21st CENTURY CLASSROOM PLAN

STANDARDS & GUIDELINES
California State University East Bay
FACULTY AND STUDENT SURVEY ANALYSIS
APRIL 16, 2015
1 INTRODUCTION

1.1 Overview

This report provides a summary and analysis of responses from the Cal State East Bay 21st Century Classroom Plan Faculty and Student Surveys. These surveys were conducted after receiving feedback on an initial draft of questions at the Kick-Off Meeting on February 17th, 2015. The revised and simplified surveys consisted of five questions concerning preferred teaching and learning methods and environments. The survey period lasted approximately two weeks from February 23rd, 2015 to March 6th, 2015. The surveys were distributed to campus e-mail accounts and responses were collected online through SurveyMonkey.

The purpose of the surveys was the identification of pedagogy and classroom trends that are specific to California State University, East Bay. As a prelude to group discussion sessions, the surveys help to identify and set the priorities for the physical, experiential, and programmatic attributes of the 21st Century Classroom Plan.

1.2 Survey Questions

To ensure consistency, a similar set of questions were developed for both faculty and students. The survey included the following five questions:

1. For Faculty: What faculty position most accurately describes your current role? (For Students: What class do you belong to?)

2. Please score the following classroom facility attributes on a scale of 1 (not important) to 5 (extremely important) as it relates to your teaching (or learning).
   a. Flexibility of furniture
   b. Ease of movement within the room
   c. Availability of technology to enable interaction and real-time feedback
   d. Availability of writeable wall surfaces
   e. Having a clear line of sight throughout the room
   f. Availability to subdivide a space/create break-out spaces
   g. Having access to natural light
   h. Comfortable room temperature
   i. Ability to control light levels
   j. Having good acoustics

3. Please list three attributes of the classrooms you are currently using that enhance your teaching (or learning).

4. Please list three attributes of the classrooms you are currently using that disrupt your learning (or learning).

5. What additional considerations would you like the COBRA Subcommittee to keep in mind when developing the 21st Century Classroom Plan?

1.3 Survey Respondents

The Faculty Survey garnered 93 total respondents out of a total faculty head count of 789. This response rate represents over 11 percent of total faculty.

The Student Survey garnered 1,018 total respondents out of a total student enrollment head count of 14,134. This response rate represents over 7 percent of the total student body.

1.4 Analysis Methodology

Analyzing the survey required a focused organization. While the first two questions (1 and 2) provided responses that could be easily measured and sorted, the last three questions (3, 4, and 5) were open ended and allowed for more nuanced responses. While a weighted average helped to identify highly favorable attributes in question 2, the responses for questions 3, 4 and 5 were sorted into six broad categories in an effort to standardize the answers and gain key findings. The six categories were:

- **Environmental**: attributes that relate to human comfort like natural and artificial lighting, air quality, room temperature, acoustics and lighting/temperature control systems.
- **Equipment**: attributes that relate to non-technology enabled equipment such as writeable wall surfaces, furniture and wall clocks.
- **Instructional/Learning**: non-tangible attributes that relate to teaching methodology and learning outcomes such as faculty/student interaction.
- **Maintenance**: attributes that relate to satisfactory facility upkeep such as cleanliness.
- **Room Arrangement**: attributes that relate to spatial organization such as flexibility of furniture, line of sight, and movement within the room.
- **Technology**: attributes that relate to technology enabled equipment such as projectors and smart boards, microphones and sound systems, electrical outlets, wireless internet, computer software and East Bay Replay.

*SurveyMonkey is an online survey development, cloud-based company that provides free, customizable surveys.*
2. FACULTY RESULTS & ANALYSIS

Question 1: What faculty position most accurately describes your current role?

Answer Choices

<table>
<thead>
<tr>
<th>答case</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time Faculty Member (tenured)</td>
<td>73.33% 66</td>
</tr>
<tr>
<td>Full Time Faculty Member (non-tenured)</td>
<td>17.78% 16</td>
</tr>
<tr>
<td>Part Time Faculty Member (tenured)</td>
<td>1.11% 1</td>
</tr>
<tr>
<td>Part Time Faculty Member (non-tenured)</td>
<td>2.22% 2</td>
</tr>
<tr>
<td>Lecturer</td>
<td>4.44% 4</td>
</tr>
<tr>
<td>Other, please describe</td>
<td>1.11% 1</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
</tr>
</tbody>
</table>

Of the total faculty respondents approximately 91 percent were full time faculty members (tenured and non-tenured), 3 percent part time faculty members (tenured and non-tenured), and 6 percent lecturers or other faculty members.
Question 2: Please score the following classroom facility attributes on a scale of 1 (not important) to 5 (extremely important) as it relates to your teaching.

Most of the faculty respondents for this question found all attributes as being important or extremely important. The attributes that yielded slightly higher positive responses included: having a clear line of sight throughout the room, comfortable room temperature, having good acoustics, and the ability to control light levels.
Question 3: Please list three attributes of the classrooms you are currently using that enhance your teaching.

Question 4: Please list three attributes of the classrooms you are currently using that disrupt your teaching.

The majority of faculty responses for question 3 focused on four categories: Environmental, Equipment, Room Arrangement, and Technology. Since Technology stands out as the outlier, its positive effect on teaching can clearly be seen. Use of projectors, smart-screens and other digital media aid the dispersion of knowledge. The category of Equipment was ranked second by the faculty which shows that although technology is important in classrooms, writable surfaces and other demonstration equipment are not redundant tools for teaching. Room Arrangement and Environmental concerns averaged similar after Technology and Equipment, thus highlighting the significance of comfort and collaboration in the teaching environment.

The majority of faculty responses for question 4 focused on the same four categories as question 3: Environmental, Equipment, Room Arrangement, and Technology. However, unlike question 3, the outliers in this question were Environment and Room Arrangement, both ranked equally high emphasizing that the need for comfortable and collaborative teaching environment is greater than the need for Equipment and Technology. Creating enhanced environments for speech intelligibility and providing mechanical/lighting control systems can considerably improve the current classrooms. Although, Equipment and Technology were ranked lower, the lack of adequate tools and outdated technological systems do disrupt the faculty’s teaching methodology and should be addressed.
Some of the most elaborate and informative responses were given to question 5. Similar to the previous two questions, the responses for question 5 were classified into the six categories. However, due to the comprehensiveness of the responses, they often resulted in classification into more than one category. These occurrences were repeatedly counted in each category in an effort to maintain the richness of these responses. The following faculty response is a good example: “Access to a graphics oriented computer lab for the fine art students, there are times when it would be great for them to do work on computers while I instruct them on things like how to do post-production on documentation images, but as far as I was told they don’t have access to a lab that is geared towards Fine Art instruction.” This response identifies multiple influences and was categorized into both the Technology category for the discussion of “access to a graphics oriented computer” and Instructional/Learning for the discussion of the teaching method it could facilitate.

The faculty responses for this question were quite enriching as all of them hinted at the changing pedagogy in one way or another. Hence, it is without doubt that the intangible category of Instructional/Learning peaks highest for this question. Majority of the faculty stressed on how technology is changing the way in which they teach and how it can be used to improve faculty/student interaction through real-time feedback and group share technologies/activities. This explains why Technology is ranked second by this user group. Many faculty members also addressed the need for classrooms that respond to a variety of teaching methods, including extra-large teacher-directed lecturing, flexible medium and large sized classrooms for formal and informal knowledge sharing, and small group seminar rooms for a more intimate teaching/learning environment. Thus, Room Arrangement follows as the third focus category for this question with the Equipment category as a close fourth. All of these unique answers are crucial to the 21st Century Classroom Plan as they identify the ways in which faculty are responding to changes in the educational paradigm.
3. STUDENT RESULTS & ANALYSIS

Question 1: What class do you belong to?

Answered: 998  Skipped: 20

<table>
<thead>
<tr>
<th>Answer Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>9.32%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>6.71%</td>
</tr>
<tr>
<td>Junior</td>
<td>25.85%</td>
</tr>
<tr>
<td>Senior</td>
<td>34.97%</td>
</tr>
<tr>
<td>Graduate</td>
<td>16.53%</td>
</tr>
<tr>
<td>Post-Graduate</td>
<td>6.61%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>998</strong></td>
</tr>
</tbody>
</table>

Of the student respondents approximately 76 percent were undergraduate students, 17 percent graduate students, and 7 percent post-graduate students.
Question 2: Please score the following classroom facility attributes on a scale of 1 (not important) to 5 (extremely important) as it relates to your learning.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Not Important</th>
<th>Somewhat Important</th>
<th>Neutral</th>
<th>Important</th>
<th>Extremely Important</th>
<th>Total</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility of furniture</td>
<td>5.16%</td>
<td>10.71%</td>
<td>21.92%</td>
<td>36.21%</td>
<td>25.99%</td>
<td>1,008</td>
<td>3.67</td>
</tr>
<tr>
<td>Ease of movement within the room</td>
<td>2.87%</td>
<td>5.74%</td>
<td>12.67%</td>
<td>42.48%</td>
<td>36.24%</td>
<td>1,010</td>
<td>4.03</td>
</tr>
<tr>
<td>Availability of technology to enable interaction and real-time feedback</td>
<td>2.09%</td>
<td>3.38%</td>
<td>13.22%</td>
<td>33.90%</td>
<td>47.42%</td>
<td>1,006</td>
<td>4.21</td>
</tr>
<tr>
<td>Availability of writeable wall surfaces</td>
<td>4.96%</td>
<td>6.64%</td>
<td>20.71%</td>
<td>35.88%</td>
<td>31.81%</td>
<td>1,009</td>
<td>3.83</td>
</tr>
<tr>
<td>Having a clear line of sight throughout the room</td>
<td>1.79%</td>
<td>1.99%</td>
<td>8.56%</td>
<td>28.56%</td>
<td>59.10%</td>
<td>1,005</td>
<td>4.41</td>
</tr>
<tr>
<td>Ability to subdivide a space/create break-out spaces</td>
<td>7.26%</td>
<td>7.76%</td>
<td>27.96%</td>
<td>35.02%</td>
<td>21.99%</td>
<td>1,005</td>
<td>4.15</td>
</tr>
<tr>
<td>Having access to natural light</td>
<td>4.48%</td>
<td>5.08%</td>
<td>18.82%</td>
<td>30.58%</td>
<td>41.04%</td>
<td>1,004</td>
<td>3.99</td>
</tr>
<tr>
<td>Comfortable room temperature</td>
<td>1.29%</td>
<td>1.09%</td>
<td>5.66%</td>
<td>30.98%</td>
<td>60.97%</td>
<td>1,007</td>
<td>4.49</td>
</tr>
<tr>
<td>Ability to control light levels</td>
<td>1.40%</td>
<td>4.09%</td>
<td>16.95%</td>
<td>34.40%</td>
<td>43.17%</td>
<td>1,003</td>
<td>4.14</td>
</tr>
<tr>
<td>Having good acoustics</td>
<td>2.21%</td>
<td>4.12%</td>
<td>16.68%</td>
<td>33.57%</td>
<td>43.42%</td>
<td>995</td>
<td>4.12</td>
</tr>
</tbody>
</table>

Most of the student respondents for this question found all attributes as being important or extremely important. The attributes that yielded slightly higher positive responses included: having a clear line of sight throughout the room, comfortable room temperature, having good acoustics, the ability to control light levels and the availability of technology to enable interaction and real time feedback.
Question 3: Please list three attributes of the classrooms you are currently using that enhance your learning.

The majority of student responses for question 3 focused on four categories: Environmental, Equipment, Room Arrangement, and Technology. Since Technology stands out as the outlier, its positive effect on learning can clearly be seen. Use of projectors, smart-screens and other digital media aid knowledge sharing. Following this, the students’ ranked the Environmental category similar to the Equipment category underlining that comfort, both of the overall room and the specific furniture they occupy, is key to their learning. Room Arrangement was the last of the focus categories for the students’ highlighting that improved flexibility in their current classroom arrangements could augment their learning.

Question 4: Please list three attributes of the classrooms you are currently using that disrupt your learning.

The majority of student responses for question 4 focused on the same four categories as question 3: Environmental, Equipment, Room Arrangement, and Technology. Unlike question 3, the Environmental category was the most important for students’ signifying that comfort is primary for them to stay focused in the learning environment. Equipment ranked second highest by the students’ attributed to outdated and poorly functioning instructional toolkits found in the current classrooms. Room Arrangement followed third with the lack of clear sight lines as the key factor compromising their learning. Although, the students’ ranked Technology as the lowest disrupting cause, the desire for sufficient wireless internet connectivity and outlets for charging their devices among other technical upgrades was expressed.
Some of the most elaborate and informative responses were given to question 5. Similar to the previous two questions, the responses for question 5 were classified into the six categories. However, due to the comprehensiveness of the responses, they often resulted in classification into more than one category. These occurrences were repeatedly counted in each category in an effort to maintain the richness of these responses. The following student response is a good example: “For psychology classes, there are a lot of chalkboards. Very few professors still use chalk boards every class time. That being said, when in the south science lab classrooms, some times there isn’t enough chalk board space. In come classrooms, the fan/heater system is too loud and gets in the way of recordings of lectures. During the summer, it’s freezing in the science building and super hot in the winter. I wish the temperature difference wasn’t so extreme. Some times, the older teachers have a hard time using the computers, or don’t use them at all.” This response identifies multiple influences of equipment, environmental comfort, and technology. Hence, it was categorized in all the three categories.

The student responses for this question mainly focused on tangible elements that the students’ envisioned important in the 21st century education. Their responses were very dispersed among the six categories. Technology and Equipment stood out to be the fundamental elements that every 21st century classroom should have according to the students. This implies updates not only to the audio-visual systems used in classrooms, but also a seamless web-class platform to provide them with an integrated on-demand learning experience accessible anytime, anywhere. The need for Smart Boards, East Bay Replay and other technical platforms for sharing knowledge along with better furniture was expressed. The Environmental category was ranked next by the students’ emphasizing the need for comfortable non-distracting surroundings that would help them concentrate. Students declared that their attention during instructional activities was enhanced by daylight, fresh air and comfortable room temperatures. Instructional/Learning methods ranked similar to Room Arrangement highlighting the concern for flexible classroom layouts to aid collaborative learning. The last category of Maintenance garnered a good number of responses from the student body which goes to show that cleanliness and durability of materials are important aspects to be considered when developing the future plan.
4. PATTERNS

The similar set of questions issued to both the faculty and the students generated congruent response patterns in some questions and some unique response patterns in others.

In question 2, both the faculty and the students identified similar attributes of importance for teaching and learning. In addition to attributes already highlighted by the faculty, the students also ranked the availability of technology to enable interaction and real time feedback as highly important.

In question 3, both the faculty and the students ranked Technology as the most important attribute and Room Arrangement as the least important. However, while the faculty ranked Equipment higher than Environmental attributes, the student population ranked them equally.

In question 4, both the faculty and the students ranked Environmental attributes causing discomfort to the teaching/learning environment as the highest. Although, the faculty ranked Room Arrangement as equally high, the students had a different response. They weighted Equipment more important than Room Arrangement. Technology, on the other hand, was the least important for both of the respondent groups for this question.

In question 5, both the faculty and the students had unique responses and no overlapping patterns were traced. While the faculty focused on Instructional/Learning, the students focused on Technology, Equipment and Environmental attributes.

5. CONCLUSIONS

The large pool of survey responses and their analysis above set a rich foundation upon which to build the 21st Century Classroom Plan for the California State University, East Bay. The extensive feedback from the faculty and students will be helpful in identifying constraints and opportunities on the campus. The qualitative insights from the surveys are grouped into three categories listed below and suggest the next steps for this project.

5.1 Space Planning

Space Planning will focus on developing an ideal space plan for different sized classrooms primarily addressing the needs for visibility and flexibility. The following attributes will be considered:

- Placement of boards/projector screens to minimize glare and provide clear lines of sight for all students.
- Specifying furniture that is flexible to arrange and can be modified to suit the needs of different instructional methods within the same space.
- Functional characteristics of Small, Medium, Large and Specialty Classrooms that augment a diverse learning experience including hands-on project work, social interaction and technical knowledge sharing.
- Location of physical elements (such as doors) that impact user circulation in the classrooms.
- Placement of furniture (tables and chairs) to meet accessibility requirements and provide adequate space for movement by users while classes are in session.
- Provision for secured storage.

5.2 User Comfort

User Comfort will focus on developing a comfortable classroom for all users primarily addressing the needs for a healthy environment and quality furniture. The following attributes will be considered:

- Achieving adequate acoustic levels using insulated building materials to improve speech intelligibility and mitigate noise reverberation.
- Providing adequate daylight in the classroom but positioning the windows such that they minimize glare on the boards/screens.
- Accommodating lighting control systems to provide flexibility of switching between task lighting, group work and lecture needs.
- Upgrading the temperature control mechanism in the classrooms to render more comfortable spaces.
- Providing ergonomic furniture for the users to aid their comfort as well as a diversity of seats to accommodate diversity within the student population.

5.3 Equipment

Equipment will focus on developing a minimum standard for technology and other equipment in the classroom primarily addressing the needs for audio-visual and other technical methods. The following attributes will be considered:

- Specifying furniture with adequate writeable surface to accommodate user equipment including paper books and digital devices.
- Providing for adequate charging outlets for all users independent of furniture location.
- Furnishing qualitative instructional equipment in appropriate quantities to aid all sizes of classrooms including digital display and sound systems.
- Considering safety methods for protecting technical equipment from vandalism and/or theft.
- Establishing a backbone for campus-wide on-demand learning that is accessible anytime, anywhere.