

Enhanced Multi-Faceted Teaching Methods: Phase III- Adjunct Faculty

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ABSTRACT

This paper is the third in a series conducting research on teaching methods and technologies at Adelphi University School of Business. First, (Phase I) the methods and instrument were developed. Second, data from full time faculty was collected and analyzed (Phase II). Third, (Phase III) data has been collected concerning the extent of use and perceived value of use of various technologies from part-time faculty which we analyzed and compared to the results from the full-time faculty. The issues of part-time faculty attitudes toward technology and their use of technology to support teaching are important to the academic mission and emphasized under AACSB standards for business schools. In the environment studied, part-time faculty perceptions of the levels of use and their opinions of the value of use of various technologies were virtually indistinguishable from those of full-time faculty. Neither departmental affiliation nor teaching experience was a significant factor in explaining the responses of part-time faculty. The authors conclude that the part-time faculty cadre studied is highly socialized and consistent with the full-time faculty on the dimensions studied.

INTRODUCTION

This paper is the third in a series of research projects focusing on various teaching technologies and methodologies. This stream of pedagogical research in a university business school (Adelphi University) was designed to gather objective and factual data on not only what technologies (what were classified as “hard” and “soft” technologies) but what teaching methods were being employed on the undergraduate and master’s degree level. Further, the research has gathered information on the level of use and how faculty value the various technologies and methods they may be employing in their structural activities.

The first paper (Payette 2004) developed an instrument to gather data on traditional teaching methods and other more recently developed technologies and methods. This instrument was pre-tested and refined for presentation at the TLC Conference in January 2003. In addition this paper provided definitions and descriptions of the various elements in the survey instrument. Next, the instrument was administered to a group of full time business faculty and the results were statistically analyzed and presented at the TLC Conference in January 2004. This research established an approach and data base that could be used for future comparisons and analysis (Payette and Verreault 2005). This paper is the result of surveying the part-time faculty in the same institution to accomplish two objectives. First, this will be the first pedagogical research focusing on adjunct faculty in the School of Business at Adelphi University and second, it presents a comparative analysis between a group of full-time and part-time faculty with respect to the value and level of use of various teaching methods and technologies.

The authors believe that this analysis will provide a comprehensive pedagogical analysis of the entire Business faculty at Adelphi University to assist in the continuous improvement initiatives as part of their candidacy for AACSB accreditation. The research also adds to our understanding of factors affecting part-time faculty. The growth of the part-time faculty component is of importance to all constituents of higher education whether inside or outside the business school environment.

DEFINITIONS

As the review of the literature commenced on adjunct faculty it became clear that there is a wide range of terms applied to what this paper refers to as “part-time faculty”. For the purpose and intent of this research we define “part-time faculty” as follows:

any faculty member who is not appointed as a full-time tenure track instructor; any faculty member who does not have tenure and teaches less than the contractually mandated course load assigned to full-time faculty, and adjunct faculties who are assigned on a “course available” basis.

The literature reveals that definitions vary by institution and by collective bargaining agreements. Other terms applied to adjunct faculty include:

- Adjunct faculty - used interchangeably with part-time faculty
- Contingent Academic Labor and
- Contract Part-time faculty (Ehrenberg, 2005)
- Supporting faculty member (AACSB definition)

Perhaps the most comprehensive definition of adjunct faculty developed recently is from The Association to Advance Collegiate Schools of Business (hereinafter referred to as AACSB). It states that:

A supporting faculty member does not, as a rule, participate in the intellectual or operational life of the school beyond the direct performance of teaching responsibilities. Usually, a supporting faculty member does not have deliberative or involvement rights on faculty issues, have membership on faculty committees, nor is the individual assigned responsibilities beyond direct teaching functions (i.e., classroom and office hours). A supporting faculty member’s appointment is normally exclusively teaching responsibilities and is normal ad hoc appointment, for one term or one academic year at a time without the expectation of continuation. (AACSB 2005, p 36-7)

This definition is included to provide an accurate comparison of the two “types” of faculty. Full time faculty are defined by AACSB as “participating faculty”. The definition is reproduced to demonstrate to level of complexity and degree of specificity now being applied by AACSB in its accreditation process. This definition of full-time is as follows:

A participating faculty member actively engages in the activities of the school in matters beyond direct teaching responsibilities. Such matters might include policy decisions, educational directions, advising, research, and service commitments. The faculty member may participate in the governance of the school, and be eligible to serve as a member on appropriate committees that engage in academic policymaking and/or other decisions. The individual may participate in a variety of non-class activities such as directing extracurricular activity, providing academic and career advising, and representing the school on institutional committees. The school considers the faculty member to be a long-term member of the faculty regardless of whether or not the appointment is of a full-time or adjunct nature, regardless of whether or not the position with the school is considered the faculty member’s principal employment, and regardless of whether or not the school has tenure policies. The individual may be eligible for, and participate in, faculty development activities and take non-teaching assignments for such activities as advising as appropriate to the faculty role as defined at the school. (AACSB 2005, p.36)

It is too soon to determine if the AACSB definitions of full-time and adjunct faculty status will become part of the generally accepted terminology in higher education. It will, as part of the accreditation regulations, be used by any candidate for accreditation and from all accredited schools of business who must now “embark on a continuous process of accreditation maintenance.” (AACSB Eligibility Procedures, 2005, p.2.). Contingent or Contract academic labor only recently used by Ronald Ehrenberg in a paper delivered at a TIAA-CREF Institute Conference in New York (November 3-5, 2005) is yet another definition which include “part-time or full-time Non-tenure track position.” Ehrenberg cited Aderson (2002) Baldwin and Chronister (2001), Conley, Lesley and Zimblor (2002), Ehrenberg and Zhang (2005a).

These definitions point towards an expansion of who is classified as part-time, which could include non-tenured full-time lines and part-time which would include only faculty with less than a full-time work load however work is defined at each institution. The concept of “Supporting Faculty Members” developed by AACSB and promulgated as part of Eligibility Procedures and Accreditation Standards for Business Accreditation (2005) also eliminates any distinction between full and part-time faculty but uses the term of “supporting faculty members” for faculty hired exclusively for teaching on a temporary basis and “without the expectation of continuation” (AACSB regulation, 2005, p.37).

PREVIOUS RESEARCH

Since the landmark research project in 1998, by the National Center for Education Statistics on “A Profile of Part-time Faculty: Fall 1998, it appears that the research literature is steadily growing (<http://NCES.ed.gov/pubsearch/>) in scope and breadth. The NCES study was able to provide a comprehensive data base upon which researchers could draw upon to conduct additional studies. In 1999, The National Study of Postsecondary faculty (NSOPF: 99) updated two previous NSOPF studies done in 1988 and 1993, “to fill the information gap about this important segment in post secondary education (p.vii). Until this research was conducted, relatively little was known about the characteristics of part-time faculty compared to full time faculty on a national basis. Some of the earlier research and monographs will be discussed later in this section.

When the literature, reports, books, and other publications are examined several trends with respect to adjunct faculty emerge. The National Center for Education Statistics reported the following on the apparent shift in the percentages of full-time and part-time faculty:

From 1976 to 1991, the number of full-time staff increased by 34 percent; however, since 1991, full-time staff has decreased by 1 percent. The number of part-time staff, on the other hand, has experienced continuous growth since 1976, rising 64 percent from 1976 to 1995 and 18 percent from 1991 to 1995 (NCES-98-228).

The NCES paper (No. 2002-08) published an analysis of information collected in 1998, on part-time faculty reported that 57 percent of all post-secondary faculty were full-time and 43 percent were part-time. While the overall trend towards significant increases in part-time instructional staff is in fact happening it should be noted that the NCES data does include non teaching instructional staff in their data. The latest NCES report (NCES 2005-172) states that in 2003 (data reported in 2005):

Among faculty and instructional staff in all institution types, 56 percent were employed full-time and 44 percent were employed part-time in Fall 2003 (Table 1).

The information, while documenting the increase in levels of part-time faculty, does not address issues pertaining to the impact that part-time faculty may have on instructional quality and outcomes. Another article by Conley and Leslie (2002) sponsored by NCES suggests that:

What is perhaps surprising to some, however, is that we have very little historical information about the characteristics of part-time faculty overall and that we have even less information about the similarities and differences among part-time faculty members and between part-time and full-time faculty in general (NCES 2002-163) as reported in Education Statistics Quarterly Vol. 4, Issue 2.

The present study was originally designed to begin to address precisely that lack of information with respect to how a particular school of business faculty uses various instructional methods and technologies and how they value their uses.

In attempting to gather more information on the uses of adjuncts other sources such as Grappa’s monograph (1984), The National Education Association’s handbook, Part-time and Temporary Faculty (1989), and Bower and Shuster (1986, P.60-66) were examined. All point towards the increase in the number of adjuncts but few sources focus on the in-class teaching process of adjuncts. One exception is Bianco-Mathis and Chalofsky (1996, p.55) in The

Adjunct Faculty Handbook which does have several chapters on the pedagogical process. Conely and Leslie (NCES 2002-163) conclude in their paper that, the increases in the numbers of adjunct faculty may have “Negative impacts . . . on the quality of the academy” (p.8). The operative word in the previous statement is, of course, “may” have negative impacts. Given the increased utilization of adjuncts it is clear that additional research on part-time teaching is necessary.

It is accurate to say that more resources have been developed recently to assist adjuncts in their teaching roles. For example, Lyons’ Adjunct Professor’s Guide to Success (1998), Grieve and Worden’s Handbook II-Advanced Teaching Strategies for Adjunct Faculty (2000), and the Adjunct Faculty Handbook by Bianco-Mathis and Chalofsky (1996), are among the resources now available for use by adjuncts and departments providing support for improved teaching by adjuncts.

Interestingly, the internet is also beginning to play an important role in creating an online resources designed specifically for adjuncts. A site for finding adjunct positions and articles concerning adjuncts can be found on <http://www.adjunct.pia.com>. Another site is <http://www.adjunctnation.com>, a comprehensive site with an online magazine, a book store, archived information, jobs, message boards, events, financial issues, teaching tools and surveys. Perhaps the most comprehensive online adjunct teaching support system is <http://www.4faculty.org>, a system “originally designed to provide a cost-effective and convenient approach to orientation and professional development of adjunct faculty” (Knight 2004). The site is sponsored by the California Community College System which faces the need to train “5000 new adjunct positions in the next 5 years state-wide” (page 2 of the website). The primary purpose is to “promote excellent instruction” by adjunct faculty. The site, in its latest model, [4faculty/version2](http://www.4faculty.org/version2) has twenty training modules including “Approaches to Teaching, Technology in the Classroom,” and eighteen other modules. The site also includes recommendations on other sources for each topic module selected by [4faculty.org](http://www.4faculty.org) editors.

While increased academic support for adjuncts is developing, other research suggests problems associated with heavier reliance on adjunct faculty members. Sonner (2002), in reporting on her research on grade inflation says:

This research indicates that differences exist between the grades given by adjuncts and grades given by full-time faculty. Even after controlling for the impact of other factors that could explain the differences, grades tend to be higher in classes taught by adjunct faculty (Sonner 2002, p.5).

Schroeder, in an article in The Chronicle of Higher Education (Oct. 28, 2005) Special Section on Community Colleges, says that new research about to be published indicates graduation rates increase when more full-time faculty are provided to students. Fulton (2000) in an article on “The Plight of Part-timers in Higher Education” catalogues what he perceives as the major problems associated with part-time faculty and he distinguishes between “part-time” and “adjunct” faculty, the latter being full-time faculty who are non-tenure track faculty. Low pay, no benefits, no development assistance, no or few offices, and no job security are among the common complaints associated with being an adjunct faculty member. He concludes that:

Both the colleges and the part-time faculty have created a thoroughly unethical and unhealthy atmosphere by pretending that either that one can live on a collection of part-timer’s stipends or that no one is really trying to do so--thus we needn’t address the issue (October 28, 2005, p.B27).

The evidence appears to be pointing towards significant controversy regarding the overall academic impact of heavy reliance on adjunct faculty. Wickun and Stanley in The Montana Professor Academic Journal (Win 2000) provide a comprehensive discussion of the issues including academics, financial, and professional concerns for adjuncts in the higher education overall. They conclude that adjuncts are important for instruction in that 40% of credit hours taken by students are from adjuncts (which coincide with the NCES research reported earlier in this paper), and that adjuncts will be necessary to balance institutional budgets, that recognition of the need do improve adjunct instruction is being recognized, and a proactive approach should be taken to enhance instruction. They further recommended that:

Additional studies should be conducted on the successful employment of adjunct faculty and the implications on the quality of instruction in higher education (p 5).

They also suggest that internal workshops between administrators and department chairs on ways to improve the use of adjunct faculty should be held.

One of the most interesting and thought provoking articles on adjunct faculty was delivered at an invitational conference on the “New Balancing Act in the Business of Higher Education” sponsored by The TIAA-CREF Institute, Nov. 3-4, 2005, by Ronald G. Ehrenberg. He wrote on “The changing Nature of the Faculty and Faculty Employment Practices (Revised Draft, November 6, 2005). Ehrenberg cites the dramatic increase in part-time and full-time non-tenure track faculty since 1975, and he uses the terms, “contingent or contract” faculty in place of part-time and non-tenure track full-time faculty. Ehrenberg reinforces the literature previously reported in this paper that retention and graduation rates are adversely affected by over reliance on part-time faculty. It was interesting to note that among the five major faculty issues raised in this paper the first and longest section was devoted to the growth in “contingent faculty.”

President John E. Sexton of NYU who was a member of the panel along with Professor Ehrenberg disputed some of the assertions that part-time faculty could negatively affect the quality of education. Sexton pointed to “New York’s deep pool of talent” to provide highly qualified part-time faculty (Chronicle of Higher Education, 11/18/05, p.A.13). In a table (1) included in Ehrenberg’s paper, six large private universities and the percentage of faculty by category were portrayed. NYU had the largest percentage of part-time non-tenure track faculty at 62% and Cornell (Ehrenberg’s home institution) had only 6% of its faculty in that category.

Table 1
Numbers And Percentages Of Faculty In Different Categories At Selected Private Universities In 2003-2004

Institution	Total faculty Size	Tenured and Tenure Track (percentage)	Full-time Non Tenure Track (percentage)	Part-Time Non Tenure Track (percentage)
Boston College	1089	548 (50%)	131 (12%)	410 (38%)
Brown	902	468 (52%)	285 (32%)	149 (17%)
Cornell	1940	1477 (76%)	348 (18%)	115 (6%)
NYU	5083	1292 (25%)	630 (12%)	3162 (62%)
Rochester	591	465 (79%)	100 (17%)	26 (4%)
Tufts	1036	359 (35%)	275 (27%)	402 (39%)

Source: report from the *ad hoc* Committee on Contract Faculty to the Provost and the Faculty Senate, Brandeis University (March 17, 2005), appendix table A-2 (available on the web at www.brandeis.edu/departments/provost/contract_faculty_comm.html). The data come from the 2003 IPEDs EAP Survey (available at <http://nces.ed.gov/ipeds>). The data are as reported by the institutions. Employees who do not have faculty status are excluded, as are graduate assistants. This chart is reproduced from the unpublished paper by Ehrenberg, “The Changing Nature of Faculty Employment Practices” (2005).

What the literature reveals is no disagreement over the significant increase in the employment of adjunct faculty. What is disputed is the effect that this trend has upon the quality of education and upon questions of student persistence towards graduation when they are in schools with significant utilization of adjunct faculty. There seems to be nothing in the immediate future that would lead one to conclude that his trend of increased use of part-time faculty will abate. Therefore, many institutions and systems like California’s community colleges, www.4faculty.org are developing better means of professional development for part-time faculty. The thrust of this paper is to develop accurate information on how both full and part-time faculty compare in their level of use of various teaching methods and technologies and their evaluation of these methods.

THE AACSB INITIATIVES: WHO IS FULL-TIME AND WHO IS PART-TIME?

Given the fact that the subject of this paper and its two antecedent papers (Payette, 2004 and Payette and Verreault, 2005) focuses on teaching methods and technologies in a school of business, it is appropriate to examine in

greater detail the development by AACSB in 2005 of the conceptualization of what constitutes full and part-time service as a faculty member. AACSB, more formally known as AACSB – International now has 1000 members from 70 countries representing “the combined influence of its member universities, including more than 30,000 faculty members and 700,000 students majoring in business.” (<http://AACSB.edu/members/>) Membership in the association does not mean or confer accreditation. Accreditation is only conferred upon members who have demonstrated acceptance and achievement of the standards set by AACSB. There are currently (December 2005) 515 accredited institutions, 80 of which are non U.S. institutions.

By any standard, AACSB wields significant influence on the development of its member institution and by virtue of granting accreditation determines precisely the standards school of business must achieve to receive and maintain accreditation. As AACSB memberships and accreditation has grown outside the US, new standards (AACSB STANDARDS, Jan 2005) were developed to accommodate the differences that exist with respect to faculty international hiring practices in general and in schools of business in particular. That is why the definitions of “participating faculty” and “supporting faculty” (AACSB Standards, p. 36, 37) were included in their entirety in the Definitions section of this paper.

It is not at all unlikely that these definitions may become quite influential beyond accredited business schools as there are clearly, as the review of the literature reveals considerable differences in what is meant by full-time and part-time faculty. This is particularly true when foreign schools of business apply practices that vary broadly from most U.S. standards. AACSB’s definitions mean engagement in faculty “curriculum design, course development, course delivery, and assessment of learning” (AACSB standards, 2005, p. 35). By implication, any or all of their criteria could be met by either full or part time faculty. When one examines the significant increase in the use of part-time faculty that are organized in unions or professional associations in order to have greater influence on policies that determine their academic and financial destinies. Individual institutions and schools of business might also will to enhance the role of part-time faculty whose ranks, if recent trends continue, wish represent an ever increasing segment of teaching duties.

A final comment on the review of the literature: It is clear from well documented research, primarily the NCES studies and others, that under most circumstances part-time faculty are being used to offset budget issues and avoid expensive addition of full-time faculty, and that some research suggests higher graduation rates occur with larger proportions of full-time faculty. This paper extends the research on part-time faculty by examining the patterns of use of various teaching technologies by part-time faculty and comparing part time faculty usage to full-time faculty usage.

SAMPLE DESCRIPTION

We administered the questionnaire to 29 adjunct faculty members and received 24 responses for an 83 percent response rate. For the sake of statistical comparison the same data that was collected from the full time faculty was also collected from adjunct faculty. We collected data on three factors “Teaching Experience” at four levels “Teaching Fields” for the five departments; and “Tenure” status (full-time faculty survey only). Technologies/Methods investigated were classified under three categories; “Soft” technologies, “Hard” technologies, and “Class Room” type. “Soft” technologies consisted of Essay Exams, Attendance, Research Projects, Guest Lecturers, and student teams. Hard Technologies consisted of Overhead Projectors, Email, Streaming Video, Internet Access, Blackboard, PowerPoint, Publisher Aids, Laser Pointer, Laptop computers, Elmo Projector and Infocus Projector. Classrooms were divided into Smart Classrooms, Hybrid Classrooms and Standard Classrooms.

Responses were numerical at five levels on both the level of use and the value of use each Technology/Method at both the graduate and undergraduate levels. The responses numbered “5” for both the Level of Use scale (response 5 is “Intend to use”) and Value of Use scale (response five is “Have not used”) did not enter into the primary analysis. The response “Intend to use” was collected as a measure of demand or sentiment for a technology or method. For primary statistical analysis, “Intend to use” responses were coded into the response “Never” which is the first scale item for analysis. The response “Have not used” was collected as a response for those not able to make an assessment of the value of a particular technology or method and was coded as missing for

analysis. Therefore, analyzed responses were on a four point scale. See Figure 1 for the adjunct data collection instrument. Table 2 shows the adjunct survey instrument complete with demographic data and mean responses to the questions.

Figure 1
Adjunct Faculty Survey On Teaching Methods And Technologies

1. Teaching Experience: < 3 _____ 4 - 7 years _____ 8 - 12 years _____ >12 _____
 2. Teaching Field: Acct _____ Fin _____ Mkt _____ Mgmt _____ MIS/OPS _____

Scales:

Level of Use:

Value of Use:

1. Never
 2. Occasionally
 3. Frequently
 4. Always
 5. Intend to use

1. Worthless
 2. Worthwhile
 3. Good
 4. Very good
 5. Have Not Used

Teaching Methods And Technologies With Level Of Use And Value Of Use

Technologies/ Methods	Graduate		Undergraduate	
	Level of Use	Value of Use	Level of Use	Value of Use
Soft Technologies				
Essay Examinations				
Attendance				
Research Projects				
Guest Lecturers				
Student Teams				
Overhead Projector				
Other (specify) _____				
Hard Technologies				
Email				
Streaming Video				
Internet Access				
Blackboard Program				
PowerPoint				
Publisher Aids, e.g. CD's, VCR, DVD's				
Laser Pointer				
Laptop				
Elmo Projector				
Infocus Projector				
Other (Specify) _____				
Class Rooms				
Smart Classroom				
Hybrid Classroom				
Standard Classroom				

Research Questions

The research questions addressed in the paper are:

1. How do full and part-time faculty compare in terms of experience and departmental concentration?
2. Which technologies or classroom types are valued most/least highly by part-time faculty?
3. Which technologies or classroom types are used most/least intensely by part-time faculty?
4. What are the differences between the results from the full-time faculty and the part-time faculty?
5. What are the effects of the factors teaching experience and teaching field, on the mean responses for each significant difference?

Table 2
Demographics and Mean Responses

Panel A: Respondents

1.	Teaching Experience:	< 3 (2)	4 - 7 years (6)	8 - 12 years (1)	>12 (13)	
2.	Teaching Field:	Acct (4)	Fin (4)	Mkt (2)	Mgmt (9)	MIS/OPS (2)

Panel B: Mean Responses – Soft Technologies

Technologies/ Methods	Graduate		Undergraduate	
	Level of Use	Value of Use	Level of Use	Value of Use
“Soft” Technologies				
Essay Examinations	2.38 /2.72	2.92 /3.44	2.60 /2.44	3.23 /3.00
Attendance	3.62 /2.76	3.67 /2.66	3.60 /3.33	3.57 /3.29
Research Projects	2.81 /3.22	3.29 /3.69	2.47 /2.63	3.25 /3.21
Guest Lecturers	1.93 /1.61	3.10 /3.14	1.67 /1.56	2.44 /3.17
Student Teams	2.56 /3.17	2.64 /3.60	2.40 /2.81	3.00 /3.13

Panel C: Mean Responses – Hard Technologies

Technologies/ Methods	Graduate		Undergraduate	
	Level of Use	Value of Use	Level of Use	Value of Use
Hard Technologies				
Overhead Projector	2.29 /1.94	2.53 /2.87	1.94 /2.00	2.75 /2.79
Email	3.60 /3.28	3.71 /3.81	3.31 /3.06	3.19 /3.71
Streaming Video	1.46 /2.00	3.20 /3.40	1.57 /1.75	2.60 /3.63
Internet Access	2.85 /2.61	3.80 /3.64	2.00 /2.31	3.22 /3.64
Blackboard Program	2.46 /2.44	2.90 /3.25	2.07 /2.31	2.75 /3.44
PowerPoint	2.87 /2.89	3.50 /3.50	2.47 /2.88	3.45 /3.54
Publisher Aids, e.g. CD’s, VCR, DVD’s	2.67 /2.78	3.46 /3.38	2.64 /2.75	3.18 /3.50
Laser Pointer	1.33 /1.39	1.88 /2.40	1.27 /1.44	2.00 /2.40
Laptop	2.21 /1.83	3.10 /3.44	1.71 /1.71	2.71 /3.50
Elmo Projector	2.35 /1.69	3.11 /3.22	1.57 /1.69	2.75 /3.43
Infocus Projector	1.50 /2.28	2.60 /3.55	1.36 /2.44	2.00 /3.44

Panel D: Mean Responses – Classroom Types

Technologies/ Methods	Graduate		Undergraduate	
	Level of Use	Value of Use	Level of Use	Value of Use
Class Rooms				
Smart Classroom	3.20 /3.11	3.86 /3.65	2.46 /2.94	3.09 /3.71
Hybrid Classroom	2.33 /1.72	3.33 /3.44	2.08 /1.75	3.20 /3.63
Standard Classroom	2.17 /2.67	1.92 /2.50	2.85 /2.69	2.67 /2.50

Note 1: The responses to the demographic data do not sum to the N of twenty four due to incomplete responses to those items.

Note 2: Table 1 shows the adjunct mean response in bold listed first in each cell. The mean response from the prior study of full time faculty (Payette and Verreault, 2005) is also shown for comparison. The number of responses differs from N as a result of non responses to particular items and/or lack of part time experience at either the graduate or undergraduate level.

RESULTS

Research Question 1

Research Question 1 focused on the departmental affiliation, and teaching experience of part-time faculty. As reported in Panel A of Table 2, the sample consisted of part-time faculty affiliated as follows: nine in Management, four in Finance, four in Accounting, two in Marketing, and two in MIS/OPS. Three respondents left the field blank. The distribution is consistent with full time faculty levels except for Finance which was recruiting faculty and had a higher than normal complement of part-time faculty. In terms of teaching experience, the sample presented thirteen

members with over twelve years experience; one member with eight to twelve years experience; 6 members with four to seven years experience; and two members with less than three years experience. Two respondents left the field blank. The overall part-time teaching cadre is relatively highly experienced and distributed, in most cases, in proportion to the full time faculty complement and the number of course offerings.

Recruitment of part time faculty is the responsibility of the department chairperson. Long standing relationships and careful recruitment are the primary methods used to socialize part-time faculty. Many of the part-time faculty members have extensive teaching experience at the school. The school has implemented a handbook for part-time faculty and is increasing contact and information flow to part-time faculty through more intense internet contact.

Research Questions 2 and 3

Research questions two and three explored the most highly and least highly valued and the most and least used technologies and classroom types. Table 2 Panel B shows the mean levels for the part-time faculty in bold and the result from the full-time faculty following. The full time faculty data were analyzed in Payette and Verreault 2005. Attendance (3.67) and research projects (3.29) scored highest in perceived graduate value of use. At the undergraduate level, attendance (3.57) and research projects (3.25) scored highest. Least valued at the graduate level were student teams (2.64) and exams (2.92). Least valued at the undergraduate level was guest lecturers (2.44). In terms of use, part-time faculty showed a high level of use of attendance at both the graduate and undergraduate levels. Attendance was the only soft technology scoring above three.

Panel C illustrates the mean responses for hard technologies. In terms of graduate value of use, internet access (3.80), e-mail (3.71), PowerPoint (3.50), and Publisher Aids (3.46) scored highest. At the undergraduate level, PowerPoint (3.45), e-mail (3.19), and Publisher Aids (3.18) were the most highly valued. Least valued were laser pointers (1.33), streaming video (1.46), and Infocus projectors (1.50). In terms of levels of use at the graduate level, only e-mail (3.60) scored over 3. Similarly, at the undergraduate level, e-mail (3.31) was the only hard technology scoring over 3. Again similar to the graduate scores – part-time instructors scored laser pointers (1.27), Infocus projectors (1.36), and streaming video (1.57) as the least used hard technologies at the undergraduate level.

See Table 2 panel D for the mean responses for classroom types. Part time instructors scored smart classroom as very highly valued (3.86) at the graduate level with standard classrooms least highly valued (1.92). At the undergraduate level, hybrid classrooms were valued most highly (3.20) with standard classrooms least valued (2.67). Considering levels of use at the graduate level, part-time faculty reported the highest level of use for smart classrooms (3.20) and the least for standard classrooms (2.17). At the undergraduate level, the levels of use of standard classrooms (2.85) was highest with hybrid classrooms (2.08) scoring the lowest level of use.

Research Question 4

Research question 4 requires a comparison between the mean responses for part-time faculty and the responses from full time faculty previously reported in order to examine similarities and differences between the two groups. Tables 3 through 8 report the results of the comparisons using a two-tailed independent samples t-test for equality of means. We used a two-tailed test because we had no basis a priori to specify a direction for the result and because we are interested in differences at both ends of the scale. We used SPSS v. 12 for the analysis.

Table 3 presents the results for the comparison between the means for the levels of use of soft technologies. The column labeled “Sig. (2 tailed)” shows that only the “Attendance” variables at both the graduate level (p .031) and undergraduate levels (p .030) were significant with the levels of use of attendance for part-time faculty significantly higher than that for full-time faculty. All other comparisons lacked significance indicating that, except for attendance, the means of all levels of use variables at both the undergraduate and graduate levels for soft technologies could not be distinguished by faculty group in this sample.

Table 3
Full vs. Part-Time Faculty, Soft Technologies, Level of Use, Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tail)	Mean Difference	Std. Error Difference
Essay-Grad-Level	Equal variances assumed	0.090	0.767	0.911	32.00	0.369	0.347	0.381
	Equal variances not assumed			0.913	31.77	0.368	0.347	0.380
Essay-Under-Level	Equal variances assumed	2.253	0.144	-0.387	29.00	0.701	-0.163	0.420
	Equal variances not assumed			-0.384	26.72	0.704	-0.163	0.423
Attendance-Grad-Level	Equal variances assumed	5.989	0.020	-2.267	31.00	0.031	-0.860	0.380
	Equal variances not assumed			-2.290	28.84	0.030	-0.860	0.376
Attendance-Under-Level	Equal variances assumed	0.585	0.451	-0.774	28.00	0.445	-0.267	0.345
	Equal variances not assumed			-0.774	27.87	0.446	-0.267	0.345
Research Proj.-Grad-Level	Equal variances assumed	1.565	0.220	1.022	32.00	0.314	0.410	0.401
	Equal variances not assumed			1.011	29.31	0.320	0.410	0.405
Research Proj.-Under-Level	Equal variances assumed	10.685	0.003	0.352	29.00	0.728	0.158	0.450
	Equal variances not assumed			0.348	24.98	0.731	0.158	0.455
Guest Lecturers-Under-Level	Equal variances assumed	3.671	0.065	-0.356	29.00	0.725	-0.104	0.293
	Equal variances not assumed			-0.348	20.05	0.731	-0.104	0.299
Guest Lecturers-Grad-Level	Equal variances assumed	12.378	0.001	-0.994	32.00	0.328	-0.326	0.328
	Equal variances not assumed			-0.951	19.00	0.354	-0.326	0.343
Teams-Grad-Level	Equal variances assumed	.106	.747	1.527	32.00	0.137	0.604	0.396
	Equal variances not assumed			1.527	31.52	0.137	0.604	0.396
Teams- Under-Level	Equal variances assumed	7.957	.009	1.002	29.00	0.325	.413	0.412
	Equal variances not assumed			.990	24.33	0.332	.413	0.412

Table 4 shows the results of the equality of means test for the perceived value of use for soft technologies at both the graduate and undergraduate levels. Two items were significant. Part-time faculty viewed attendance at the graduate level as significantly higher in value (p .005) than did the full-time faculty. The second item of significance was the perceived value of teams at the graduate level. Part-time faculty judged teams to be of significantly less value (p .011) than did full-time faculty members for graduate students. The value judgments of part and full-time faculty concerning the other soft technologies (essays, research projects, guest lecturers, and undergraduate team work) could not be distinguished from chance differences. Many of the p levels were extremely high, indicating strong similarity in judgment.

Table 4
Full vs. Part-Time Faculty, Soft Technologies - Value of Use, Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tail)	Mean Difference	Std. Error Difference
Essay-Grad-Value	Equal variances assumed	0.011	0.918	1.857	27.00	0.074	0.514	0.277
	Equal variances not assumed			1.797	21.42	0.086	0.514	0.286
Essay-Under-Value	Equal variances assumed	1.794	0.192	-0.634	25.00	0.532	-0.231	0.364
	Equal variances not assumed			-0.627	21.67	0.538	-0.231	0.368
Attendance-Grad-Value	Equal variances assumed	2.638	0.116	-3.044	28.00	0.005	-1.000	0.329
	Equal variances not assumed			-3.044	24.90	0.005	-1.000	0.329
Attendance-Under-Value	Equal variances assumed	0.245	0.625	-1.100	26.00	0.282	-0.286	0.260
	Equal variances not assumed			-1.100	25.65	0.282	-0.286	0.260
Research Proj.-Grad-Value	Equal variances assumed	5.540	0.026	1.230	28.00	0.229	0.402	0.327
	Equal variances not assumed			1.197	22.00	0.244	0.402	0.336
Research Proj.-Under-Value	Equal variances assumed	0.386	0.540	-0.078	24.00	0.939	-0.036	0.459
	Equal variances not assumed			-0.077	21.27	0.940	-0.036	0.466
Guest Lecturers-Grad-Value	Equal variances assumed	0.707	0.409	0.107	22.00	0.916	0.043	0.401
	Equal variances not assumed			0.103	16.47	0.920	0.043	0.418
Guest Lecturers-Under-Value	Equal variances assumed	0.272	0.608	1.688	19.00	0.108	0.722	0.428
	Equal variances not assumed			1.727	18.59	0.101	0.722	0.418
Teams-Grad-Value	Equal variances assumed	4.096	0.053	2.802	27.00	0.009	0.957	0.342
	Equal variances not assumed			2.766	22.74	0.011	0.957	0.346
Teams-Under-Value	Equal variances assumed	0.173	0.681	0.312	24.00	0.757	0.133	0.427
	Equal variances not assumed			0.304	19.28	0.765	0.133	0.439

Table 5 illustrates the results of the tests for the level of use of hard technologies at both the undergraduate and graduate levels. The only item of significance was the level of use of Infocus projectors at the undergraduate level (p .036). All other tests indicated very high p levels, thus indicating a high degree of similarity between part-time and full-time faculty on the levels of use of the various hard technologies.

Table 5
Full vs. Part-Time Faculty, Hard Technologies - Level of Use, Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tail)	Mean Difference	Std. Error Difference
OH Proj.- Grad-Level	Equal variances assumed	2.431	0.128	-0.934	33.00	0.357	-0.350	0.37454
	Equal variances not assumed			-0.928	31.06	0.360	-0.350	0.37667
OH Proj.- Under-Level	Equal variances assumed	0.658	0.424	0.174	30.00	0.863	0.063	0.35904
	Equal variances not assumed			0.174	29.73	0.863	0.063	0.35904
E-Mail- Grad-Level	Equal variances assumed	1.353	0.254	-0.919	31.00	0.365	-0.322	0.35079
	Equal variances not assumed			-0.933	30.98	0.358	-0.322	0.34544
E-Mail- Under-Level	Equal variances assumed	3.792	0.061	-0.681	30.00	0.501	-0.250	0.36728
	Equal variances not assumed			-0.681	27.62	0.502	-0.250	0.36728
Streaming Video-Grad- Level	Equal variances assumed	2.392	0.133	1.342	29.00	0.190	0.538	0.40118
	Equal variances not assumed			1.450	28.30	0.158	0.538	0.37129
Streaming Video- Under-Level	Equal variances assumed	0.332	0.569	0.502	28.00	0.619	0.179	0.35554
	Equal variances not assumed			0.504	27.85	0.618	0.179	0.35397
Internet Access- Grad-Level	Equal variances assumed	0.120	0.732	-0.570	30.00	0.573	-0.246	0.43152
	Equal variances not assumed			-0.561	26.24	0.579	-0.246	0.43831
Internet Access- Under-Level	Equal variances assumed	0.378	0.544	0.781	28.00	0.441	0.313	0.39992
	Equal variances not assumed			0.786	27.94	0.438	0.313	0.39738
BlackBoard- Grad-Level	Equal variances assumed	1.889	0.180	-0.036	29.00	0.972	-0.017	0.47637
	Equal variances not assumed			-0.037	27.93	0.971	-0.017	0.46528
BlackBoard- Under-Level	Equal variances assumed	2.215	0.148	0.492	27.00	0.627	0.236	0.47861
	Equal variances not assumed			0.499	26.80	0.622	0.236	0.47202
PowerPoint- Grad-Level	Equal variances assumed	0.926	0.343	0.052	31.00	0.958	0.022	0.42360
	Equal variances not assumed			0.053	30.89	0.958	0.022	0.41859
PowerPoint- Under-Level	Equal variances assumed	0.490	0.490	0.907	29.00	0.372	0.408	0.45009
	Equal variances not assumed			0.905	28.41	0.373	0.408	0.45127
Publishers Aids-Grad-	Equal variances assumed	0.639	0.430	0.321	31.00	0.751	0.111	0.34646

Level	Equal variances not assumed			0.318	28.58	0.753	0.111	0.34986
Publishers Aids-Under-Level	Equal variances assumed	2.506	0.125	0.257	28.00	0.799	0.107	0.41620
	Equal variances not assumed			0.253	24.56	0.802	0.107	0.42316
Laser Pointer-Grad-Level	Equal variances assumed	0.284	0.598	0.182	31.00	0.857	0.056	0.30511
	Equal variances not assumed			0.184	30.84	0.855	0.056	0.30183
Laser Pointer-Under-Level	Equal variances assumed	1.199	0.282	0.535	29.00	0.597	0.171	0.31917
	Equal variances not assumed			0.539	28.59	0.594	0.171	0.31719
Laptop-Grad-Level	Equal variances assumed	1.824	0.187	-0.939	30.00	0.355	-0.381	0.40555
	Equal variances not assumed			-0.918	25.22	0.367	-0.381	0.41510
Laptop-Under-Level	Equal variances assumed	0.716	0.404	-0.023	29.00	0.982	-0.008	0.36943
	Equal variances not assumed			-0.023	26.87	0.982	-0.008	0.37246
Elmo Projector-Grad-Level	Equal variances assumed	0.609	0.441	-1.278	30.00	0.211	-0.524	0.41000
	Equal variances not assumed			-1.261	26.56	0.218	-0.524	0.41541
Elmo Projector-Under-Level	Equal variances assumed	0.040	0.843	0.302	28.00	0.765	0.116	0.38424
	Equal variances not assumed			0.303	27.82	0.764	0.116	0.38267
Infocus Projector-Grad-Level	Equal variances assumed	1.904	0.178	1.864	30.00	0.072	0.778	0.41715
	Equal variances not assumed			1.893	29.40	0.068	0.778	0.41093
Infocus Projector-Under-Level	Equal variances assumed	6.894	0.015	2.210	25.00	0.036	1.074	0.48595
	Equal variances not assumed			2.387	24.97	0.025	1.074	0.44992

Table 6 illustrates the findings with respect to the comparison between part and full-time faculty regarding the value of use of the various hard technologies at both the undergraduate and graduate levels. Only the perceived value of the Infocus projector at the undergraduate level was significant (p .044) and that was only under the assumption of equal variances. None of the rest of the mean responses to the items in the inventory of hard technologies at either the graduate or undergraduate levels could be distinguished statistically between the two faculty groups. Tables 7 and 8 depict the results of the comparisons of means of levels of use (Table 7) and value of use (Table 8) of classroom types. There were no significant differences between the part-time and full-time faculty on either the level or value of use at either the undergraduate or graduate level with respect to the three classroom types.

Research Question 5

We ran a univariate ANOVA on each item found to be significant in the t tests in order to investigate whether or not the factors “teaching experience” or “department” may explain some of the difference. Neither factor was significant in any of the ANOVAs. We also ran ANOVAs on each soft technology value judgment at both the undergraduate and graduate levels. Consistent with our prior research on full-time faculty, neither teaching experience nor departmental affiliation was found to be significant in any of the ANOVAs.

Table 6
Full vs. Part-Time Faculty, Hard Technologies - Value of Use, Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tail)	Mean Difference	Std. Error Difference
OH Proj.-Grad-Value	Equal variances assumed	0.025	0.875	0.750	28.00	0.459	0.333	0.444
	Equal variances not assumed			0.750	27.94	0.459	0.333	0.444
OH Proj.-Under-Value	Equal variances assumed	0.003	0.954	0.074	24.00	0.942	0.036	0.486
	Equal variances not assumed			0.073	22.69	0.942	0.036	0.489
E-Mail-Grad-Value	Equal variances assumed	0.643	0.429	0.466	28.00	0.645	0.098	0.211
	Equal variances not assumed			0.462	26.31	0.648	0.098	0.213
E-Mail-Under-Value	Equal variances assumed	7.066	0.013	1.832	28.00	0.078	0.527	0.288
	Equal variances not assumed			1.880	26.36	0.071	0.527	0.280
Streaming Video-Grad-Value	Equal variances assumed	1.773	0.206	0.393	13.00	0.700	0.200	0.508
	Equal variances not assumed			0.359	6.47	0.731	0.200	0.558
Streaming Video-Under-Value	Equal variances assumed	4.631	0.054	1.792	11.00	0.101	1.025	0.572
	Equal variances not assumed			1.565	5.57	0.173	1.025	0.655
Internet Access-Grad-Value	Equal variances assumed	2.163	0.155	-0.682	22.00	0.502	-0.157	0.230
	Equal variances not assumed			-0.729	21.94	0.474	-0.157	0.215
Internet Access-Under-Value	Equal variances assumed	8.107	0.011	1.124	18.00	0.276	0.414	0.369
	Equal variances not assumed			1.049	10.77	0.317	0.414	0.395
BlackBoard-Grad-Value	Equal variances assumed	0.531	0.475	0.795	20.00	0.436	0.350	0.440
	Equal variances not assumed			0.785	18.14	0.443	0.350	0.446
BlackBoard-Under-Value	Equal variances assumed	5.163	0.038	1.617	15.00	0.127	0.694	0.430
	Equal variances not assumed			1.582	12.39	0.139	0.694	0.439
PowerPoint-Grad-Value	Equal variances assumed	2.167	0.153	0.000	26.00	1.000	0.000	0.246
	Equal variances not assumed			0.000	22.96	1.000	0.000	0.246
PowerPoint-Under-Value	Equal variances assumed	0.848	0.367	0.278	22.00	0.784	0.084	0.302
	Equal variances not assumed			0.273	19.17	0.788	0.084	0.308
Publishers Aids-Grad-Value	Equal variances assumed	0.094	0.761	-0.292	27.00	0.772	-0.087	0.296
	Equal variances not assumed			-0.293	26.17	0.772	-0.087	0.295

Publishers Aids-Under-Value	Equal variances assumed	1.926	0.179	0.866	23.00	0.396	0.318	0.368
	Equal variances not assumed			0.830	17.29	0.418	0.318	0.383
Laser Pointer-Grad-Value	Equal variances assumed	1.477	0.250	0.718	11.00	0.487	0.525	0.731
	Equal variances not assumed			0.668	6.77	0.526	0.525	0.786
Laser Pointer-Under-Value	Equal variances assumed	0.405	0.545	0.405	7.00	0.698	0.400	0.989
	Equal variances not assumed			0.408	6.76	0.696	0.400	0.980
Laptop-Grad-Value	Equal variances assumed	0.339	0.568	0.927	17.00	0.367	0.344	0.372
	Equal variances not assumed			0.936	16.91	0.362	0.344	0.368
Laptop-Under-Value	Equal variances assumed	1.360	0.265	1.619	13.00	0.129	0.786	0.485
	Equal variances not assumed			1.577	10.37	0.145	0.786	0.498
Elmo Projector-Grad-Value	Equal variances assumed	1.164	0.297	0.248	16.00	0.807	0.111	0.448
	Equal variances not assumed			0.248	14.49	0.808	0.111	0.448
Elmo Projector-Under-Value	Equal variances assumed	1.378	0.271	1.116	9.00	0.293	0.679	0.608
	Equal variances not assumed			1.368	8.75	0.206	0.679	0.496
Infocus Projector-Grad-Value	Equal variances assumed	6.297	0.025	1.643	14.00	0.123	0.945	0.575
	Equal variances not assumed			1.310	5.10	0.246	0.945	0.722
Infocus Projector-Under-Value	Equal variances assumed	0.623	0.446	2.280	11.00	0.044	1.444	0.633
	Equal variances not assumed			1.886	4.08	0.131	1.444	0.766

DISCUSSION, FUTURE RESEARCH, AND LIMITATIONS

We found a very high level of consensus between the full-time and part-time faculty groups at this business school. We did find some differences. Part-time faculty valued and used attendance significantly more than did full-time faculty. Part-time faculty placed significantly less value on team work at the graduate level than did full-time faculty. Lastly, and we think of peripheral importance, part-time faculty valued and used Infocus projectors less than full-time faculty members. However, the overall message is that, in the environment studied, part-time and full-time faculty shared remarkably similar traits concerning both the level of use and the perceived value of use of a wide range of pedagogical tools, approaches, and settings.

As we discussed and analyzed in our previous paper, the instrument also supports the comparison of “value of use” vs. “level of use” as an indicator of institutional, physical, or motivational constraints on high use levels of various technologies or settings. Given the high level of similarity between the two groups of faculty, a similar analysis here would have been redundant. However, in other settings where part-time faculty measures differ significantly from those of full-time faculty, such an analysis would be of interest.

The growth of part-time faculty as a percentage of total faculty is a matter of concern to everyone involved in higher education. The existing literature indicates that these concerns may have many dimensions. Among those dimensions are budget issues, graduation rates, grade inflation, level of student contact, and social justice issues. Of

particular interest to schools of business are the new AACSB standards that clearly direct every school’s attention to the issues involving the level of “non-participating” faculty members, their qualifications, and their integration into the institutional teaching mission. We have extended the area of concern by focusing in this paper on pedagogical issues involving the attitudes toward the level of use and value of use of a wide range of approaches, tools, and settings affecting the teaching mission. We believe that this introductory research can help schools identify areas needing attention and development, and can help identify gaps between full and part-time faculty.

Table 7
Full vs. Part-Time Faculty, Classroom Types - Level of Use, Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tail)	Mean Difference	Std. Error Difference
Smart Class.- Grad-Level	Equal variances assumed	0.046	0.832	-0.250	31.00	0.805	-0.089	0.356
	Equal variances not assumed			-0.250	30.02	0.804	-0.089	0.356
Smart Class.- Under-Level	Equal variances assumed	0.959	0.336	1.101	27.00	0.280	0.476	0.432
	Equal variances not assumed			1.121	26.93	0.272	0.476	0.425
Hybrid Class.- Grad-Level	Equal variances assumed	0.050	0.825	-1.527	28.00	0.138	-0.611	0.400
	Equal variances not assumed			-1.570	25.85	0.128	-0.611	0.389
Hybrid Class.- Under-Level	Equal variances assumed	0.429	0.518	-0.788	26.00	0.438	-0.333	0.423
	Equal variances not assumed			-0.808	25.59	0.427	-0.333	0.413
Standard Class.-Grad- Level	Equal variances assumed	7.076	0.013	1.303	28.00	0.203	0.500	0.384
	Equal variances not assumed			1.435	27.82	0.162	0.500	0.348
Standard Class.-Under- Level	Equal variances assumed	4.527	0.043	-0.384	27.00	0.704	-0.159	0.414
	Equal variances not assumed			-0.397	26.67	0.695	-0.159	0.400

The next step in the research project is to study both the full time and adjunct populations in a different setting. We have identified a similar university that differs primarily in policies concerning the use of technology and the extent of availability of a range of technologies. The comparison university is similar in size and organizational structure. After that, if feasible, we will extend the research to include a variety of institutions and control for size, structure, technology policy, and technology availability.

Similar to our previous paper, the research results are limited by the small sample and the delimitation to only one university. Also, the part-time sample yielded smaller responses than the sample size on many questions because many part-time faculty members only teach classes at either the graduate or the undergraduate levels but not both. We also note that, although the research protected the privacy of the participants, part-time faculty may be more susceptible to considerations of job tenure and this could bias the results obtained.

Table 8
Full vs. Part-Time Faculty, Classroom Types - Value of Use, Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tail)	Mean Difference	Std. Error Difference
Smart Classroom-Grad-Value	Equal variances assumed	3.593	0.068	-0.850	29.0	0.402	-0.210	0.247
	Equal variances not assumed			-0.912	22.4	0.372	-0.210	0.230
Smart Classroom-Under-Value	Equal variances assumed	1.805	0.192	1.669	23.0	0.109	0.623	0.374
	Equal variances not assumed			1.621	18.7	0.122	0.623	0.384
Hybrid Classroom-Grad-Value	Equal variances assumed	0.744	0.401	0.295	16.0	0.772	0.111	0.377
	Equal variances not assumed			0.295	15.3	0.772	0.111	0.377
Hybrid Classroom-Under-Value	Equal variances assumed	0.883	0.361	0.976	16.0	0.343	0.425	0.435
	Equal variances not assumed			1.013	15.9	0.326	0.425	0.419
Standard Classroom-Grad-Value	Equal variances assumed	0.684	0.416	1.448	26.0	0.159	0.583	0.403
	Equal variances not assumed			1.469	25.0	0.154	0.583	0.397
Standard Classroom-Under-Value	Equal variances assumed	0.286	0.597	-0.378	24.0	0.709	-0.167	0.441
	Equal variances not assumed			-0.380	23.8	0.707	-0.167	0.438

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