How Have Faculty Fellows Changed?
Focus Groups Results

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Executive Summary

Faculty participating in pICT and the Course Design Institute (CDI) at San Diego State University (SDSU) experienced varying degrees of success in implementing their pICT projects. Generally, all experienced positive changes in:

1) classroom efficiency and course efficacy beyond the Fellowship;
2) greater understanding of pedagogy;
3) learning anxiety that motivated intercampus connections and encouraged Collaboration Age exploration;
4) changed attitudes toward the use of technology; and
5) expanded professional circles.

As an aggregate, the community of Fellows experienced:
6) group empowerment that has and will continue to spur institutional change;
7) greater emphasis on technology and/or teaching within their departments;
8) greater openness toward technology at high administrative levels; and
9) the incorporation of blended and/or distance learning to meet University enrollment goals.

Strategies that contributed to these successes include:
1) a pedagogical focus;
2) involving faculty from varied disciplines;
3) taking a grassroots approach;
4) providing an enriching support network; and
5) cultivating healthy learning anxiety.
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Purpose and Procedures

The purpose of this report is to describe changes experienced by pICT and CDI Faculty Fellows between 2005 and 2009. The goal of this inquiry, and a follow-up survey, is to begin to measure and evidence pICT’s development of students’ 21st century skills (See Appendix B) and dispositions at SDSU through faculty initiatives.

Initiatives included: funding for year-long and multiple-year projects that implemented 21st century learning into the classroom, workshops, Learning Stories luncheons, Professional Learning Communities, OverLunches, and online communities. Through work with faculty, pICT aimed to integrate 21st century competencies into undergraduate curriculum, thus, impacting students and the University’s vision. In four academic years, pICT worked with 65 faculty members who collectively impact 20,445 students annually.

Following this grassroots approach, the first step in assessing pICT’s success was talking to the Faculty Fellows themselves.

Procedures

The overarching research question, “How have faculty changed as a result of pICT?” was posed in three focus groups to 12 Fellows. Participants represented all cohorts and seven disciplines; five were women and seven were men; 11 were tenure or tenure-track faculty and one was an adjunct lecturer.

The focus group method was chosen because it allows for collection of data from multiple participants in a short time frame and because conversational exchange generates richer, more nuanced data than surveys. The free-form

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1. Group 1 consisted of six Fellows, representing four academic disciplines. Fellows from every cohort 2005-2008 were present. Group 2, originally scheduled with six participants, consisted of three participants representing an additional three academic disciplines. Fellows from 2005, 2007 and 2008 cohorts were present. Group 3, originally scheduled with four participants, consisted of three Fellows representing another two academic disciplines. Fellows from 2005, 2006 and 2007 were present.


discussion of experiences would also inform a questionnaire for qualitative data collection.

Participation was generated through an invitation to all Fellows. Nineteen volunteered; of those, we were able to accommodate the schedules of 19.

Participants were asked to 1) describe their first experience with pICT. They were then prompted to discuss 2) successes and 3) challenges experienced during the planning and implementation of their projects with regard to i. administration, ii. colleagues, iii. students, and iv. technology. They were also asked to reflect on changes in 4) their attitude toward technology, 5) the way they teach, and 6) the way they think about teaching. Finally, they were asked for 7) recommendations for the future. These questions were vetted by colleagues, and the line of questioning and protocol were approved by the SDSU Institutional Review Board.

Audio from the focus groups was recorded in addition to written notes. Transcripts and field notes were uploaded to HyperResearch, where they were coded and analyzed for common themes. These findings with accompanying interpretations are organized below.

**Findings**

The focus group sessions were structured by a questioning route focused on individual change; however, the interaction among participants led to dialogue about changes that went beyond the faculty members themselves. Participants reacted strongly to the University and their departments’ abilities to support their projects and the changes introduced by them. Thus, participants answered the principle inquiry, but also provided insight into cultural and institutional changes. Individual changes are discussed below, followed by a discussion of aggregate change.

**Individual Change**

*Curriculum and Courses*

The most direct change experienced as a result of pICT initiatives was in curriculum design and course outcomes. While most Fellows came into the program with a teaching-centric disposition already, pICT helped to structure and foster this pedagogical focus. For example, after listing administrative activities that dominate his time, one Fellow said, “It is only through programs such as pICT and CDI that an explicit organizational incentive provides a structure within which I can focus any time and effort on pedagogy.” This sentiment was echoed by several Fellows during the focus groups, many who

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3 Doodle, an online scheduling tool was very useful for planning. http://www.doodle.com/
had already challenged their departments to grant release time to participate in pICT in Spring 2008. Their calls emphasized the importance of—but current lack of—effort dedicated specifically to curriculum improvement.

But rather than just providing the opportunity, pICT also strengthened Fellow’s understanding and implementation of pedagogy. This is evidenced by the use of a common language about teaching among most focus group participants. Fellows mentioned implementing 21st century skills or discussed Bloom’s Taxonomy—using appropriate jargon—over 50 times; that’s over four comments per respondent or a comment about every three minutes during the focus groups. It is well-accepted that a verbal reconstructions of learned knowledge, especially with the use of technical language, is an indicator of concept formation and an understanding of discipline discourse (though graphic representations model this as well).

A new emphasis on pedagogy was also seen in the applications of pICT initiatives. Though projects often centered on introducing technology like Blackboard, Web 2.0 communications, and Horizon Wimba lectures into the classroom, Fellows remained thoughtful about the purposes for implementing the tools; technology was not seen as an end in itself. “You’re getting me to pull back and see how important it is not to be too magnifying and close up,” one Fellow said of the larger implications of her project. Similarly, a 2006 Fellow considered his project a failure if it did not result in improved learning. “For me, the challenge is making it work the way it’s supposed to work, as opposed to just working.”

All Fellows discussed success in terms of student outcomes: more interaction in class and the real-life application of course concepts—both of which are related to student self-direction; understanding complex ideas; improved test scores; class-time efficiency; greater access to education; and student satisfaction. Some stand-out examples of these successes include: one Fellow’s ability to begin breaking the digital divide by introducing some of her Latina students to non-proprietary software; a public speaking instructor getting more thoughtful and constructive critiques out of his students to benefit presenters; above-the-national-average improvement on pre- and post-course concept tests in Geology; a ten percent increase in voluntary class attendance in a Physics class, and 88 percent of that class reducing their energy consumption by at least ten percent in one semester; and multiple

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5 Interactive classes often allow students more autonomy in learning than lectures. Also, instructors who incorporated near-world projects that were directly applicable to real-world scenarios often saw highly motivated students.
classes experiencing greater efficiency so that they could include more writing assignments, which increased higher-order thinking.

Perhaps the biggest success in terms of curriculum and course outcomes is sustained change even after Fellow’s completed their projects. In recent years, pICT has fostered continued improvement by funding Fellows for multiple iterations, but early Fellows have also maintained improvement on their own. “Some of my experiments [in 2005] failed but now they’re succeeding after years of trying things out,” one Fellow said. “As you're saying what each cohort is doing, I've been doing all of these things.” Another said, “I cannot imagine my not having had the pICT training now, and use it every semester in making changes to my courses and every session I teach.” Potential reasons for sustained change are discussed below.

**Identifying As a Learner**

Though Fellows experienced success in adopting technology for the classroom, they also spoke of anxiety associated with its adoption. “I never thought I'd have the confidence to go fully online, because I was afraid of all the things that could go wrong,” said a Fellow who now offers Friday classes online. “I didn't want the students to hate learning and I'm old school and all of that.” Several participants shared this hesitance to adopt because of the time and perceived embarrassment associated with learning new technology. Additionally, all participants recalled feeling overwhelmed by the many tools introduced during their first session and expressed already-existing frustration with often faulty and lacking equipment provided by the University.

This anxiety is significant because it marks a change in identity. Though academics often consider themselves life-long learners, learning within their discipline is familiar, controlled, and necessary. Learning to use technology is often outside their comfort zone and voluntary—an experience much closer to those of undergraduates. Though this change leads to frustration, it is a positive one: all Fellows overcame their anxiety and embraced the technology that suited their needs, many even becoming opinion leaders in their departments.

This achievement was guided by the support of other cohort members who could relate and inspire, and a network of ITS and Library professionals who could provide technical support. “pICT provided the security platform, or sense of security, in which I felt able and sufficient efficacy in making the decision of adoption,” said a respondent. Learning anxiety is what led Fellows to utilize their support community. And discovering this support system, paired with finding comfort in new kinds of ambiguity and exploration, was crucial to sustained improvement beyond the pICT project.

While finding comfort in the unfamiliar fostered continued innovation, it also served students in a more specific way. Experts say the sort of frontier-
mentality of exploration promoted by pICT is necessary to benefit learners in the Collaboration Age. For students, experts are no longer just the educator at the front of the classroom, suggesting that educators must redefine their roles to stay relevant. Several Fellows gave more autonomy to their students through the use of interactive tools like Wikis, WebQuests, and Facebook groups. One Fellow gave his students the option to work with peers on a WebQuest assignment or connect to course content through an outdoor excursion trip. These faculty members gave up some control by stepping away from the expert role and recognizing that students learn in varied and new ways. pICT groomed Fellows to become effective Collaboration Age educators by training them to find comfort outside routine inquiry and traditional classrooms.

**Personal Interaction with Technology**

At its most direct level, this openness impacted Fellow’s personal attitudes toward technology. “As recently as five years ago, I was all about the chalk on the board. That’s all I ever did. I was total old school there—I didn't even use overheads,” said a respondent. “Now I think to myself, how could I ever go back to that? I couldn't. I'm a junkie now.”

When before, new technology might have been dismissed, pICT allowed for Fellows to see the uses and benefits of various tools. “Exposing people to a variety of technologies and instructional applications allowed some discovery of what it is I could do, without realizing that I needed to do that [before],” said a Fellow who adopted clickers. “I saw the candy store and saw some things I wanted to nibble on.”

A large part of this discovery was in discussing the purpose of these tools as a route of improvement rather than improvement itself. This clarification made technology generally more relevant and meaningful to faculty members, thus making it more worthwhile to explore and use. As discussed above, Fellows who completed their projects spoke of technology in their personal and professional lives within this framework. This understanding of technology drove a Humanities professor to embrace Linux and Open Office, which she says directly contributed to her strengthening her math skills for a research project in the sciences. This collaboration is discussed below in the Professional Development section.

Another way Fellows interacted with technology was through a common dialogue about the University’s ability to sustain innovation through

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6 The Collaboration Age is characterized by greater autonomy in learning, because students can seek out and interpret information themselves through shared knowledge on the Internet.

technology. Once Fellows were aware of how technology could impact their curriculum, they necessarily became aware of the barriers that might limit their success. Nearly all Fellows expressed frustration with the lack of smart classrooms\(^8\) available, which led to a discussion about the ways in which the University assigns classrooms based on seniority. They also talked about the unmanageable cost of updating the University’s systems on a routine basis, which could mean continued classroom glitches that cause embarrassment and wasted time. One Fellow represented the group sentiment by saying, “We're kind of being sucked into using the technology to the point that we get dependent on it, and then the equipment stops working on a regular basis, and now we're kind of screwed\(^9\).” Being open to technology required a meta-discourse on its limitations and implications. This type of interaction is closely related to cultural change, which will be discussed below.

**Professional Development**

As was discussed in relation to learning anxiety, Fellows became members of a community that allowed them to collaborate and cope. Fellows participated in informative luncheons, workshops, and informal lunch meetings called OverLunches. In recent years, pICT has also implemented Professional Learning Communities that meet regularly and are organized by trained individuals to strengthen the exchange. This sort of community allowed faculty to make connections outside their circle and potentially get involved in research or writing papers with others. In total, Fellows have made 31 presentations related to pICT at regional, national, and international conferences, published five articles related to pICT, and completed two dissertations based on pICT work (see Appendix C)

Many of the Fellows said they were recognized in their departments as opinion leaders. Colleagues often came to them before speaking with ITS professionals when they encountered a tech problem or were considering adopting technology. While some felt this sort of responsibility was a burden because of time constraints or pressures to relieve over-enrollment\(^10\), it undoubtedly increased their visibility and reputation in their departments.

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\(^8\) Smart classrooms are classrooms that include at least a cabinet with Macintosh and PC computers, a projector, and a VHS/DVD player. Others also include a document presenter, a wireless microphone, video conferencing capability, and a 35mm slide converter.

\(^9\) When saying “sucked into using technology,” the respondent was referring to the need to adopt technology to keep up with increasing enrollment. Fellows voluntarily adopted pICT projects.

\(^10\) Individual faculty members reported feeling pressured by their department to use their pICT experience to find a general solution to increased enrollment. This is worrisome because of pICT’s pedagogical focus—in some cases, the curriculum created by Fellows might have been passed to other survey course instructors in their department.
Two Fellows also pointed out that the innovation spurred by pICT has improved SDSU’s visibility and reputation among larger research institutions. “Research I universities are so impressed with what’s going on here. There's a buzz. There's a vibe,” said a Fellow who credits her collaboration at the University of California, San Diego to this new image. “I don't know otherwise how to account for the fact that I'm working with people at Scripps.” She is working with a group of complexity theorists to study border culture and, as mentioned above, is learning Calculus as her science colleagues learn Philosophy. It should be noted that this faculty member reported feeling isolated within her own institution, but was able to gain confidence and relevance again via the benefits of pICT.

**Aggregate Change**

*Agency through Peer Groups*

The expansion of professional circles and the sense of community built by pICT is most significant because of the agency it created. Fostered by opportunities built into the initiative, Fellows developed a spontaneous dialogue about institutional and social challenges. Fellows critiqued University infrastructure and policies and commented on the alienation of divergent perspectives. While faculty undoubtedly entertained such thoughts outside of pICT, there was a sense of empowerment on display during the focus groups. Complaints were legitimized by the group and then attended to with thoughtful and feasible solutions. Several of these exchanges happened when respondents were asked for recommendations for the future; there was a sense that pICT was capable of lobbying for such changes—there was a sense that the issues were not untouchable.

This agency is very much in line with the grassroots approach that pICT has taken and that Fellows say they value. Rather than take a top-down approach, the pICT initiative was meant to branch out into other areas of the University via opinion leaders. Providing a space for Fellows to test new ideas and critique old ones is key to creating positive change in the individuals and their aggregate.

**Institutional Changes**

Encouraging a group of 65 faculty members from multiple departments to master innovation, collaborate, and become agents in their institution certainly has an impact on the University as a whole—especially when they make up a quarter of the Undergraduate Curriculum Committee and a third of the General Education Committee. However, that change is nearly immeasurable when grouped with the numerous other programs and people working toward related goals.

What can be gathered from the focus groups is that most Fellows have seen departmental changes: They are witnessing more conversations about
technology among their colleagues and their projects are influencing the redesign of other core major courses. Some see teaching becoming more of a focus in departments that really value scholarship. “Sometimes I think the attitude in my school is ‘Hey, I show up, I teach three lectures, I do OK,’” said one Fellow. “But I think the idea of what’s out there and what can be done has reenergized a lot of us.”

Fellows have also recognized a change in attitudes about blended learning at a high administrative level since being involved with pICT. While this cultural change and a subsequent call for more online courses during summer sessions are a result of increasing enrollment, it is linked to the pICT initiative. The first professor to instruct a 100 percent online summer school course was a pICT Fellow and others expressed interest in teaching more. Additionally, some Fellows pointed out that SDSU is far ahead of Research I universities and others in the California State University system in terms of technology-mediated learning. And they account for this phenomenon with the momentum started by pICT. “I talk to colleagues all the time at other campuses around the country and they're astonished at how much we do technologically. They're in the stone ages,” said one. “Any other campus who would try to get where we are now would have to start from scratch and probably would take a different path. We're that much farther ahead because we've already learned lessons about how this can work and who needs to be a part of it.” If SDSU made efforts toward online learning without having already made strides through pICT, it would likely not be making this transition with such ease. While multiple constituents are moving the University toward change, pICT and its Fellows have played a large role in developing that culture.

**Interpretations and Recommendations**

Faculty Fellows experienced varying degrees of success implementing their pICT projects, but generally experienced positive changes in 1) classroom efficiency and course efficacy beyond the Fellowship; 2) expanded their understanding of pedagogy; 3) experienced learning anxiety that motivated intercampus connections and encouraged Collaboration Age teaching; 4) saw a change in their personal attitude toward, and use of, technology; and 5) expanded their professional circles.

The community necessitated by learning anxiety and a desire for professional development directly contributed to 6) group empowerment that has and will continue to spur institutional change. Thus far, Fellows have contributed to 7) a greater emphasis on technology and/or teaching within their departments, 8) more openness toward technology at high administrative levels, and 9) have become players in the University’s incorporation of blended and distance learning.
These successes can best be attributed to pICT’s **pedagogical focus**, which attracts faculty from varied disciplines and makes the adoption of technology relevant. It is important to have **multiple disciplines involved** to create an effective exchange of ideas and subsequent momentum toward institutional change. It is also necessary to involve members from multiple departments to realize change across undergraduate curricula, which is varied in discipline as well.

Fellows also favored pICT’s **grassroots approach**, which contributed to the empowerment necessary to see real change. Fellows valued their work with pICT because it was voluntary and, thus, individualized and worthwhile. This also meant they were working with similarly-intentioned individuals and could strive for institution-wide goals.

For both of these strategies to work, it was invaluable to have a strong **network of support staff**. The pICT initiative and its participants experienced success because of partnerships with ITS and the Library, and professional learning communities. This network encouraged Fellows from varied backgrounds. Additionally, it fostered a culture that surrounded the initiative to sustain the Fellows while reaching out to the institution. Because community proved to be so valuable, its assessment and improvement should remain constant. One way in which the exchanges in this network might be improved is by hosting lunches specifically for faculty to discuss their scholarship outside of pICT. This might encourage even more collaboration.

While nearly all Fellows expressed frustration with the amount and variety of tools introduced at their first session, we maintain that some degree of **learning anxiety** is needed because it necessitates group involvement and provides coping skills that are beneficial to sustained innovation and Collaboration Age teaching. Fellows recommended providing more breakout sessions so Fellows can begin developing a sense of community early and to spread out the introductory workshops that typically take place over four days so that information has time to sink in. While adjustments should be considered in the planning of future sessions, discovery must remain central.

Some participants also critiqued that alternative voices were sometimes hushed within the initiative and that speakers were sometimes intimidating because of discrepancies in skill level. While pICT has mediated some of this by supporting a more participatory peer group, leaders must take into account their own epistemological boundaries and remain sensitive to the anxieties of new Fellows. They might also provide a structure that requires more one-on-one follow-ups with support staff.

Finally, pICT must find ways to lobby—or help others lobby—the University for changes in infrastructure; reasonable solutions to increasing enrollment, including proper staffing of graduate assistants and revisions to policy.
regarding classroom capacity; balanced incentives for curriculum improvement and scholarship, including appropriate release time, funding, and concessions for faculty applying for tenure whose projects might impact grade distribution or other criteria; and appropriate access to equipped classrooms. pICT may best remedy such issues by continuing to provide a space for faculty to discuss them and by opening the lines of communication among multiple stakeholders.
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Appendix A

pICT Mission Statement

People, Information and Communication Technologies (pICT) is supported by San Diego State University's Qualcomm Institute for Innovation and Educational Success and housed in the Division of Undergraduate Studies. Our goal is to develop SDSU's undergraduates' 21st century skills, knowledge and dispositions. We do that by designing programs and initiatives that develop our faculty’s capacity to integrate principles of learning, digital know-how and 21st century key competencies in undergraduate general education courses and across the undergraduate curriculum. We work in concert with the Center for Teaching and Learning, Instructional Technology Services, the College of Education and the Library.
Appendix B

21st Century Skills

Appendix C

Presentations and Publications resulting from pICT and CDI


Leak, J (2008, April). “A 60-year-old professor can meaningfully engage her 20 something students!” Presentation at the 11th CSU Regional Symposium on University Teaching, Pomona, CA.


