A Ten Year Study of Faculty Classroom Observations

Jace Hargis, PhD, Higher Colleges of Technology

Author's Contact Information

Jace Hargis, PhD
Director, Higher Colleges of Technology
Abu Dhabi, UAE
Phone: 352.259.1418
Email: jace.hargis@gmail.com

Abstract:

   Over a ten year period, one hundred and ninety-six faculty members from three different institutions in two countries voluntarily requested a classroom observation from a Center for Teaching and Learning. The institutions included an east coast comprehensive public university, a west coast private liberal arts university and a Middle East women's college. Observed faculty were members of the arts, sciences, engineering, IT, business, law, education, nursing, pharmacy, physical therapy and dentistry disciplines. A clinically trained educator observed at the faculty selected time. A 102 item teaching attribute instrument, modified from Chism (1999) was used to gather quantitative data (yes/no observed attributes); qualitative notes of classroom behavior; a faculty flow diagram (faculty movement and student response frequency); and a Small Group Student Perception Evaluation. The data are presented anonymously and in aggregate and are interpreted with the aim of demonstrating an effective toolset for enhancing teaching in higher education.

Key Words:

Teaching and Learning, Faculty Development, Observations, Relationship-building.

Introduction

   Higher education Centers for Teaching and Learning (CTLs) have provided services for faculty members for many years. Perhaps one of the significant milestones for a new perspective on teaching and learning and therefore an enhanced focus on institutional CTLs was Ernest Boyer Scholarship Reconsidered (1990). In his book, Boyer offered a different view on scholarship than had been accepted in the past. In addition to traditional research of discovery, he suggested categories that should be considered as equally valuable and necessary in the academy. The other categories include the scholarship of integration that involves synthesis of information across disciplines; the scholarship of application or engagement, which is the application of disciplinary expertise; and the scholarship of teaching and learning (SoTL), which he defines as the systematic study of teaching and learning processes. One of the critical distinctions for

SoTL is its parallel to traditional research, including peer-review and public dissemination of findings.

More recently, many more CTLs have added SoTL to their list of services, as institutions and promotion and tenure panels began to realize value in researching how we teach and learn. There are many high quality CTLs around the world, which initially offered highly requested services of workshops, one-on-one consultations, coaching, new faculty orientation, instructional design including writing learning outcomes aligned with assessments, and confidential classroom observations. Classroom observations are one of many powerful services that connect CTL leaders with faculty through one-on-one individualized dialogues, which ultimately can build trusting, sustainable relationships. It is through these relationships that honest critiques can occur, which result in substantial enhancement of instructor teaching practices.

Data were collected for this study over the past decades at three different institutions: one on the east coast of the United States, one on the US west coast, and one in the Middle East. At each of these institutions, a CTL was built. The CTL offered many services to assist faculty in their teaching, research, service and advising. Examples of services provided at these CTLs were workshops, instructional technology training, teaching resources, confidential consultations and classroom observations. The author, who served as CTL Director, made 196 classroom observations of an hour each using the same 102 quality teaching attribute prompts modified from the Chism (1999) 73 item checklist. In addition to noting when faculty demonstrated the specific attributes on the list, qualitative information on student engagement and faculty interactions was also documented, and a faculty flow diagram was drawn representing faculty movement around the room, and which students respond to questions.

In addition to the documentation of 196 faculty observations, the case of one faculty member provides a deeper look at the impacts of the observation toolset. This instructor requested ten observations over a four year period (including summer courses). Other data will be descriptively compared from fourteen faculty members who requested two or more observations. The information on multiple observations is presented using before/after quantitative information on quality teaching attributes observed. This information is provided as data, not as oversimplified short-cut to evaluate teaching. Teaching and learning is a very complex art and science. There are many ways to be an effective teacher (and to be an effective student).

Literature Review

Faculty Development

Historically, faculty members have typically improved their knowledge-base by engaging in discipline-specific professional development (Utschig, Elger, & Beyerlein, 2005). This activity may have included attending their discipline's annual conferences, writing and reading scholarly articles, or perhaps subscribing to a discipline education journal, i.e., Business Education Forum, American Biology Teacher, Journal of Chemical Education or For the Learning of Mathematics. Occasionally, newly-hired assistant professors may have taught as graduate teaching assistants or completed a Graduate Teaching Certificate course during their doctoral program. Other professors

have taken the trial and error approach to improve their teaching and/or they had good role models or supportive colleagues along their career (American Council of Learned Societies, 2007). Therefore, a systematic, consistent method for ensuring a baseline quality of teaching in higher education has not been uniformly established. To teach in the K-12 system in the US and most countries, teachers are required to obtain a teachers certification and maintain it through frequent additional professional development (Kanea, Rockoff, & Staiger, 2008), passing certification teaching exams, and/or through formal evaluations of teaching. For most higher education institutions, a terminal degree in the discipline is a satisfactory credential for hire and to gauge student evaluations of instruction. Another method of professional development available to faculty that perhaps could be an opportunity for a systematic program within an institution is the CTL (Singer, 2002).

CTLs vary widely, although most of their missions generally focus on improving student outcomes by actively supporting excellence in teaching and learning. This support may be offered in many different ways. Some of the services offered by CTLs may include workshops, confidential consultations, writing/reading circles, educational technology sessions, course design, syllabus creation, assessment and measurement programs, adjunct faculty resources, new faculty orientation, teaching awards and grants, mentoring with SoTL, career track conversations, graduate teaching assistant training, successful example promotion and tenure dossiers, and classroom observations (Cox, 2004). It is through these internal and on-going faculty development programs, in which faculty can engage in on a regular, convenient basis to continuously improve in the area of teaching.

Observations

Confidential classroom observations are conducted by the CTL when requested by a faculty member. The CTL observations differ from administrator and peer observations in that the CTL observer is trained and not affiliated with a single department, but represent the interests of the institution holistically. Typically, the process is a before-visit meeting to provide a context, description of the process and anything specific which may be of interest to the instructor (Angelo & Cross, 1993). In addition, a video can be captured, if requested, so the faculty and/or the observer can review and critique. The University of Central Florida Faculty CTL (2013) has a list of suggestions for the observer:

Goals of a lesson or course
- Familiarity with subject matter (interest and current knowledge)
- Teaching methods used (clarity, organization, preparation, delivery, manner)
- Strategies used (flexibility, variety, appropriateness, audiovisual aids)
- Classroom management (control of time, discussion, engagement of students)
- Creativity (adjusts class to learning needs of students, enthusiasm)
- Availability for students (answers questions, conveys interest in students)
- Purpose of the class is made clear – a plan is evident
- Things the instructor does well
- Suggested methods of instruction

There are several reasons why a faculty member might request a classroom observation. They might be addressing one or more student perception comments, which were provided during the prior semester on standardized university evaluation forms. They may wish to obtain documentation of their teaching for an upcoming promotion and tenure review or to add to their annual report. Most frequently, they are simply interested in continuous improvement and engaging in a lifelong learning model that they encourage for their students (Malmberg, Hagger, Burn, Mutton, & Colls, 2010). Most faculty members who work with CTLs are typically good teachers who wish to become better and who have not had formal training in adult teaching and learning. In this context, a classroom observation can significantly enhance the ability of the CTL to assist faculty because CTL staff know much more about their teaching style and perhaps their shortcomings. Therefore, one of the tangent outcomes of observations is the building of trusting relationships between the faculty member and the CTL.

Relationship-building

Although the mission of most CTLs focus on student learning and assisting faculty members with teaching and learning resources, to do this most effectively, many CTLs have realized that a first priority is building relationships with faculty (Brew, 1999; Elton, 2005). Since all services are voluntary, and faculty can choose how and when (or if) they visit the CTL, the most effective method to encourage participation is to primarily offer services of value and secondly build a relationship, in which the faculty will want to attend and also listen to a CTL recommendation on the quality and alignment of a particular service or workshop. Building sustainable, trusting relationships is a challenge generally in life, and in the academy when faculty have many responsibilities and limited time, they need to be very careful with their time. A CTL needs to not only offer something of use, but it needs to be efficient for the faculty and provided in a low threshold manner, so faculty can quickly incorporate the concept into their instruction. This does not mean that all services should take the convenience store 'big gulp' approach, but there should be a tangible outcome that faculty will perceive as a worthwhile use of their time and engagement.

Methods

Settings

This study was conducted at three different locations over a ten year period, from 2003-2013. The three locations were institutions of higher education, one located on the east coast of the United States, one on the U.S. west coast, and one in the Middle East. Data were collected in classroom environments, which varied greatly from a small room with one student and a teacher (music), to a large, well-equipped lecture hall.

Participants

The participants for this study included 196 faculty members (94 male, 47.9%; 88 new, 44.9%) from three different universities in two different countries. Seventy six faculty (47 male, 61.8%; 34 new) were from a mid-size comprehensive public university; eighty-three (31 male, 37.3%; 42 new) from a private liberal arts university and thirty-seven (16 male, 43.2%; 12 new) from a federal middle eastern college.

The CTL advertised the service of classroom observations via web, email, department meetings, discussions with Chairpersons, Deans, and the Provost, word of mouth and presentations in the Center. Through these solicitations, faculty members contacted the CTL and volunteered for a classroom observation. Prior to the observation, faculty members were assured that everything which was done or said would be completely confidential. The format would include a one hour visit on the day/time/class of their choosing. A standardized list of 102 quality teaching attributes modified from Chism (1999) was used to collect data for the observation. The items were divided into several categories, which included presentation skills, rapport with students, clarity, instructor organization, content knowledge, variety and pacing of instruction, impact on learning and instructional strategies. Detailed qualitative notes were taken, similar to field notes for scientist, on events in the classroom, both from the instructor and the students. One week was requested for the CTL to review and create a one page summary memorandum that would be provided to the faculty during the one hour debriefing session. An example of the Summary Classroom Observation Memorandum is shown.

"This memorandum provides a summary of the data collected during a classroom observation of chemistry taught on Tuesday, April 16, 2012 in Building, Room 1225 on the city campus.

The professor began the class using active instructional technology. The technology was presented in the form of several video clips showing people who exhibited a specific need for the concepts discussed. The class was subsequently discussed in class and then demonstrated and practiced in the lab immediately after the class session.

The learning environment is a tiered arena style room with tables and ample power sources, as well as adequate wireless internet access and a front podium with a desktop computer and two 52 inch plasma mounted monitors as well as a large chalkboard located behind the projection screen. Eighty two students were in attendance, which included thirty two females and all students opened laptop computers, except seven [61/75 laptops are PC (81.3%)]. All students appeared to be intrinsically motivated and on-task most of the time; all students within view of the observer were using their laptops for coursework. There was no classroom disturbances, students seemed to be collegial and offer pertinent questions and responses. A total of 71 responses were provided by students (combined 'cold calls' and student questions); 50 (70.4% males in class) of the responses were from 20 of the male students (20/50 males responded, 40%); and 10/32 female students provided the remaining 21 responses (31.25% response rate) for a total of 30/82 students providing a response in class this day.

The instructor uses many examples, anecdotes and illustrations to explain the content; emphasizes the major points; relates the concepts to practical situations; projects well; primarily uses a Socratic, inquiry-based method of instruction; was confident and knowledgeable in her delivery; pitches instruction to an appropriate level; and provides occasional, pertinent humor.

Teaching and learning best practices which could be implemented to enhance student engagement include:

- Posting class outcomes on the board to provide an advance organizer;
- Making transitional statements between classes and readings;
- Adding active learning strategies to assist student information processing; and
- Providing frequent formative assessment opportunities.

Overall, it is apparent that the instructor cares about the discipline and the students, as well as her instructional style and pedagogy."

Finally, during the observation, a Faculty Flow Diagram was prepared, which detailed the movements of the faculty around the room, which students responded to questions, and other anecdotal information, such as which students arrived late, and who worked on laptops, or perhaps were disengaged (Figure 1).
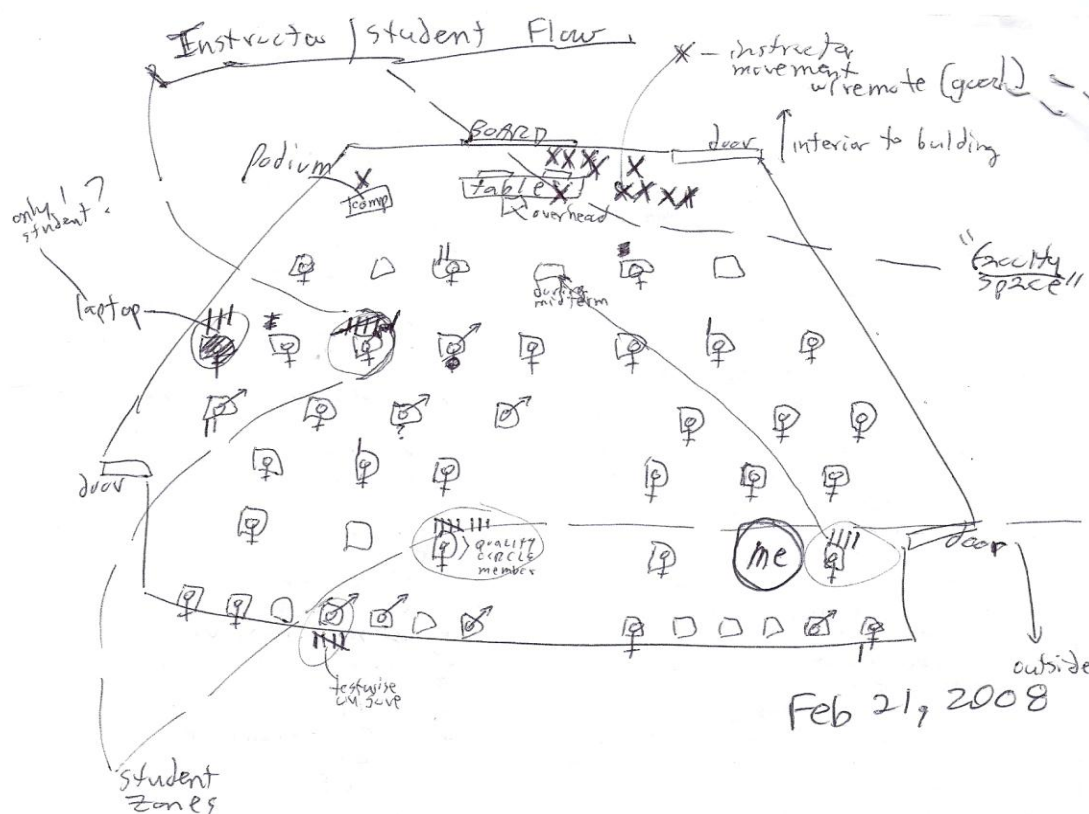

Figure 1. Example of a Faculty Flow Diagram.

If requested by the faculty member, this memo could be sent to Chairpersons/Dean's, and/or added to Promotion and Tenure dossier or annual evaluation reports. Before, during and after the observation, faculty members were reminded that the CTL offered "observations", not "evaluations". The major intent was to develop a relationship, which could increase the opportunities for honest and open dialogue. During the debriefing, the dialogue always centered on pedagogical discussions and faculty typically reflected and recommended their own next steps.

Results/Findings

One hundred and ninety-six faculty members were observed from three different universities over a ten year period. Table 1 represents the general demographics of the faculty members.

Table 1. Faculty Member Demographics

Institution	Total	Female	Male	New	AS	EIT	Law	Bus	Ed	Hlth
Comprehensive	76	29	47	34	36	8	0	10	13	9
Liberal Arts	83	52	31	42	34	6	10	0	9	24
Middle East	37	21	16	12	9	5	0	19	0	4
Total	196	102	94	88	79	19	10	29	22	37

AS – Arts and Sciences
EIT – Engineering and Information Technology (which includes Computer Science)
Bus – Business
Ed – Education
Hlth – Health (which includes Nursing, Pharmacy, Physical Therapy and Dentistry)

Observation data from the modified Chism (1999) quality teaching attribute list were recorded and analyzed on all faculty from two universities, the liberal arts and the Middle East college, which represented 120 data points. Table 2 presents a summary of the quality teaching attribute item frequency. The Average Ranges were calculated by totaling the number of times that a particular attribute was observed during the one hour observation and dividing by the total number of attributes (102, therefore the number of items observed and the decimal/percent are very similar).

Table 2. Quality Teaching Attribute Item Frequency Summary

Average Ranges	Observation Item Number for Each Range	Total	%
0.75-1.0	1-6, 15, 16, 19, 20, 24, 28-30, 33-36, 49, 53-58, 62, 64, 67, 76	29	28.43
0.50-0.74	8-10, 12-14, 17, 18, 23, 27, 31, 32, 37-39, 44-48, 50, 52, 60, 61, 74, 75, 77-79, 92, 94, 99, 100-102	35	34.32
0.25-0.49	7, 11, 21, 22, 25, 26, 40-43, 51, 59, 63, 65, 68-73, 80-91, 93, 95-98	38	37.25
	Total	102	100

Table 3 presents a summary of the most frequent attributes, which were observed more than 85% of the time.

Table 3. Summary of the Most Frequent Attributes Observed.

%	Item	Attribute
98	4	maintains eye contact throughout the class.
96	1	speaks in an audible voice.
95	54	is confident in explaining the subject matter.
94	2	varies the tone and pitch of voice for emphasis and interest.
94	3	avoids distracting mannerisms.
93	55	pitches instruction to an appropriate level.
92	5	avoids extended reading from notes or texts.
92	6	spoke at a pace that allowed students to take notes.
90	15	welcomes student participation.
88	30	makes explicit statements drawing student attention to certain ideas.
88	53	is knowledgeable about the subject matter.
88	56	uses a variety of illustrations to explain content.
87	34	explains the subject matter clearly.
86	28	elaborates or repeats complex information.
86	57	provides for sufficient content detail.
85	36	arrives to class on time.
85	29	uses examples to explain content.

Table 4 presents a summary of the least frequent attributes, which were observed less than 45% of the time.

Table 4. Summary of the Least Frequent Attributes Observed.

%	Item	Attribute
26	71	specifies how active learning tasks will be evaluated.
26	41	makes transitional statements between class segments.
28	66	maps the direction of the discussion.
30	90	raises stimulating and challenging questions.
31	96	provides clear directions for group work.
32	7	uses classroom space well.
33	40	posts class goals or objectives on the board.
34	89	has a good, broad level of questioning skills.
34	97	facilitates group work well.
35	65	helps students extend their responses.
38	70	allows enough time to complete active learning tasks.
42	93	uses multimedia effectively.
44	63	draws nonparticipating students into the discussion.
45	69	provides explicit directions for active learning tasks.

Table 5 presents the change in the occurrence of the 102 possible attributes that were observed in the first and second observations of faculty requesting at least two observations. The comparison shows the percent gain in the number of attributes observed, which is considered an indicator of growth because all 102 attributes are desired behaviors of effective instructors. The standard one hour debriefing and memorandum was provided to each faculty member. In addition, these faculty members indicated they believed the attributes and observation process could be one measure of success in improvement in their own teaching.

Table 5. Comparison of Faculty Who Requested First and Second Observations.

#	Discipline	Gender	Observation 1	Observation 2	% Gain
1	Art	Female	60	75	22.2
2	Biology	Female	36	38	5.4
3	Chemistry	Male	28	50	56.4
4	Education1	Female	54	69	24.4
5	Education2	Male	80	80	0.0
6	Engineering1	Male	42	86	68.8
7	Engineering2	Female	36	57	45.2
8	Health1*	Female	43	86	66.7
9	Health2	Male	66	81	20.4
10	Health3	Female	50	65	26.1
11	Law1	Female	74	79	6.5
12	Law2	Female	26	30	14.3
13	Math	Male	26	70	91.7
14	Music	Female	46	69	40.0
15	Psychology	Female	41	64	43.8
		Average	50.5	69.5	33.0

* Health1 is a faculty member who requested ten observations. The values compared, 43 and 86 are from the two classroom observations, and the other eight observations were performed in a laboratory setting.

Classroom Observation Qualitative Note Findings

Rich qualitative notes were collected during the observation and dissected during the debriefing occurred were shown to be the most powerful data. Examples, which helped initiate instructor reflection included:

- What should you be doing? What would you like students to be doing? How do you ensure students are doing this and at the end of class can apply what you have shared?
- I observed a significant amount of time with student's heads down writing notes, what are your intentions for these activities?
- You are a very good 'talker' and depending on your audience, this approach could be effective. How do you believe most of your student's process information?
- What is the intent of the exercises? How do you determine what type/level of questions to ask when/where?

In addition, other anecdotal information was shared, which caused the instructor to inquire on how to modify this behavior, which was especially true for formative, real-time assessments:

- Instructor asks questions and several of the same students respond – how does the teacher gather data to determine what most students understand on a formative basis?
- Nice starting class with music and walking around asking students how they are doing. Many students are passively listening and pre-occupied (one is knitting in the back of the room) – what is your philosophy on these actions?
- Instructor talked from 8 am to 9.10 am solving problems on the whiteboard. Students sat and observed, none writing any notes, some students eating full meals.
- Instructor exhibits heightened proximity control, discussing active learning assignment with students, connecting relevance to problem, as students are cooperating, reflecting and monitoring own errors.

Also, the topic of improving the use of educational technology was a frequent question from the instructor. This interaction provided an ideal time to share the other type of services that the CTL provided. Notes that inspired this line of discussion included:

- PowerPoint presents terms, which you read aloud quickly. What is your goal for this activity for the students? Most students appear to be disengaged.
- Most students have laptops; ideally what would you like them to be doing with these during your class?
- The instructor points and reads text from PowerPoint. Students in balcony of large auditorium classroom take digital photos of each other, along with most students disengaged.

Small Group Student Perception Evaluation

In addition to Classroom Observations, which included quantitative listings of quality teaching prompts, qualitative notes of interest and a faculty flow diagram, some faculty requested a Small Group Student Perception Evaluation (SGSPE). A SGSPE provides feedback on students' perception of their instructor's teaching methods. Unlike traditional student evaluations, which are standardized and provided at the end of the term, SGSPE's are provided much earlier and at times, more than once during the semester. This formative assessment approach allows the instructor to modify their methods during the same term, in which students make the suggestions, which, an enable the instructor to more rapidly address potential challenges. The process for the SGSPE is that a person from the CTL is invited by the faculty member to visit their class during the final 20 minutes of the class session. The instructor then leaves the classroom and the CTL representative explains the process to students. First, the students are divided into small groups of three to five students in each group. They are asked the following three questions verbally and instructed to work with their colleagues to produce as many responses as possible.

1. What is going well in the class? [positive]

2. What are some of the challenges that need improvement? [challenges]

3. What is one, concrete suggestion that you can share? [action item]

The students are reminded that their responses will never be seen by the instructor and that the moderator will collate the responses electronically (so no handwriting will be recognized) and summarize the responses in themes, which will be presented to the instructor. They are reminded throughout that this is not a reflection on them and that the instructor is very interested in their thoughts and perceptions, and will take all of their thoughts into consideration throughout the remainder of the semester.

In attempt to gather as much data as possible, once the groups appear to be finished with the first question, the moderator asks them to pass their answers to the next group, having the next group read their responses in hopes that it inspires other thoughts. This may be done several times, depending on the time and engagement. After all questions are asked and answered, the moderator gathers all responses and enters into a spreadsheet. Themes are identified and responses, which are repeated, are tallied. This list of "sterilized" data is presented to the faculty member during a one hour debriefing session with the Director. Table 6 presents an example of actual data from a faculty SGSPE.

Table 6. Example Data from an SGSPE. (number in parenthesis is the number of times this comment was written by different students)

Positive

- Technology (6)

- Learning Management System (3)

- Moveable whiteboards (3)

- Feedback for papers (3)

- Small group work (3)

- Explains concepts well, very knowledgeable (3)

- Information is useful and practical in real life (2)

- Class passes quickly because we are engaged, participation (2)

- Bringing own personal stories and work experiences

- Checks for understanding

Challenges

- Too much reading (4)

- Challenging articles

- Extra amount of reading for individual groups

- Difficult paper

- Content difficult – hard to relate

- Content difficult to grasp

- Need more time to process these big issues

- Non-response, neither validates of invalidates

- Constructive criticism

- Not enough assignments to gauge how instructor marks

Action Items

- Let us leave on time

- Reconfigure chairs

- Incorporate applications

- Taper off reading

- We need more time to think before being called out

Discussion

The ability to observe 196 faculty members from three very different universities in two different countries was shown to be helpful to faculty members and perhaps even more helpful to the CTL Director. Even though classroom observations are an essential aspect of understanding and reflecting on teaching and learning, to be most effective, they should be used in concert with other measurements. In addition, effective observations should address the alignment between classroom goals and delivery. Most debriefing sessions began by explaining the process and with a reminder that many faculty members have been observed using the same 102 item guidance tool, and therefore the reliability or consistency should be high, but the validity or accuracy would be left to each faculty member. Of the 196, about half were female (52%) and about half (45%) were new faculty, which one might expect since a major goal of many CTLs is to assist new faculty members. The Arts and Sciences (79/196) faculty comprised about half of the observations, due to their position as the largest colleges on campuses. Second in numbers, was the Allied Health Sciences, which includes Nursing, Pharmacy, Physical Therapy and Dentistry (37/196). These were large programs on the participating campuses and perhaps more importantly the health faculty members were very engaged in the CTL. Business (29/196) was the next largest number for them the data are skewed because there were no Business faculty observed in the liberal arts university. Education (22/196) was relatively active compared to many universities, where the Education Schools may have a different focus. Even though Engineering and Information Technology (19/196) has a smaller number than other Schools, typically these are smaller departments and therefore their engagement was perceived as high. Finally, the Law School (10/196), although small, was extremely active and interested in their teaching and learning.

The quantitative attribute prompts resulted in the upper quadrant frequencies equally about a quarter of the time (28.4%); between mid-range and three quarter was about a third (34.3%) and the remaining third was in the lower area between a quarter and one half (37.3%). Since observations are voluntary, it would predict that a range restriction in the higher area would be anticipated.

Noteworthy are the attributes that occurred most frequently and least frequently (Tables 3 and 4 in the Results section). The most frequent attributes, which were observed at least 90% of the time included the instructor maintaining eye contact throughout the class (98%); spoke in an audible voice (96%); was confident in explaining the subject matter (95%); avoided distracting mannerisms (94%); varied the tone and pitch of voice for emphasis and interest (94%); pitched instruction to an appropriate level (93%); avoided extended reading from notes (92%); and welcomed student participation (90%).

These attributes could be considered standard best practices for good presenting, i.e., projecting voice, paying attention to, welcoming and knowing your audience, and speaking clearly and confidently. For many faculty members, these are baseline expectations when they enter the classroom and the roles, they play. Students, also expect these attributes, and perhaps play their role as well, creating the environment that reinforces the traditional talking head/sage on the stage.

Other attributes that were observed very often, between 85-88% of the time included the instructor using a variety of illustrations to explain content (88%); was knowledgeable about the subject matter (88%); made explicit statements drawing student attention to certain ideas (88%); explained the subject matter clearly (87%); provided for sufficient content detail (86%); elaborated or repeats complex information (86%); and used examples to explain content (85%).

These attributes, begin to identify good teaching/coaching skills of translation of theory into application, knowing and helping students to understand what is most important, perhaps information, which is foundation to connecting subsequent concepts, extending information to assist more diverse students additional opportunities to make those connections in their own way and practical examples, which position the concepts to be more accessible. Again, it is unknown, whether these are attributes that are intentional, gathered from the instructors experience with their professors, or a role play of century-old expectations.

On the opposite end of the spectrum, there were several notable attributes that were observed much less frequently, many less than half of the time. These attributes can be classified more categorically and perhaps trends interpreted into possible ideas (especially for further faculty development). For instance attributes that were observed seldom are those addressing active learning, which included provides explicit directions for active learning tasks (45%); allows enough time to complete active learning tasks (38%); facilitates group work well (34%); provides clear directions for group work (31%); and specifies how active learning tasks will be evaluated (26%). It may be especially important that active learning occurred less than half of the time, and closer to a third of the time, with a clear understanding of how active learning would be assessed only a quarter of the time.

Other attributes, which were less observed and may provide an insight to the dynamics of a classroom include draws nonparticipating students into the discussion (44%); helps students extend their responses (35%); has a good, broad level of questioning skills (34%); raises stimulating and challenging questions (30%); and maps the direction of the discussion (28%). These may be indicators of instructors experience in engaging students in dialogue, inquiry and formative assessment techniques.

Two attributes that were observed to be low, that may provide information on how students can be better able to connect the story of our disciplines and what we expect of them on a more continuous basis are the infrequent amount of observations, which the instructors posts class goals or objectives on the board (33%); and making transitional statements between class segments (26%).

One of the most absent attributes observed was the effective use of the classroom space (32%). Although these data indicate that almost a third of the time, instructors did use the space well, as the observer, in at least 25/196 cases, this attribute was mentioned during the debriefing and during the next observation of this faculty, proximity control increased in the classroom. Therefore, this percentage may be somewhat artificially elevated and the actual result may be closer to only a quarter of the time in which instructors move about the room and create a more engaging learning environment.

Finally, an attribute that over the past decade has increased is the use of appropriate, functional instructional technology. In the data presented, the instructors were observed to use multimedia effectively about 42% of the time. There is no judgment on this notion, as there are many ways to teach effectively, regardless of whether an instructor uses technology or not.

Perhaps the most important aspect of this study is the toolset for collecting qualitative data, sharing with the instructor and engaging in a focused one-on-one conversation about THEIR students and THEIR teaching style. During the debrief, the instructors became very interested when showed the Faculty Flow Diagram (FFD), and could quickly place names and background information on each box and circle. They had never seen a diagram that detailed the interactions of themselves and their students. As a tangent, many were very impressed with the attention to detail and the objectivity of the process, which subsequently increased the trust and open conversations between the instructor and the Director.

The FFD's were an effective way to initiate the confidential debriefing, as the visual diagram was objective and offered a springboard for self-reflection as well as a way for the instructor to quickly have a voice in the debrief, as opposed to the notion that the CTL Director was there to tell them what they did wrong. The instructor quickly recognized shortcomings in movement or in calling on students, such as favoring a certain gender or side of the room. Again, the Director did not place an evaluation on this outcome, but merely asked if that was what the instructor had intended. If not, then a conversation would be initiated by the instructor about how he/she could modify his/her approach to result in a different outcome. An example of a low proximity control, lateral front movement, and calling within the "T" zone is presented in Figure 2. The "x's" represent the instructor at various times during the session, the boxes represent a desk with a gender symbol in each, and the tallies, the number of times when the student spoke (answering or asking a question).
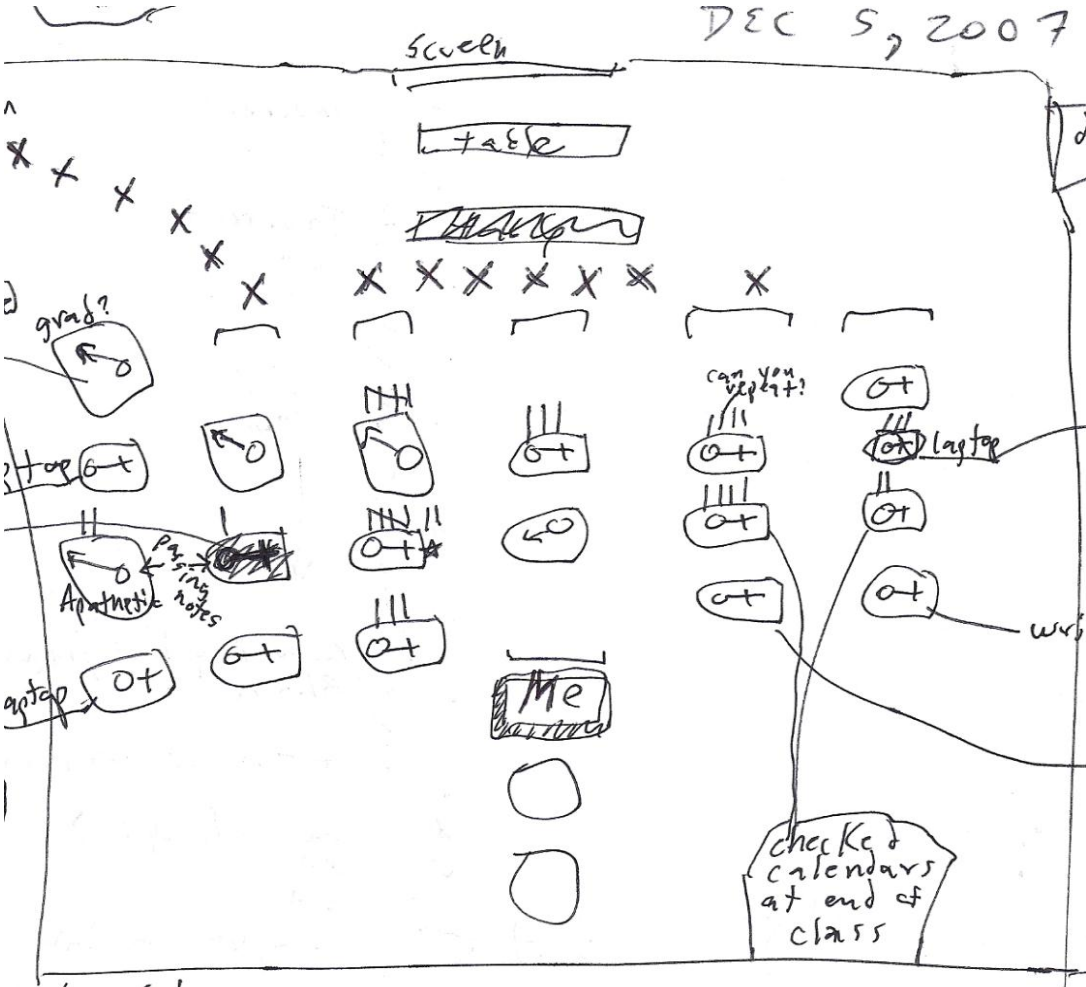
Figure 2. Example of Low Proximity Control and Calling in the "T" Zone.

Another example, which showcases a heightened use of proximity control in a large lecture hall, is provided in Figure 3.
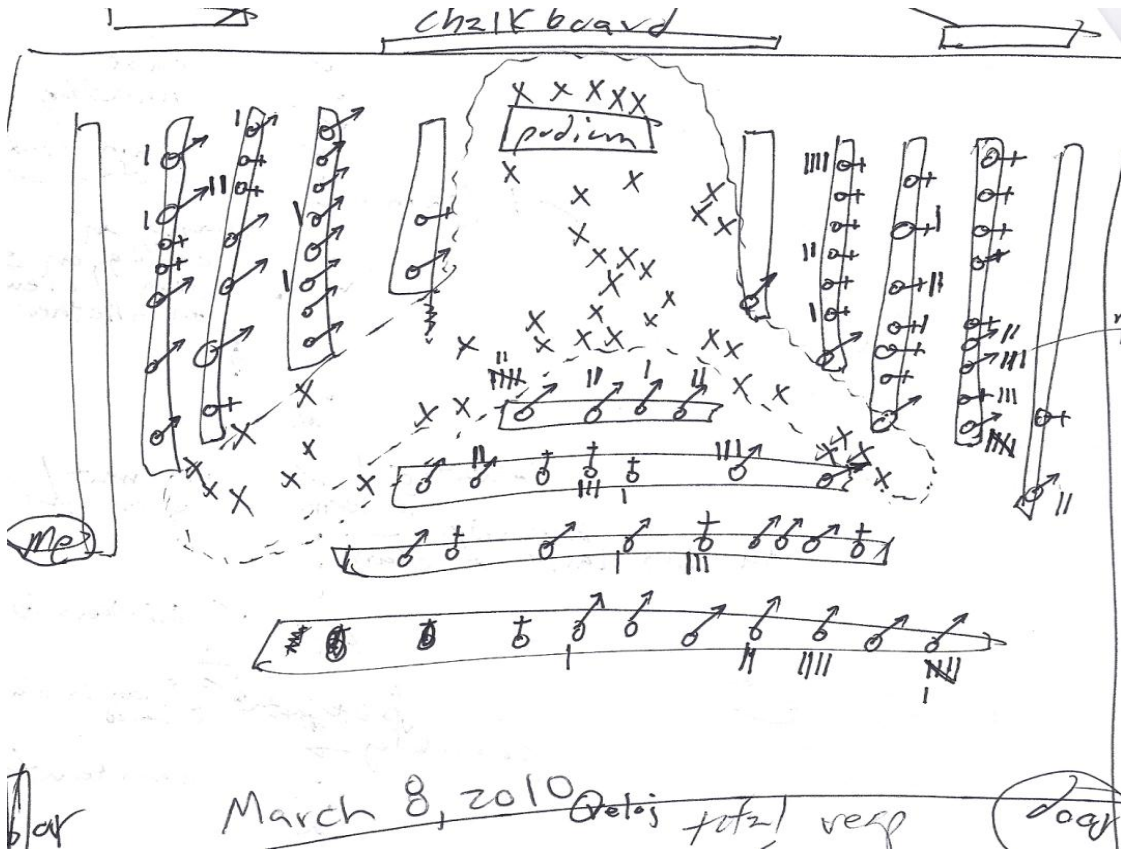
Figure 3. High Proximity Control in a Lecture Hall Setting.
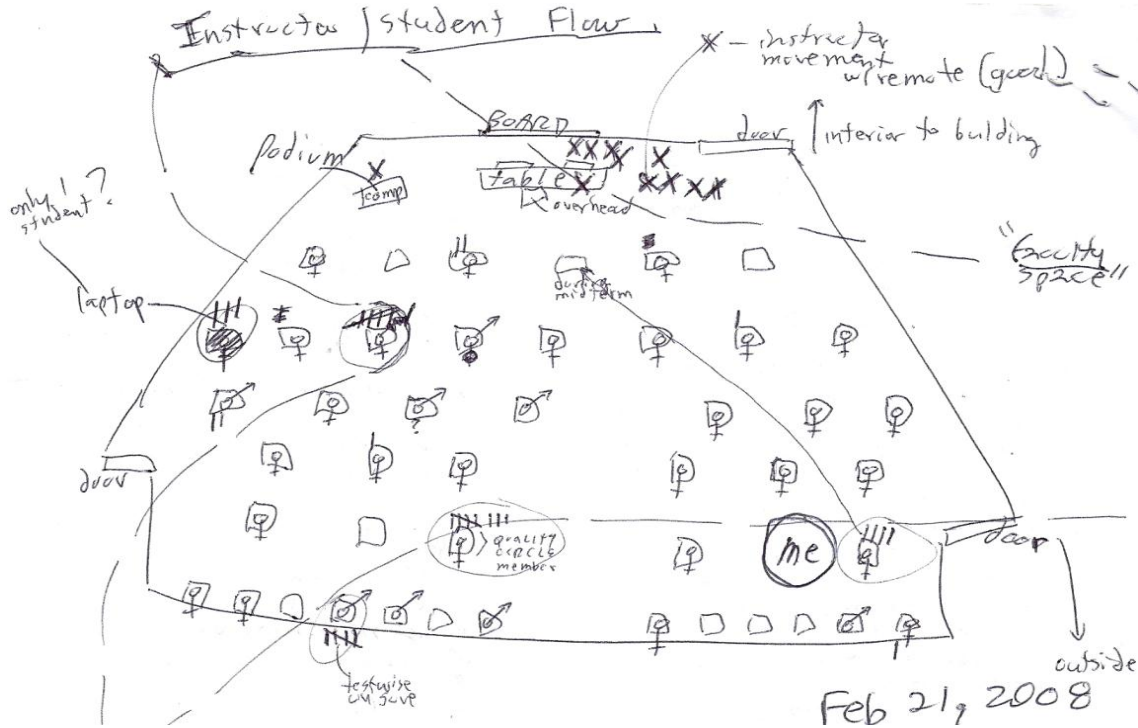

Figure 4. Fragmented Learning Environment.

Figure 4 provides data on a fragmented learning environment in which the instructor maintains his/her space and students are disconnected.

The intention of this study is not to focus on the quantitative attributes, but to present them as part of the whole picture of improving teaching practice by attending to instructor self-awareness of "with-it-ness" (Elliott & Stemler, 2008). In addition to the 196 classroom observations, fifteen faculty members (ten female) requested a second observation following the debriefing (one of those fifteen actually requested ten, another four and a third three). They had indicated they appreciated the service which the CTL provided and now that an experienced person had provided empirical data to them, they were excited to improve on their own interpretation of the data. From these data in Table 5, ten different disciplines were observed, which produced an average number of attributes for the initial observation of 50.5 and the average for the second observation was 69.5, for a 33.0% difference. Fourteen of the fifteen faculty members increased in number of attributes observed, and one remained the same. More advanced statistical analyses were not performed due to the low sample size and the attempt to avoid over-quantifying (or over-emphasizing) these numbers.

Qualitative findings were presented and discussed in the Results section. One instructor requested ten observations over a four year period (September 17, 2007-May 24, 2011), two in the classroom and eight in a laboratory setting. The faculty member had previously received outstanding teaching awards. The quantitative data for the entire ten visits, i.e., number of times which an attribute was observed is non-linear, as the settings were changed from classroom lecture to group work, to the laboratory to practical examinations in the lab. The data represented chronologically is 43 (classroom), 66, 68, 80, 62, 78, 86 (classroom), 72, 86 and 61, with an average of 64.5 for the classroom and 71.5 for the laboratory (entire sample set average was 36.9). The percent difference between the initial (43) and final (86) classroom data was 66.7%. It is difficult to compare the laboratory experiences from beginning to end since the instructional goals and student outcomes varied significantly. The faculty was not as concerned with the scores, rather the goal was to identify additional ways for students to access and process the content, and therefore, specific attributes were the focus for specific days, believing that others would either be addressed during class, or students had developed skills to address themselves.

Qualitative notes for the first observation in September 2007 included offering traditional broad questions, such as "does everyone understand this?", "are there any questions?", and "is this helpful review?" In addition, the physical movement was limited to the podium as the PowerPoint slides advanced manually. The summary memorandum notes aspects of quality classroom teaching attributes which could be implemented include:

- Making transitional statements between classes and concepts to assist students in developing critical connections;
- Developing a better, broad level of questioning skills, especially in the higher level Bloom category (proposes, develops, design, compare, etc.)
- Providing frequent formative assessment opportunities, which can provide data for real-time instructional redirect and remediation; and

- Implementing proximity control, subsequently raising student on-task behavior, attention and ability to ask questions.

A comparison between the first and the second classroom observation, three years apart can be attempted, although five additional lab observations and extensive conversations took place between these observations. Comparison of qualitative information between this and the initial observation indicates that the instructor implemented active learning (juggling activity), heightened proximity control around the room (since we secured a remote device to advance presentations), enhanced PowerPoint slides with embedded videos' used to initiate inquiry-based learning, and advanced level of Blooms questions asking students to 'talk at their table during group work and document which theory aligns with each application". In addition, the notes from the summary memorandum share that no additional instructional practices were suggested. In most situations, we cannot expect faculty to request ten observations, so this unusual opportunity was noteworthy to work with faculty in an extensive manner. The ultimate power of the tools was the ability to interact with a wide range of faculty across three very different communities and document the process to potentially assist other CTLs.

References

American Council of Learned Societies. (2007). *Student learning and faculty research: Connecting teaching and scholarship, a Teagle Foundation white paper.* Retrieved on September 5, 2013 from http://www.acls.org/uploadedfiles/publications/programs/acls-teagle_teacher_scholar_white_paper.pdf

Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers.* (2nd ed.). San Francisco: Jossey-Bass.

Boyer, E. (1990). Scholarship reconsidered: Priorities of the professoriate. San Francisco: Jossey-Bass.

Brew, A. (1999) Research and teaching: changing relationships in a changing context. *Studies in Higher Education, 24*(3), 291–300.

Chism, N. (1999). Peer review of teaching: A sourcebook. Bolton, MA: Anker.

Cox, M. D. (2004). Introduction to faculty learning communities. In M. D. Cox and L. Richlin, (Eds.), *Building faculty learning communities, new directions for teaching and learning* (pp.5-23). San Francisco: Jossey-Bass.

Elliott, J. G., & Stemler, S. E. (2008). Teacher authority, tacit knowledge, and the training of teachers. *Advances in Learning and Behavioral Disabilities, 21*, 75-88.

Elton, L. (2005) Scholarship and the research and teaching nexus. In R. Barnett (Ed.), *Reshaping the university: new relationships between research, scholarship and teaching* (pp.108-118). Maidenhead: McGraw-Hill/Open University Press.

Kanea, T., Rockoff, J., & Staiger, D. (2008). What does certification tell us about teacher effectiveness? Evidence from New York City. *Economics of Education Review, 27*, 615–631.

Malmberg, L-E., Hagger, H., Burn, K., Mutton, T., & Colls, H. (2010). Observed classroom quality during teacher education and two years of professional practice. *Journal of Educational Psychology, 102*(4), 916-932.

Singer, S. (2002). Learning and teaching centers: Hubs of educational reform. *New Directions for Higher Education, 2002*(119), 59-64.

University of Central Florida Faculty CTL (2013). *Class observations.* Retrieved from
  http://fctl.ucf.edu/TeachingAndLearningResources/ClassroomManagement/ClassObservation
  s/

Utschig, T. T., Elger, D. F., & Beyerlein, S. W. (2005). Key issues surrounding faculty
  development of expertise in instructional design. Proceedings from the 35th *ASEE/ISEE
  Frontiers in Education Conference*, 18-23.