

# **Improving Attainment of Education Goals in the Introduction to Criminal Justice Course: A Comparison of Traditional and Computer-based Instructional**

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## **Introduction**

In this paper, we describe findings from quantitative data collected on two student learning outcomes in the Introduction to Criminal Justice (CRJU110) course during the 2009-2010 academic year. This paper is part of a larger study to evaluate how computer-based instruction (i.e., the online pedagogical resource Sakai<sup>1</sup>) compares with more traditional face-to-face approaches (i.e., traditional lectures) with regard to student achievement of learning outcomes in large survey courses, such as CRJU110. Survey or introductory courses—like Introduction to Criminal Justice—are essential components of university curricula because they enable students to satisfy breadth requirements and introduce others to future majors or minors. Survey courses are also important for assessment purposes. Thus, this study promises wide utility for university curricula and pedagogical goals.

Specifically, we addressed the following research question: How do traditional and computer-based (online) pedagogies facilitate student learning and achievement of general university education goals? The primary objective was to assess whether differences in teaching method impacted student achievement of learning outcomes. The study proposed to evaluate two pedagogical conditions in Fall 2009 and Spring 2010 sections of CRJU110: traditional face-

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<sup>1</sup> *Sakai is a virtual community for primarily educational endeavors that permit academic instruction online for college students globally. It is similar to Blackboard and other web-based educational platforms.*

to-face lecture delivery and a hybrid format using both traditional lecture mixed with the online Sakai platform<sup>2</sup>.

Our paper investigated the ability of these two conditions to help students achieve two general university education goals<sup>3</sup> that focus on critical or diverse ways of thinking, lifelong intellectual curiosity and engagement, and understanding the foundations of U.S. society and its cultural diversity. These goals are especially relevant to the CRJU110 class because that course provides an overview of the foundations of the modern criminal justice system in U.S. society, a critical institution charged with simultaneously protecting public safety, private ownership, and individual rights and justice. In CRJU110, students from across the university learn about the many crime and victimization-related problems plaguing society. They also learn about the significance and challenges of addressing those problems given the U.S.'s great cultural diversity, clearly visible in both staff and clientele (victims and offenders) at the local, state, and federal levels. Finally, the CRJU110 class is often taught by professors from varied disciplinary

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<sup>2</sup> *In the traditional class we studied, the professor used no online resource or Sakai platform. Thus our study is a comparison between a traditional lecture format and a hybrid that combined traditional lectures with the Sakai platform.*

<sup>3</sup> *Goals: “(1) Develop the intellectual curiosity, confidence, and engagement that will lead to diverse ways of thinking and lifelong learning, (2) Understand the foundations of United States society including the significance of its cultural diversity.” These two general education university goals map onto the author’s home department goals of (1) understanding the major concepts of sociology and criminal justice and be able to identify them in everyday life and (2) understanding the centrality of inequality in sociological and criminological issues and advance awareness of the increasing importance of global and cross-national perspectives. The first department goal is targeted in the CRJU110 class, while the second is prioritized in upper-level criminal justice classes which require CRJU110.*

backgrounds (e.g., criminology, sociology, criminal justice, philosophy of law), who co-exist in multidisciplinary departments (Cheurprakobkit, 2000).

### **Literature Review**

Online learning at American universities has grown exponentially since the advent of inexpensive internet access for most of the country (Twigg, 2003). Although there are universities devoted entirely to online learning, many traditional state and private universities also offer online courses. Researchers examining the difference between online and traditional lecture and seminar courses do not find a difference in learning between the two types of courses (Russell, 1999; Durrington, Berryhill, and Swafford, 2006; Singh, Manfalaraj, and Taneja, 2010). Parsons-Pollard, Lacks, and Grant (2008) confirms this pattern specifically in Introduction to Criminal Justice courses. However, their study investigated how the types of courses impacted overall class performance (i.e., grades) rather than the attainment of specific learning goals as we do here.

Currently, the line between traditional face-to-face courses and online-only courses is becoming blurred. Many lecture and seminar courses incorporate online tools, including class websites and other resources to supplement the material from the classroom (Zaiane, 2001). Many instructors in traditional face-to-face classrooms are implementing new technologies to enhance learning and ultimately increase communication between students and their colleagues and instructors when they are not in the classroom (Wingard, 2004). Bonk (2001) estimated that more than 70% of lecturers upload files including class readings and syllabi to their course website. Regardless of the exact number of undergraduate courses that implement online learning tools today, many have shifted from simply posting information via a web 1.0 method to incorporating Course Management Systems (CMSs) like Sakai and Blackboard that implement a

web 2.0 philosophy (Daniels, 2009). These newer web-based learning platforms emphasize participation through the implementation of social software (Daniels, 2009). Thus, this provides students with tools to communicate with one another and create content instead of simply accessing information conveyed by the professor (Daniels, 2009). As Daniels (2009:100) puts it eloquently, “CMSs are beneficial in bridging the gap between traditional face-to-face classroom instruction and independent learning.” This level of interactivity between classmates and instructors allows for online courses to be just as successful as traditional face-to-face courses (Durrington, Berryhill, & Swafford, 2006).

Although the centralized location of a course website with important information for the students should ultimately benefit the student, that outcome might not always be possible. According to Cummings, Bonk, and Jacobs (2002), online material available for students is beneficial, especially visually appealing information, some type of discussion tool, and material intended to supplement the normal class lecture. However, the online material is only beneficial if the students use the available resources. Just because the information is centrally posted on a course website does not mean students will take advantage, and the same students who are already good students in a normal class environment might be the same ones who ultimately benefit from having supplemental material available online (Cummings, Bonk, & Jacobs, 2002). This is also the case with some interaction between instructor and student. In an examination of the benefits of virtual office hours, Li and Pitts (2009) found that students did not visit their professors through virtual office hours any more than with traditional face-to-face office hours.

Although scholars might agree that online supplemental material should benefit students and contribute to their success, there is little empirical evidence on the topic. The majority of the research assessing the effectiveness of online tools has primarily focused on strictly online

courses. With the use of software including Blackboard and Sakai, researchers have begun to examine how these online resources affect the success of undergraduate students. The amount that students use these resources has been found to influence their scores on exams (Parsons-Pollard, Lacks and Grant (2008). According to Vengroff and Bourbeau (2006), students who use resources like Blackboard and Sakai on a consistent basis do on average better on their exams than students who do not use them consistently, after controlling for overall GPA.<sup>4</sup> Chan, Chow, and Cheung (2004) found similar results: students scoring higher on a participation index<sup>5</sup> on average scored higher grades. Both Vengroff and Bourbeau (2006) and Chan, Chow, and Cheung (2004) provide support for the idea that supplemental online resources benefit undergraduates. However, both also support the idea that students must actively use the available resources. In both instances, students who took a more active role in using the available online resources did better on exams (Vengroff and Bourbeau, 2006) or overall grade (Chan, Chow, and Cheung, 2004) than students who used the resources less frequently or not at all.

Based on the results of Vengroff and Bourbeau (2006) and Chan, Chow, and Cheung (2004), implementation of online resources like Blackboard and Sakai can benefit students who decide to take advantage of the resources. However, it is important to consider whether the online resources have any negative effect on student learning when used in conjunction with traditional face-to-face courses. According to Harmon and Lambrinos (2007), inclusion of online resources does not negatively affect students when used in conjunction with traditional face-to-face courses in an MBA program. Korkofingas and Macri (2008) found that

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<sup>4</sup> The results of Vengroff and Bourbeau (2006) are based on a sample of 80 undergraduate students in two introductory to psychology courses.

<sup>5</sup> The participation index included information on the number of pages viewed on the online resource, involvement in forums on the course website, and involvement in chat sessions.

supplemental online resources significantly improved overall student learning. In particular, they found self-testing online as leading to higher exam scores. Although increased use of other online resources had a positive effect on performance, the correlation was not as high as the use of online self-tests. Korkofingas and Macri (2008) found high use of online discussion boards had no effect on performance and occasionally actually had a negative effect on performance. Korkofingas and Macri (2008) noted that their results were based on a course consisting of third-year students and may not be the same for first-year students, thus highlighting the importance of examining the effectiveness of online resources in conjunction with traditional face-to-face courses that cater primarily to first-year undergraduates. It is worth noting that students are just as satisfied with online courses as they are with traditional face-to-face courses (Grandzol, 2004; Snell and Penn, 2005; Strickland and Butler, 2005).

### **Methods**

The literature reviewed above has addressed how traditional lectures and computer-based learning models (e.g., Sakai and Blackboard) impact overall student performance. However, few have studied the attainment of general and specific educational goals articulated by universities and departments, including those pertaining to criminal justice. Our study attempts to fill this gap. Specifically, we compare classes that vary in their utilization of traditional and computer-assisted pedagogical delivery styles. To reiterate, the two conditions are:

1. Traditional face-to-face delivery
2. Hybrid format, that combines traditional face-to-face instruction and Sakai platform

*Sample.*

**Table 1. Class Condition by Academic Term.**

	Traditional Lecture	Sakai/Lecture Hybrid	Total
Fall 2009	155 (26%)	144 (24%)	299
Spring 2010	59 (10%)	243 (40%)	302
Total	214	387	601

According to Table 1, the sample size for the study is 601 and nearly evenly split between the Fall 2009 (N= 299) and Spring 2010 (N=302) semesters. Table 1 shows a breakdown of the sample by semester and by class conditions. About 64% of the sampled students were enrolled in the Sakai/lecture hybrid condition while 36% were enrolled in the traditional lecture format. The higher enrollment in the Sakai/lecture hybrid condition reflects student preferences in scheduling and the fact that more professors taught the hybrid format than the traditional lecture format. Still, the breakdown by condition will enable reliable comparisons.

Data were collected through two self-administered questionnaires. Some students did not answer every question on the surveys. A separate analysis of the missing cases yielded no particular patterning or bias on any of our variables. In the tables below, the percentages reported are based on the number of valid cases and, therefore, adjust for missing data.

**Table 2. Student Demographics\* by Academic Term.**

	Fall 2009	Spring 2010
Female	171 (58%)	164 (57%)
Male	123 (42%)	125 (43%)
<b>Total</b>	<b>294</b>	<b>289</b>
White	239 (83%)	239 (82%)
Black	20 (7%)	16 (6%)
Asian	9 (3%)	10 (3%)
Other	21 (7%)	22 (8%)
<b>Total</b>	<b>289</b>	<b>287</b>
Freshman	159 (54%)	166 (57%)
Sophomore	79 (27%)	59 (20%)
Junior	35 (12%)	36 (12%)
Senior	21 (7%)	28 (10%)
<b>Total</b>	<b>294</b>	<b>289</b>

\*Numbers may not total 601 sample size due to missing data.

Percentages adjusted accordingly.

Table 2 shows basic demographics on our CRJU110 sample. About 58% percent of students surveyed were female. Most (nearly 83%) of the sample were White, seven percent were Black, three percent were Asian, and seven percent were from other or mixed racial groups. These race and gender characteristics reflect the larger student body. Most (54-57%) of our sample were first-year, freshman students. Sophomores comprised 27% of the Fall 2009 pool and 20% of the Spring 2010 pool. About 15% of the sample were juniors, while 10% were *seniors in both the Fall and Spring terms*. These class standing percentages are representative of large survey or introductory courses at the 100 level. A comparison across pedagogical condition showed no significant differences in students' demographic compositions.

*Survey Administration.* All students attending the participating CRJU110 classes were invited to participate in the study. Each participating professor announced the project in class many times prior to survey administration. On average, about 60-70% of students attend large

lecture classes on a class-to-class basis<sup>6</sup>. While the missing data on survey items reported above likely does not bias our results, this rate of class attendance may impact our findings. It is likely that many absent students are low academic achievers. This could produce higher scores on the performance tools (see below) than if all students were in class and completed the surveys. Both traditional lecture and hybrid condition students completed the performance tools in class and not online. Fortunately, all students present in class on the day of survey administration completed both the performance and evaluation tools. Thus, our sample is a complete accounting of all students who attended the CRJU110 class on the days the surveys were administered. Further, the missing data reported by participating students on an item-to-item basis yielded no systematic bias.

*Measurement.* During the Summer of 2009, we developed two survey instruments to tap the two learning goals we proposed to study. We collaborated with participating faculty to select items from their chosen textbooks for inclusion on our survey instruments. The creation of two instruments—one measuring student learning (*student performance tool*) and one measuring student opinions about learning (*student evaluation tool*) was a labor-intensive process that required a careful review of each textbook the participating professors used as well as their input on items they thought good indicators of the learning goals under study. We then administered these two surveys to students in class during the Fall 2009 and Spring 2010 semesters.

The first survey was a *student performance tool*; it measured actual learning achieved by students on the learning goals we investigated. This *performance tool* contained both quantitative and qualitative questions/data. To reiterate, the items on the *performance tool* were

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<sup>6</sup> The authors' home department—or college for that matter-- has no official policy on attendance in its CRJU110 or any other class. However, some professors who teach the course take attendance routinely. Other faculty do not take attendance in class, but estimate it through quizzes and other in-class surveys and exercises. In general, all CRJU110 faculty estimate class attendance between 60-70%.

drawn from the test banks of each of the books used by participating professors. We selected more than 100 questions from these test banks, grouped them by learning goal, and circulated them to the participating professors to get their approval for inclusion on the *performance tool*. Each professor confirmed they would cover the necessary materials and information in class. The *performance tool* contained 14 questions: 9 quantitative Likert items and 5 open-ended, qualitative questions. This report only analyses the quantitative measures. Please see the Appendices for a full listing of the questions.

The second survey—*student evaluation tool*—measured students beliefs on the pedagogical tools they found helpful in achieving various learning goals. All questions were in a quantitative Likert scale format. We wrote each of the questions on the *evaluation tool*, drawing on prior assessment tools available to us from our university and from others nationally. The items focus on the pedagogical tools used in each of the class conditions and query students’ perspectives on the learning experiences they had. Both the *performance* and *evaluation tools* measured the effectiveness of the course condition on student’s ability to achieve assessment goals consistent with educational standards. Questions on the *evaluation tool* are listed in the Appendices.

*Analysis.* The data were analyzed with SPSS. According to Table 3, student learning on goals #1 and #2 were measured with quantitative Likert Scale questions. In the following paragraphs, we report some basic findings on these items and present an analysis of the students’ evaluation of the pedagogical tools they found helpful in achieving these learning goals.

### **Student Performance on Learning Goals in CRJU110**

In this section, we discuss findings from the measures of *the two* learning goals (#1 and #2) under investigation. The chi-square analysis presented below compares student learning on

learning goals #1 and #2 by class condition (traditional lecture and Sakai/lecture hybrid) and student demographics.

**Table 3. Goal #1 by Demographics and Class Condition.  
(Number and Percent Correct)**

	<b>Q3</b>	<b>Q4</b>	<b>Q5</b>
Freshman	75 (26%)	167 (58%)	54 (19%)
Sophomore	37 (29%)	75 (58%)	24 (19%)
Junior	14 (23%)	34 (56%)	13 (21%)
Senior	16 (36%)	23 (52%)	10 (23%)
Male	60 (27%)	124 (58%)	56 (26%)*
Female	82 (27%)	176 (58%)	45 (15%)
White	112 (26%)	245 (57%)	82 (19%)
Other	35 (31%)	62 (57%)	21 (19%)
Traditional Lecture	66 (32%)*	118 (58%)	27 (13%)*
Sakai/Lecture Hybrid	81 (24%)	189 (56%)	76 (23%)
<b>Total N</b>	<b>528</b>	<b>520</b>	<b>519</b>
<b>Total N Correct</b>	<b>142 (27%)</b>	<b>299 (58%)</b>	<b>101 (20%)</b>

\*Pearson Chi Square, two-tailed significance at .10 level

\*\* Pearson Chi Square, two-tailed significance at .05 level

\*\*\* Pearson Chi Square, two-tailed significance at .001 level

*Student Learning Goal #1: Understand the diverse ways of thinking that underlie the search for knowledge in the arts, humanities, sciences and social sciences.* This goal is of central importance to the study site's overall mission, as well as the home department where the CRJU110 class is offered. As mentioned earlier, the home department had an inter-disciplinary composition; class offerings and undergraduate concentrations focused on diverse ways of thinking about culture, society, and the world. Questions 3-5 on the *performance tool* were selected to represent student's ability to understand diverse ways of thinking common to the arts,

humanities, and *social* sciences. Data presented in Table 3 show how many students answered correctly and whether those correct answers differed across groups and class conditions.

According to Table 3, students did not perform equally across the three questions used to measure achievement of learning goal #1. Overall, students performed best on Question #4—“This alternative justice model uses community programs to repair the harm done by offenders”—with 58% getting the answer correct. About 27% answered Question #3 correct, which dealt with the effectiveness of various methods of punishment. Question #5 yielded the poorest performance among students, as only 20% answered correctly. This question was more philosophical about justice and perhaps was too abstract an idea for students in large survey courses to grasp. Abstract ideas, and critical thinking about them, are better explored in upper-level classes based on class discussion with fewer students. In fact, results of learning goal #1 items suggest that students in large survey courses perform better with specific questions on concrete topics. Smaller classes with class discussion formats or a lab component that accompanies the large survey course might better facilitate student learning of abstract/philosophical ideas.

An additional feature of this study is our attention to diversity in student learning and evaluation. The demographic comparisons for learning goal #1 can also be found in Table 3. We found some significant differences in student performance on the items measuring goal #1 based on demographic differences. More often than not, there were no significant differences between students by class standing, gender, race, or class condition (traditional lecture or Sakai/lecture hybrid). For example, Table 3 shows no significant differences among freshman, sophomores, juniors, or seniors on any of the items used to tap student learning of goal #1. More

seniors got questions #3 and #5 correct, but this did not account for significant differences from the other three classes.

A comparison of male and female students on these items yielded only one significant difference. Male students were more likely to get question #5 correct than were females. Recall that this was the more abstract and philosophical of the three items. There was no difference in the number of correct answers for questions #3 and #4. We found no racial differences between White students and those from other racial groups on the three questions measuring student learning of goal #1. Other racial groups reported getting question #3 correct more often, but it did not account for a significant difference from their White counterparts.

The most significant differences we found on student performance on learning goal #1 were by class condition. This finding goes to the core purpose of our study. Our findings on this learning goal do not, however, represent a single pattern. For example, students in the traditional lecture condition were significantly more likely to get question #3 correct, while students in the Sakai/hybrid condition more likely to get question #5 correct. There was no difference in student performance on question #4. One explanation for this is that the Sakai/hybrid condition may have allowed students better opportunity to discuss the more philosophical and abstract question #5 via blogging or student forums. However, the superior performance of traditional lecture students on the more concrete questions #3 and #4 is perplexing. Advanced analyses pairing student evaluation data against these items, as well as the qualitative data analysis, might provide additional insight into these patterns on student learning of goal #1 by class condition.

*Student Learning of Goal #2. Understand the foundations of United States society including the significance of its cultural diversity.* Data presented in Table 4 shows student performance on questions measuring learning goal #2. We measured this goal with six

quantitative items, i.e., Q8-Q13 on the *student performance tool*. The most notable thing about student performance on the questions comprising learning goal #2 is the higher percentage of correct answers compared to those for goal #1. About 83% of students correctly answered questions #9 and #13, while 81% got question #10 correct. About 62% of the students got question #11 correct, and 50% got question #12 correct. Students performed poorest on question #8 (33%).

**Table 4. Goal #2 by Demographics and Class Condition (Number and Percent Correct).**

	<b>Q8</b>	<b>Q9</b>	<b>Q10</b>	<b>Q11</b>	<b>Q12</b>	<b>Q13</b>
Freshman	92 (33%)	299 (82%)	236 (84%)	175 (63%)	133 (47%)	237 (85%)
Sophomore	41 (33%)	101 (79%)	93 (75%)	66 (55%)	65 (53%)	100 (83%)
Junior	19 (33%)	57 (93%)	46 (75%)	41 (68%)	31 (52%)	46 (79%)
Senior	13 (30%)	38 (84%)*	36 (80%)	27 (64%)	23 (54%)	35 (80%)
Male	71 (34%)	178 (85%)	170 (81%)	129 (62%)	100 (48%)	172 (85%)
Female	94 (32%)	247 (82%)	240 (80%)	182 (61%)	152 (51%)	246 (82%)
White	131(34%)	354 (84%)	336 (80%)	257 (62%)	207 (50%)	352 (85%)
Other	28 (28%)	85 (80%)	88 (83%)	61 (59%)	53 (51%)	76 (73%)**
Traditional Lecture	64 (34%)	155 (80%)	141 (77%)	108 (57%)	102 (53%)	154 (82%)
Sakai/Lecture Hybrid	105 (32%)	284 (85%)	276 (82%)*	210 (63%)	158 (48%)	274 (83%)
<b>Total N</b>	<b>506</b>	<b>512</b>	<b>510</b>	<b>505</b>	<b>506</b>	<b>502</b>
<b>Total N Correct</b>	<b>165 (33%)</b>	<b>425 (83%)</b>	<b>411 (81%)</b>	<b>311 (62%)</b>	<b>252 (50%)</b>	<b>418 (83%)</b>

\*Pearson Chi Square Significant at .10 level

\*\* Pearson Chi Square Significant at .05 level

\*\*\* Pearson Chi Square Significant at .001 level

The superior performance of students on questions related to goal #2, rather than goal #1, can be explained by goal #2's consistency with the CRJU110 home department's expertise in and focus on cultural diversity and how the department's central mission is to educate students on how social and criminal justice institutions are critical to foundation of our society. One important lesson to take away from this study is that departments may do a better job helping students achieve some learning goals than others because of their focus, approach, content, and structure of the disciplines that comprise them. Both disciplines of sociology and criminal justice are fundamentally concerned with how social institutions address the problems experienced by a diverse citizenship in modern society. This goes to the core of goal #2.

Remarkably, there were few significant differences by student group or class condition on the six questions tapping this learning goal. There was a modest (sig @ .10) difference by class standing on question #9, which pertained to the Fourth Amendment of the Constitution<sup>7</sup>. We also found a significant difference between White and other students on question #13, which had to do with the Supreme Court's decision on Jim Crow laws. White students (85%) more often got this answer correct than students from other racial groups (73%). Although this might seem counter-intuitive, we must keep in mind that the "other" racial category comprises Asians, Hispanics, and other races in addition to African Americans. The Jim Crow decisions directly addressed the experiences of Blacks in the US and may not, however, have been as salient to other students' understanding of the history of Constitutional protections.

Table 4 also shows a breakdown in learning goal #2 items by class condition. Again, results are mixed; however, a few significant differences were found. For example, slightly

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<sup>7</sup> *This questions stated "The right of the people to be secure in their persons, houses, papers, and effects, against \_\_\_\_\_, shall not be violated...". See also the Appendices for more on the study's tools.*

more students in the traditional lecture condition correctly answered questions #8 (34% compared to 32%) and #12 (53% compared to 48%) than did those in the Sakai/lecture hybrid condition. Alternatively, students in the Sakai/lecture hybrid condition more often got questions #9, 10, 11, and 13 (85%, 82%, 63% and 83% respectively) correct than did those in the traditional lecture condition (80%, 77%, 57%, 82% respectively). Only question #10 yielded a significant difference, which is about the rights of defendants in criminal trials.

*Conclusions on Student Performance.* The findings reported above in Tables 3 and 4 shed some important preliminary insights into large survey courses' ability to enhance students' acquisition of learning goals. From Table 3, we can conclude that there are a few significant differences in student learning goals #1 and #2 in the CRJU110 class. However, we learned something important about class condition. Our data suggest that in large survey courses, use of Sakai/lecture hybrid formats may help students grasp abstract philosophical ideas better than traditional lecture formats by providing them with opportunities to discuss their thoughts and exchange ideas with students and their professors via blogging, forums, or live chats. Absent opportunities for student discussion, concrete ideas may be best suited to the large traditional lecture format.

Compared to learning goal #1, achievement of student learning on goal #2 was much better overall. We think this has something to do with the fit of this goal to the home department's mission. We believe that large survey courses in other departments might be best equipped to facilitate student learning on learning goals that closely parallel their missions. We found very few differences across student demographics and class condition on this learning goal. Again, we posit that the concrete nature (rather than abstract and philosophical) of the

questions and their fit to the department's mission explain the high quality and uniformity in students' performances.

### **Student Evaluation of Learning Goals in CRJU110**

Our study was sought student input on their learning experiences in CRJU110. Although the student performance tool provided a way to assess the acquisition of learning consistent with educational goals, the student evaluation tool informed us what students thought was helpful and important to their learning. In this section, we report on students' opinions about what facilitated their learning.

Table 5 depicts the findings from our chi-square analysis of students' opinions about how the CRJU class facilitated their learning of goals #1 and #2. According to Table 5, the majority of students believed that the CRJU110 course contributed to their general competence in diverse ways of thinking. In other words, the students thought that CRJU110 helped them meet learning goal #1. Across our comparison groups, 65-85% agreed that the CRJU110 course improved their general competence in diverse ways of thinking. The table shows, however, important differences by student demographics. For example, sophomores (78%) more often agreed that the CRJU110 class improved their general competence than did freshman (74%), juniors (72%) or seniors (65%), but the differences were not statistically significant. Also, we found no differences by gender on this item either. Table 5 shows that 75% of males and 73% of females believed CRJU110 enhanced their diverse ways of thinking. Contrary to our research expectations, we found no significant differences in students' opinions on this goal by class condition. Students in the traditional lecture (75%) format were equally positive about CRJU110 improving their diverse ways of thinking as were students in the Sakai/lecture (74%) hybrid condition.

**Table 5. Student Evaluations of Learning Goals by Demographics and Class Condition.**

To what extent did CRJU110 contribute to your general competence in the following areas?

(N=583)	Writing	Problem solving skills	Analytic reasoning	Global Perspective	Diverse thinking	Lifelong learning	Cultural diversity
	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes	No Yes
Freshman	83% 18%	63% 38%	39% 61%	34% 67%	26% 74%	25% 75%	23% 77%
Sophomore	77% 23%	55% 45%	34% 66%	29% 71%	23% 78%	21% 79%	22% 78%
Junior	79% 21%	70% 30%	49% 51%	27% 73%	28% 72%	30% 70%	24% 76%
Senior	88% 12%	78% 22%	61% 39%	57% 43%	35% 65%	41% 59%	33% 67%
<b>Significance*</b>	NS	Sig .05	Sig .001	Sig .05	NS	Sig .05	NS
Male	79% 21%	61% 39%	39% 61%	29% 71%	25% 75%	23% 77%	20% 80%
Female	83% 17%	65% 36%	42% 58%	36% 64%	28% 73%	28% 73%	27% 73%
<b>Significance</b>	NS	NS	NS	NS	NS	NS	NS
White	82% 17%	65% 35%	43% 57%	36% 64%	29% 72%	27% 73%	25% 75%
Other	66% 34%	47% 53%	26% 74%	20% 80%	14% 86%	17% 83%	16% 84%
<b>Significance</b>	Sig .001	Sig .001	Sig .001	Sig .001	Sig .001	Sig .05	Sig .05
Traditional Lecture	76% 23%	61% 39%	41% 59%	29% 71%	25% 75%	24% 76%	23% 77%
Sakai/Lecture Hybrid	80% 20%	62% 38%	39% 61%	35% 65%	26% 74%	25% 75%	23% 77%
<b>Significance</b>	NS	NS	NS	NS	NS	NS	NS

\*All significance values are based on two-tailed tests of the Pearson Chi Square statistic, SPSS, v.18.

The only significant differences we found in students' assessments of CRJU110's ability to teach them diverse ways of thinking were among the racial groups. In fact, Table 5 shows

significant differences by race on all measures related to students' perception of the impact of CRJU110. More specifically, Table 5 shows that minority (86%) students more often believed that the CRJU110 course enhanced their diverse ways of thinking than did Whites (72%). The chi-square was significant at the .001 level.

Table 5 also presents identical patterns overall and by student sub-groups on goal #2, which is concerned about student appreciation for cultural diversity and other foundations of US society. More than 75% of students across groups believed that the CRJU110 improved their general competence of goal #2. There were no statistical differences by class standing, gender, or class condition. Once again, racial minority (84%) students more often believed that CRJU110 improved their general competence than did white students (75%). These differences were statistically significant at the .05 level.

### **Conclusions and Recommendations**

Further analysis showed that some newer pedagogical tools, like those available on Sakai, would also prove quite useful in enhancing students' general competencies. For example, Table 5 shows that 45% of the students reported that power point and other class lecture resources materials posted on Sakai improved their learning. Table 5 also shows students prefer to have their syllabi posted on Sakai (34%) and find the Sakai gradebook (35%) valuable to their learning experiences. Although the data in Table 8 do not show clear patterns between the traditional lecture pedagogical tools versus the Sakai-based tools, our findings on students' evaluations lead us to conclude that the CRJU110 survey course will continue to help students meet learning goals as pedagogical technologies modernize. These findings may show promise for other large university survey courses as well,

From the findings and conclusions reported here, we offer a few recommendations to facilitate increased success in student acquisition of learning goals via the survey level Introduction to Criminal Justice course. First, student acquisition of learning goals in large survey courses is possible; however, our findings show that the CRJU110 survey course better promotes learning acquisition on the lower end of Bloom et al.'s (1956) taxonomy, i.e., remembering and recalling information, rather than the higher end (e.g., understanding, explaining and applying). For example, students in CRJU110 performed better remembering and recalling specific information and did less well with critical thinking on abstract and philosophical ideas. We recommend that universities keep this in mind when setting budgeting policies, course requirements, and student learning. Survey courses can facilitate lower learning levels, but higher-level learning likely requires a different pedagogical approach and alternate resources.

Second, we recommend continual investment in Sakai and other online student learning services for improved success with learning goals in large survey courses. This includes improving Sakai and keeping it technologically current, as well as providing increased resources to train and encourage faculty to use the site in their survey courses. Our findings show that when professors combine Sakai with traditional lectures in large survey courses, like CRJU110, students are better able to grasp abstract ideas common to some learning goals.

Third, we recommend the use and funding of smaller labs to accompany large survey courses like CRJU110, so students can discuss abstract ideas common to learning goals. This will promote higher-level learning, denoted by Bloom et al.'s (1956) taxonomy, also central to the universities' missions. Our findings suggest these smaller labs will permit guided

discussions that may promote students' acquisition of knowledge supportive of educational goals.

## Appendix A. Student Performance Tool

*Instructions: We would like to ask you a few questions about your knowledge of crime, justice and the criminal justice system. Please mark your answers in the space beside your chosen answer to each of the following questions. It should only take a few minutes and we thank you in advance for your time! We appreciate your cooperation.*

Q1. How does the criminal justice system help solve society's crime problems? (G2)

Q2. How does the criminal justice system help solve other problems in society, like substance abuse, mental illness, domestic violence, etc.? (G2)

Q3. According to this method of control, the punishment of a single offender sets an example for the rest of society (G5).

- A) intermediate deterrence
- B) general deterrence
- C) specific deterrence
- D) absolute deterrence

Q4. This alternative justice model uses community programs to repair the harm done by offenders (G5).

- A) the war on drugs
- B) community policing
- C) phrenology
- D) restorative justice

Q5. Which sanctioning philosophy is based on the assertion that criminals deserve to be punished for breaking society's rules (G5)?

- A) Deterrence
- B) Incapacitation
- C) Just deserts
- D) Rehabilitation

Q6. How can you determine the differences between deviance and crime? Give an example of each (G6).

Q7. What are some of the purposes civil law and criminal law serve in our society? (G6)

Q8. The concept that government powers are shared by the national (federal) government and states is (G9):

- A) Cooperative government
- B) Dual authority
- C) Dualism
- D) Federalism

Q9. The Fourth Amendment states: "The right of the people to be secure in their persons, houses, papers, and effects, against \_\_\_\_\_, shall not be violated..." (G9)

- A) unreasonable warrants
- B) searches and seizures
- C) unreasonable searches and seizures
- D) unreasonable probable cause

Q10. The rights of defendants in U.S. criminal trials are derived directly from \_\_\_\_\_. (G9)

- A) the Constitution
- B) the first 10 amendments to the Constitution
- C) the Bill of Rights
- D) all of the above

Q11. Which amendment provides the guarantee against cruel and unusual punishment? (G9)

- A) Sixth
- B) Fifth
- C) Eighth
- D) Fourteenth

Q12. Guarantees of a speedy trial, a trial by jury, a public trial, the right to confront witnesses, and the right to a lawyer at various stages of criminal proceedings is included in the \_\_\_\_\_ Amendment. (G9)

- A) 4<sup>th</sup>
- B) 5<sup>th</sup>
- C) 6<sup>th</sup>
- D) 8<sup>th</sup>

Q13. This 1896 Supreme Court decision mandated "separate but equal," forming the basis for the south's Jim Crow laws. (G10).

- A) *Duncan v. Louisiana*
- B) *McCulloch v. Maryland*
- C) *Miller v. California*
- D) *Plessy v. Ferguson*

Q14. What are some of the things that set the U.S. criminal justice system apart from the systems of many other countries? Include examples from the US and other nations in your answer.

Appendix B. Student Evaluation Tool

*Instructions: We would like to ask you a few questions about your educational experiences in the Department of Sociology and Criminal Justice. Please mark your answers in the space beside your chosen answer to each of the following questions. It should only take a few minutes and we thank you in advance for your time! We appreciate your cooperation.*

**Q1. What is your major/s?** \_\_\_\_\_ -  
\_\_\_\_\_

**Q2. What is your age** \_\_\_\_\_?

**Q3. What is your class standing?**

- freshman
- sophomore
- junior
- senior

**Q4. What is your gender?**

- Female
- Male

**Q5. What is your race/ethnicity?** \_\_\_\_\_

**Q6. To what extent do you agree that CRJU110 helped you better:**

a. Learn how sociologists and criminologists study crime and the criminal justice system

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

b. Learn how to evaluate the strengths and weaknesses of different research methods used by criminologists and sociologists

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

c. Gather information to make an argument based on evidence

- Strongly disagree
- Somewhat disagree
- Somewhat agree

Strongly agree

d. Correctly identify the major steps of the criminal justice process

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

e. Understand the function of each step of the criminal justice system and the key decisions that are made at each step

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

f. Articulate the functions of policing in the United States

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

g. Articulate an understanding of the court system in the United States

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

h. Identify and understand correctional practices in the United States

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

i. Identify ethical issues in criminal justice

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

j. Identify the major criminological theories of crime causation including classical and contemporary theories.

- Strongly disagree

- Somewhat disagree
- Somewhat agree
- Strongly agree

k. Assess the relationship between criminological theory and research.

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

l. Understand how criminology or sociology explain social issues such as crime, poverty, racism, etc.

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

m. Understand important differences in the experiences of people as they vary by race, class, age, etc.

- Strongly disagree
- Somewhat disagree
- Somewhat agree
- Strongly agree

**Q7. Please indicate how much each of the items below helped improve your learning of the skills listed above in Q6 and your overall performance in CRJU110.**

a. Class syllabus (hard copy).

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

b. Class syllabus (posted on Sakai)

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

c. Class announcements

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

d. Sakai announcements.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

e. Class lectures

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

f. Sakai resources like lecture power points or outlines or class readings

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

g. Class exams and quizzes.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

h. Sakai practice quizzes or open-book exams/quizzes.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

i. Class discussions

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

j. Sakai forums, blogs, or chats/discussions.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

k. Sakai or WebCT Gradebook.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

**Q8. To what extent did CRJU110 contribute to your general competence in the following areas?**

a. Writing

Not at all  A Little  A Fair Amount  A Great Deal

b. Problem-solving skills

Not at all  A Little  A Fair Amount  A Great Deal

c. Analytic reasoning

Not at all  A Little  A Fair Amount  A Great Deal

d. Global Perspective

Not at all  A Little  A Fair Amount  A Great Deal

e. Diverse ways of thinking

Not at all  A Little  A Fair Amount  A Great Deal

f. Intellectual curiosity, confidence, and engagement for lifelong learning.

Not at all  A Little  A Fair Amount  A Great Deal

g. Understanding of the foundations of United States society including the significance of its cultural diversity.

Not at all  A Little  A Fair Amount  A Great Deal

**Q9. Please indicate how much each of the items below helped improve your general competencies, like those listed in Q8 above?**

a. Class syllabus (hard copy).

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

b. Class syllabus (posted on Sakai)

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

c. Class announcements

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

d. Sakai announcements.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

e. Class lectures

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

f. Sakai resources like lecture power points or outlines or class readings

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

g. Class exams and quizzes.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

h. Sakai practice quizzes or open-book exams/quizzes.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

i. Class discussions

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

j. Sakai forums, blogs, or chats/discussions.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

k. Sakai or WebCT Gradebook.

None provided.  Not at all  A Little  A Fair Amount  A Great Deal

**Q10. How satisfied are you with your experiences in CRJU110?**

a. Quality of the course

Very Dissatisfied  Dissatisfied  Satisfied  Very Satisfied

b. The quality of teaching

Very Dissatisfied  Dissatisfied  Satisfied  Very Satisfied

c. The use of web-based technologies in class

Very Dissatisfied  Dissatisfied  Satisfied  Very Satisfied

d. The use of multimedia tools to learn

Very Dissatisfied  Dissatisfied  Satisfied  Very Satisfied

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