,250</i>	<i>11.5%</i>	<i>2,782</i>	<i>14.6%</i>

Table 6 - Summer Distribution of Distance Learning Students

	Summer 2001		Summer 2002		Summer 2003		Summer 2004		Summer 2005	
Total unduplicated headcount	10,246		11,257		11,829		11,963		12,002	
Students taking exclusively traditional courses	9,582	93.5%	10,289	91.4%	10,819	91.5%	10,670	89.2%	10,347	86.2%
Students taking exclusively distance learning courses	309	3.0%	448	4.0%	472	4.0%	634	5.3%	833	6.9%
Students taking mix of traditional and distance learning	355	3.5%	520	4.6%	538	4.5%	659	5.5%	822	6.8%
<i>Total number of students taking distance learning</i>	<i>664</i>	<i>6.5%</i>	<i>968</i>	<i>8.6%</i>	<i>1,010</i>	<i>8.5%</i>	<i>1,293</i>	<i>10.8%</i>	<i>1,655</i>	<i>13.8%</i>

Grade Distributions

One of the important ways to examine distance learning is to look at the grades that students earn in distance learning classes – are they different than those earned in face to face classes? Manatee Community College studied this issue in their 2002 Quality Enhancement Plan for SACS reaffirmation and found that distance learning classes had a significantly higher withdrawal rate (<http://www.mccfl.edu/pages/224.asp>) .

The Office of Institutional Research and Effectiveness at PBCC looked at the grade distributions of students in distance learning and face to face classes. To ensure an accurate comparison, only like classes in face to face and distance learning were compared.

Table 7 - Fall Terms

	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
Overall % of A/B/C/P grades awarded	71.0%	71.4%	71.5%	70.6%	72.0%
In traditional sections	71.4%	71.9%	71.9%	71.2%	72.6%
In distance learning sections	62.6%	62.2%	64.1%	62.8%	65.0%
Overall withdrawal rate	10.9%	11.0%	10.9%	11.5%	10.4%
In traditional sections	10.6%	10.6%	10.6%	10.9%	9.8%
In distance learning sections	16.2%	18.8%	16.7%	18.7%	17.4%

Table 8 - Spring Terms

	Spring 2001	Spring 2002	Spring 2003	Spring 2004	Spring 2005
Overall % of A/B/C/P grades awarded	69.8%	69.1%	70.6%	69.3%	69.2%
In traditional sections	70.2%	69.4%	71.2%	69.9%	70.0%
In distance learning sections	62.9%	64.2%	62.5%	62.6%	62.9%
Overall withdrawal rate	12.8%	13.0%	11.9%	12.9%	13.1%
In traditional sections	12.4%	12.7%	11.4%	12.3%	12.3%
In distance learning sections	20.4%	17.4%	19.0%	19.6%	19.2%

Table 9 - Summer Terms

	Summer 2001	Summer 2002	Summer 2003	Summer 2004	Summer 2005
Overall % of A/B/C/P grades awarded	79.9%	80.6%	81.0%	81.4%	80.2%
In traditional sections	80.3%	81.1%	81.6%	82.8%	81.6%
In distance learning sections	71.1%	72.3%	72.6%	68.2%	70.9%
Overall withdrawal rate	8.2%	8.5%	8.7%	9.1%	9.4%
In traditional sections	7.9%	8.1%	8.2%	8.3%	8.5%
In distance learning sections	13.7%	14.6%	15.6%	16.6%	15.7%

In all cases across the terms, distance learning classes had significantly higher withdrawal rates, which subsequently affected the success rate in the courses as measured by the number of A/B/C/P issued in the classes.

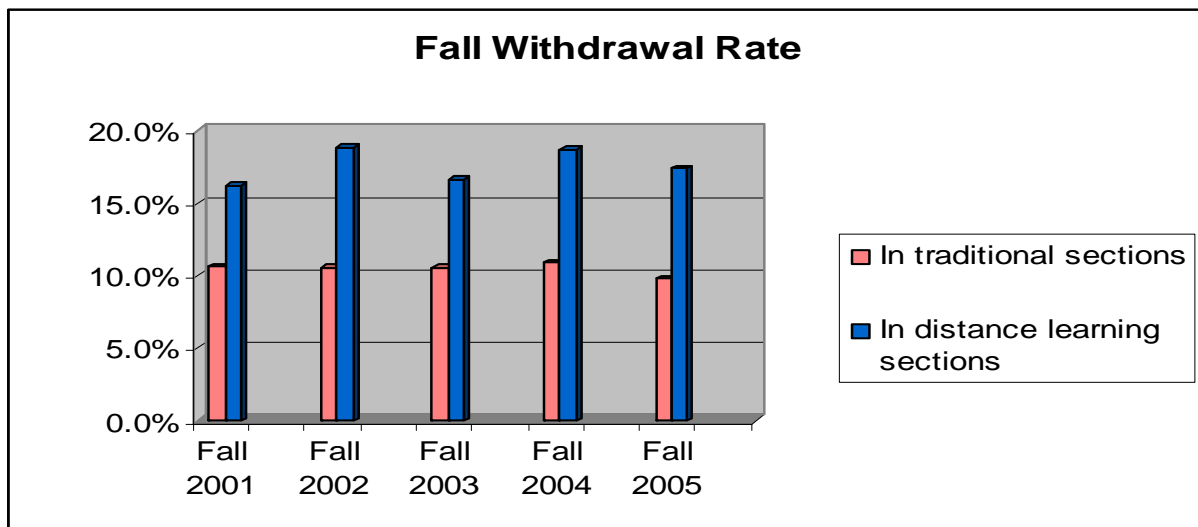


Figure 5 – Fall Withdrawal Rate – Distance Learning and Traditional Sections

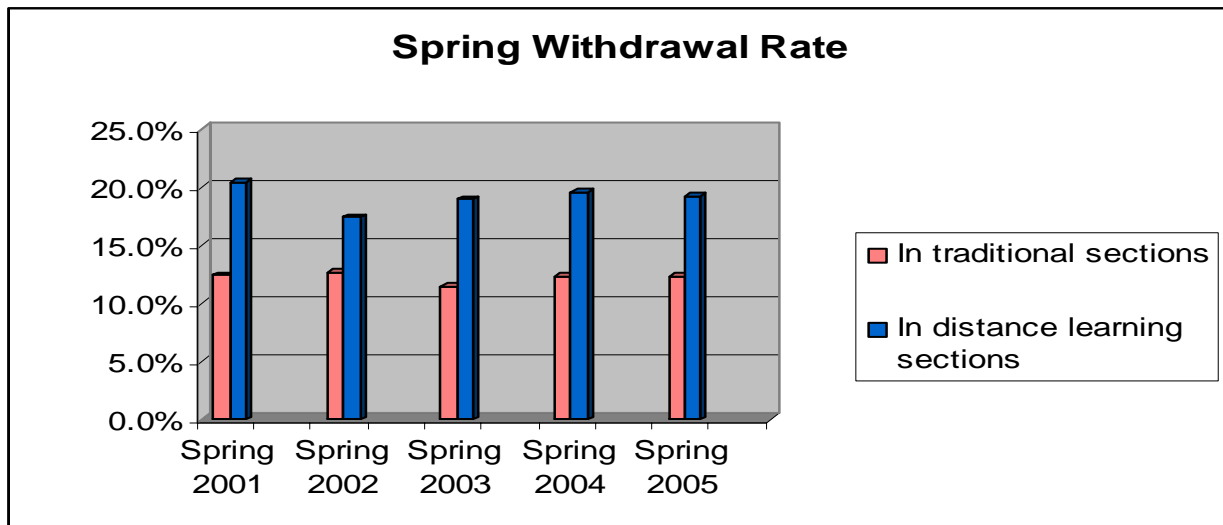


Figure 6 – Spring Withdrawal Rate – Distance Learning and Traditional Sections

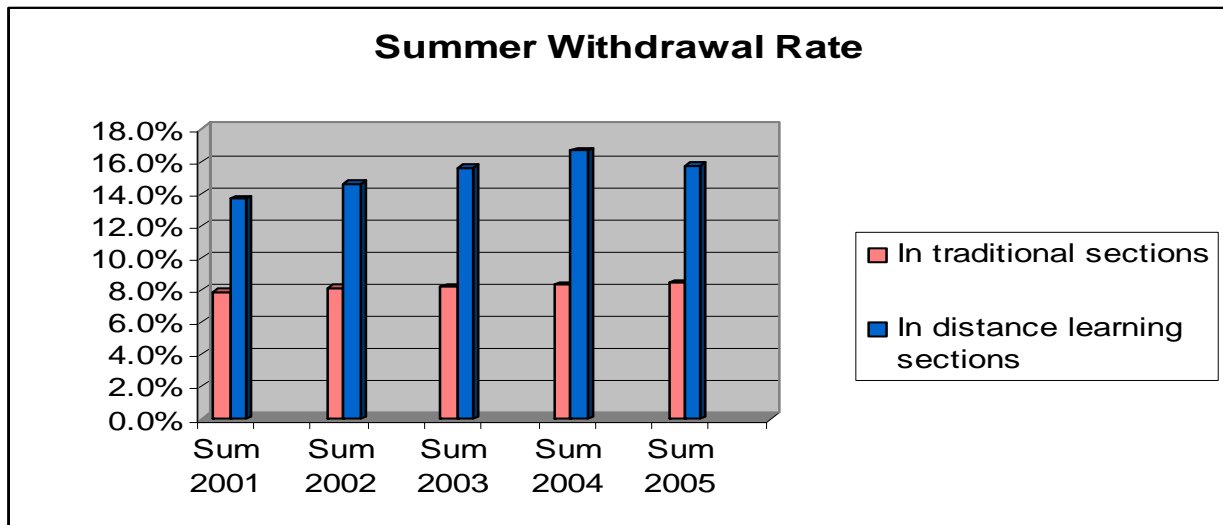


Figure 7 – Summer Withdrawal Rate – Distance Learning and Traditional Sections

Reasons for these differences in withdrawal rates are certainly due to many causative factors. A survey of students who withdraw from distance learning classes could help us learn about the reasons and develop strategies to improve these aspects of distance learning delivery.

Conclusions

- Distance learning is the fastest growing segment of PBCC's enrollment
- Distance learning allows students to take online classes in addition to their on campus classes
- Distance learning now comprises about 9% of PBCC's total FTE in credit
- More students take distance learning classes in the Spring term than in the Fall term or Summer Term
- Most distance learning students also attend class on-campus
- Distance learning classes have higher withdrawal rates than classes held on campus

Appendix

Distance Learning Substantive Change for SACS – 1999

A. Nature of Change and Assessment of Need

A.1 History of distance learning courses and development at the college

Palm Beach Community College (PBCC) consists of three campuses and one center located in Palm Beach county, Florida. Approximately 18,000 students were enrolled in the College in the Fall of 1999, with 724 or 4% of the total population involved in distance learning.

In 1992 Palm Beach Community College received a grant for a pilot project between seven schools in the Palm Beach County School Board (SBPBC) district for an analog fiber optic interactive videoconferencing system. In August of 1992, the first class was broadcast between PBCC Lake Worth Campus and the School of the Arts as a dual enrollment class. Use of the fiber optic system was ongoing until September of 1998. Interactive Video courses are offered at all four locations. These courses use two-way video and audio technology that allow for live interaction among students and instructor at all locations. Since 1994 the college has been offering telecourses. In 1997 the college offered the first Internet classes.

The emphasis of our college's substantive change notification will be distance learning using telecourse, Internet-based courses and interactive television courses (compressed video).

A.1.1 Asynchronous distance learning

A.1.2 Telecourses courses

In 1994, telecourses began as a pilot program offered via Palm Beach County governmental Channel 20. This service started with two courses and quickly expanded to six within a year of the first broadcast. Local PBS affiliate WXEL became the primary delivery mechanism starting in Fall, 1995.

The college's Telecourse Committee, composed of faculty, associate deans and support service representatives held its first meeting in April 1995. It was charged by the Vice President's Council with the responsibility of planning and coordinating the activities of the program.

This new committee worked within the existing academic structure, establishing policies and procedures, in order to provide college-wide coordination and tracking of the courses. The chart below lists the enrollment figures over the course of the last five years.

A.1.3 Internet courses

The College began its Internet effort by appointing a web master and setting up an Internet server. Web pages for the college began to appear in 1996. Each campus established a campus web master to head up their Internet effort. The College began the movement toward offering Internet classes in 1996. Several faculty and administrators went to meetings including the

League of Innovations and saw the potential of what the Internet would eventually be. Dr. Dan Terhune was appointed in 1996 to head this effort by President Eissey.

Several Internet committees were appointed to discuss relevant issues. One such committee was under the leadership of Provost Helen Frank. This committee developed policies for the web. One of the major decisions made by this committee was that any faculty member who was trained to FTP would be allowed to place web pages in their folder on the server.

In the fall 1997 three faculty members: Carolyn Allen, Constantino Colombo and Don Voils began to offer Internet courses. Carolyn Allen offered Pure Internet and Constantino Colombo and Don Voils offered Pure Internet Option.

In the fall of 1997, Provost John Schmeiderer appointed a college-wide committee under the leadership of Carolyn Allen to study the issue of offering Internet classes and what structure was needed. This committee made several recommendations including that the College should identify someone to lead the College's Internet class effort and that a special unit should be designated to provide that leadership. In addition the committee recommended that the College designate the following categories of Internet courses: Pure Internet, Pure Internet Option, Internet Component and Telecourse with and Internet Component. Another category was established in 1999 named Mixed Pure Internet.

In the fall of 1998, Dr. Celeste Beck was appointed the Provost of the Virtual College. Don Voils was given released time to assist her in this effort. In the fall 1998 WebCT was purchased for the purpose of housing the Internet courses. The WebCT server was at first located at the South campus and Don Voils acted as the WebCT administrator for both hardware and software. Later the hardware end was transferred to IT management to improve access to the server off campus.

In fall of 1999, the college renamed the virtual college effort to distance Learning. Eighteen pure Internet courses were offered in the fall of 1999. For the Spring 2000 term, there are 20 pure Internet classes offered by faculty from all four locations through the distance learning effort.

A.1.4 Synchronous distance learning

A.1.5 Interactive Television Courses

In 1992 Palm Beach Community College received a grant for a pilot project between seven schools in the Palm Beach County School Board (SBPBC) district for an *analog fiber optic* interactive videoconferencing system. August of 1992 the first class was broadcast between PBCC Lake Worth Campus and the School of the Arts as a dual enrollment class. Use of the fiber optic system was ongoing until contract ended September of 1998.

Project RETRAIN

Through Project Retrain (Regional Educational & Training Alliance for changing Industrial Needs), PBCC received a grant from ARPA/NSF in 1996. The Alliance included: University of Florida Center for Advanced Studies in Engineering (CASE) Palm Beach Gardens Florida Atlantic

University (FAU) Boca Raton, Indian River Community College (IRCC) Ft. Pierce, Palm Beach Community College (PBCC) Lake Worth and Palm Beach Gardens, School Board of Palm Beach County (SBPBC) North Technical Education, University of Florida, Gainesville (UF), Business Development Board of Palm Beach County, Job Training Center, Workforce Development Board, and Pratt & Whitney Industries. With the Project RETRAIN grant, PBCC Lake Worth and PBCC Palm Beach Gardens received interactive compressed videoconferencing systems (V-tel Media Max 3.04.) and was certified to broadcast in January of 1997. The videoconferencing equipment broadcast Project RETRAIN classes, workshops, conferences. In the Fall of 1997, Occupational Therapy classes were offered in a joint program with Tallahassee Community College. Subsequent classes in OTH were offered through the Fall 98/99 semester. Summer of 1999 the *analog* fiber optic system was taken out of service.

Utilizing State grant funding and PBCC funds, Belle Glade center purchased its interactive compressed videoconferencing system (V-Tel TC 2000) and held the first class with the PBCC Lake Worth in September 1998. (Visual Basic)

Utilizing State grant funding and PBCC funds the Boca Raton campus purchased its interactive compressed videoconferencing system (V-Tel TC 2000) in July of 1999.

August of 1999 Palm Beach Community College began broadcasting at all four locations sites. Currently three classes are taught between the four sites, with 5 classes scheduled for the 2000 Spring Semester and ongoing plans to continue and escalate the number of classes taught using the College distance learning compressed videoconference systems in the interactive teleclassrooms.

A.2 Assessment of Need

A.2.1 Reasons for using distance learning modalities

Palm Beach County is 40 miles wide and 60 miles long. There are one million people living in this area. During the tourist season from November to April the population swells making traveling more difficult on the highways. Many of our students are finding distance learning attractive because many offerings are not time or place constrained. PBCC will focus first on distance education courses for its traditional students to offer them added convenience and more offerings close to their home campus. Many of our traditional students work full time and find it difficult to attend classes on campus but find they have the time to do course work if it does not require weekly trips traveling to the campus. Alternative delivery systems offer a more flexible scheduling environment. Many of our students take on site and online courses. Beginning with the telecourse surveys and continuing with Noel Levitz surveys, student letters, phone class and evaluation comments, students have requested delivery systems that are not time or place bound. As the part-time enrollment has increased reflecting a student population which is at least employed part-time, and in many cases full-time, demand has risen for more flexible scheduling and delivery systems.

With the use of the Internet interfacing with so much in the lives of our students it was only natural to develop courses using the World Wide Web. PBCC is supporting web-based courses

for distance delivery. The web offers powerful linkages, is relatively inexpensive, does not require great technical skills, and can be readily used to supplement existing instruction. All faculty are being encourage to make use of the Web in all course work. The Web can be used for communication and instruction even if the faculty are not involved in distant learning courses. Currently the College is assessing the availability of student computer access. Computers are proved with Internet access at each of the College's four locations either in the Library or Center for Personalized Instruction.

The college is expanding the use of the interactive television courses. This allows PBCC to share courses and programs at four campus locations. The center in Belle Glades currently has limited offerings thus making the offering of interactive television classes quite attractive to this population.

The offering of telecourses has been a staple in PBCC's distance education program. Telecourses are offered over two local cable companies. The latest option for students to take part in the telecourse program is titled Course in a box. Course in the Box option provides students with a complete set of telecourse tapes, which will be mailed to the student the week after attending the mandatory orientation.

In addition to the constant monitoring of enrollments and the telecourse survey done by the office of Institutional Effectiveness to track trends and review the needs, the Telecourse committee has monitored national trends and course development (especially telecourses) to identify new courses that might be made available to the students of PBCC. Once these courses are identified, they are forwarded to the appropriate academic cluster for approval.

As the college transitions the many Post Secondary Adult Vocation programs (PSAV) of the Workforce Force Development initiative of Palm Beach County into its curriculum, distance learning delivery systems are being explored as even more viable to be more responsive to the needs of this population.