

Active Learning in Odegaard Library

Report on Year 1 of UW's First Active Learning Classrooms

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Introduction

The University of Washington recently completed an award-winning* \$16 million renovation of the Odegaard Undergraduate Library that includes two state-of-the-art Active Learning Classrooms (ALCs). The classrooms are designed to encourage student engagement and active learning and are available to students as informal learning spaces outside of scheduled class time. Given its central campus location, and its role as an intellectual commons for students and instructors, Odegaard Library was an ideal location for the new classrooms. As the first of their kind on the UW campus, the ALCs also presented an opportunity for research. A major goal of the assessment project for 2013-14 was to **understand what challenges and opportunities for teaching and learning instructors and students would perceive in these new environments**. In addition, we sought to gather data to **inform best practices for active learning strategies, appropriate support plans, and future classroom designs**. Representatives from UW Libraries and UW Information Technology made up the collaborative assessment team (see Appendix).

Active Learning Classroom Features

The ALCs are located in Odegaard Rooms 136 and 141. ALC 136 seats ninety students at ten round tables, each seating nine students. ALC 141 seats sixty-three students at seven round tables, each seating nine students. The two ALCs can be connected via videoconference for class sizes of one hundred fifty students.



The ALCs feature:

- Writable glass-surfaces for each group
- Fixed round tables; fixed instructor podium; movable chairs
- 55-inch flat-panel monitors at each table
- Wireless connectivity and power outlets at each table
- Tables have three video ports and power for nine portable devices
- Microphones at tables and podium
- Instructor podium with dedicated PC, document camera, video camera and Blu-ray player.

Learn more about the ALCs at: <http://www.lib.washington.edu/ougl/learning-spaces/active-learning-classrooms>

*The 2014 American Institute of Architects' Honor Awards for Interior Architecture

Courses Taught in the ALC, 2013-14

The ALCs are a general-access classroom, available to instructors from any department. For the first year, courses were scheduled in the ALC on a first-come, first-served basis, and nearly all course requests were accommodated. Ninety-three courses were taught in the ALCs during the 2013-14 academic year, ranging from 100 level to 500 level and spanning an extremely wide variety of disciplines (see Appendix for full list of courses).

Previous Research on Active Learning

ALCs are a relatively recent innovation in classroom design in higher education. These classrooms include a number of physical and technological features specifically designed to support active learning and collaborative problem-solving—teaching strategies that purportedly **result in deeper conceptual understanding and greater knowledge retention for students** taught using these methods. ALCs have generated great interest among educators, architects, university planners, and researchers, though studies directly examining the effect of these classroom designs on learning outcomes are few and vary in quality.

The most rigorous studies have been conducted at the University of Minnesota, where researchers conducted quasi-experimental studies over multiple years, replicated with instructors teaching courses in different subjects (Brooks, 2011; Brooks, 2012; Walker, Brooks, & Baepler, 2011; Whiteside, Brooks, & Walker, 2010). Controlling for potentially confounding factors (instructor, teaching methods, assessments, student demographics), the researchers found that **teaching in an ALC contributed significantly to student learning outcomes** (students taught in an ALC outperformed final grade expectations based on their ACT scores) and to students' positive perceptions of their learning experiences, among other findings. A recent UW study by Freeman, et al, proved that active learning raises average exam grades by half a letter; conversely, under traditional lecturing student failure rates are 55% higher (Freeman, et al 2014).

Odegaard Library ALC Study



The design of the Odegaard Library ALCs differs slightly from ALC designs across the country. Because of architectural constraints, for example, neither room 136 nor 141 has a central screen; an instructor must send digital material to screens at each table. Both rooms include a number of booths or “data diners” built into the window alcoves for extra seating or break-out space. While the rooms included all the technological features of ALCs at other institutions, we were uncertain how and to what extent these features would be used and valued by UW instructors and students. In our first-

year assessment of the classrooms, then, we **focused primarily on understanding what, if anything, needed to change to better meet the needs of instructors and students**, and what we could learn to **improve experiences in the room** going forward. Specifically, we sought to answer the following questions:

- What level of training is sufficient to prepare instructors to teach in the ALCs? What support is necessary for the ALCs?
- What challenges and opportunities for teaching do instructors perceive in response to the room and its features?
- What effects, if any, do students (and their instructors) perceive the room/instructors' use of the room has on their learning?
- What physical and technological features are essential/most valued for supporting active learning?
- What advice about preparing to teach/teaching in the ALC would experienced instructors offer to others interested in the opportunity?

Data Collection & Analysis

We conducted our research with courses taught in the ALCs Winter and Spring quarter of 2014. In Autumn quarter 2013 we piloted our methods, data collection instruments and approach. We used a mix of methods to gather both self-reported and observer data related to our questions:

Observations

The Project Team conducted observations each quarter of the 2013-14 academic year, though our strategies differed. In Autumn, we tested two observation forms adapted from those used by Brooks at the University of Minnesota (Brooks 2011). Two-three-member teams observed 15 instructors/courses once during the quarter and took note of how instructors and students made use of the room and its features. In Winter the observation forms were revised, and three-member teams observed six instructors/courses three times over the quarter, focusing on instructors teaching in the ALC for a second time. For each observation, one team member recorded instructor behavior and two others each chose a table of students to observe. Notes about **what instructors and students were doing and what features of the room were used** were made **every five minutes for the duration of the class** (see Appendix). In Spring, the same protocol was used; teams of three observed seven instructors/courses once during the quarter. In all instances, instructors were those who were willing to have their course observed; they were informed that they did not need to do anything special on the days that they were observed. All observations were conducted between Week 4 and Week 9 of each quarter.

Instructor and Student Surveys

Surveys were sent to instructors at the end of each quarter. They were also sent a link to the student survey to distribute to their classes. The Autumn quarter survey focused primarily on users' satisfaction with features of the room and their perceptions of the room's effects on teaching and learning. The surveys were revised in Winter to provide more detailed feedback in regard to **support for instructors, the effects of features of the room on teaching and learning, and how teaching and learning in the ALCs compared to a traditional classroom** (see Appendix). The revised surveys were used again Spring quarter.

Survey participation was voluntary; response rates were higher among instructors than students:

Academic quarter	Instructor respondents	Student respondents
Autumn	14 (93% response rate)	182 (from 11 courses)
Winter	16 (89% response rate)	127 (from 15 courses)
Spring	13 (76% response rate)	130 (from 14 courses)

Focus groups

Focus groups were conducted with instructors at the end of each quarter to get a better sense of their **experiences in the classroom**, the **adequacy of support**, and **what practices were particularly successful** or unsuccessful in their use of the room for active learning (see Appendix). Four instructors attended a focus group in Autumn, eleven in Winter, and four in Spring.

Data Analysis

Data from each source (observations, student and instructor surveys, and focus groups) was parsed according to specific areas of inquiry: adequacy of support, instructional goals and practices, student learning, and use of classroom features and their value. Descriptive statistics were generated for the quantitative data; qualitative data was analyzed for frequency and content of themes. In addition, where multiple sources of data were available for a single instructor/course (observations, survey responses from instructor and his/her students, and/or focus group comments from same instructor), we triangulated findings to understand how and to what extent active learning was achieved in the course.

Findings

I. TEACHING IN THE ALC

Instructors need support before and during the quarter they are scheduled in the ALC.

Before the start of each quarter, all instructors teaching for the first time in the ALC were required to attend a one-hour training on how to use the technology in the room. In addition, Odegaard Library staff and members of UW-IT's Academic Services unit were available to address problems with technology or any other aspects of access and operations as they arose. This level of support and preparation appeared adequate and appreciated by instructors: **100% of instructor survey respondents reported being "satisfied" or "very satisfied" with the training and support they received** on how to operate the ALC, often mentioning that staff were very helpful. Respondents did report some technical problems during their time teaching in the room, many of these soon resolved, suggesting that technical support for the room may be fairly equal to that of other classrooms. Other reported problems with the room (sightlines, sensitivity of microphones) or protocol (access to the room, availability of markers) were flagged for improvement.

Learning to teach in an ALC takes time, motivates reflection on practice.



In our observations, we found that instructors used active learning strategies to varying degrees and to varying degrees of success. **Some made little use of the features of the room** designed to support collaborative learning and appeared to struggle with moving away from lecture or whole class discussion as a primary method of instruction; **others made full use of nearly every feature**, in classes where the activities were clearly designed to be student-centered. Some had prior experience trying active learning strategies in a traditional classroom or had spent considerable effort and time revamping their curriculum; others were simply curious about how they could use the room.

The reasons instructors gave for wanting to teach in the ALC, however, were similar. In response to the survey question “What were you hoping to achieve by teaching in an Active Learning Classroom rather than in a traditional classroom?” instructors overwhelmingly indicated that their goals were to promote increased interaction among students and student skill-sharing through **small group work** and team-oriented learning. **Increased student discussion and engagement** in activities was also a top priority for ALC instructors, with some indicating that wanted to use technology to do so. Most instructors indicated they sought to **use active learning pedagogy, move away from lecturing, and increase interactions between students and instructor.**

Instructors had varied success in meeting these goals. In Winter 2014, 81% of instructors felt they were “very successful” in achieving these goals, with 19% indicating they felt there were “somewhat successful” (N=16). In Spring, only 23% of instructors reported they were “very successful” in achieving these goals, and 77% indicated they felt there were “somewhat successful” (N=13). We do not know the reasons for the decrease in perceived success.

For many instructors, teaching in the ALC motivated them to ask new questions about their teaching and about how to juggle multiple goals:

“How can I focus on individuals, small groups and large lecture? In the ALC, I also have to think about discussion at the table, how much time to have them display things, and how much time at the whiteboards. It is interesting and challenging!”

“[I was] trying to be intentional: what are my learning objectives? What are the three things I want them to come away with? How can I design an activity that will get this to play out?”

II. LEARNING IN THE ALC

Instructors and students report greater engagement, participation, and interaction with peers and with instructor.

All instructors interviewed reported high levels of student interaction and engagement in their ALC classes, higher than they had observed when teaching in a traditional classroom. Instructors also reported higher levels of student participation, noting that even shy students spoke up in group discussions. They also found that student discussions went deeper. As a result, instructors had a **better sense of where their students were—what they understood, what interested them, what they were able**

to do. Nearly all instructors reported that students were more willing to work together and were open to critiquing or discussing each other’s work—activities that require a level of trust among group members.

“By the end of the quarter I had students from all over the world, including English Language Learners, who were normally hesitant participants much more comfortable than in a cramped lecture hall. They stayed much more active as learners for much longer in the quarter.”

– ALC instructor

“I would say that they feel more engaged... This environment opens students up more for this type of engagement.”

“In the ALC I know much more quickly where they are at and the things they are invested in. I can make the class more relevant to their research.”



Student comments reflected similar benefits in response to the question, “How did your experience in the ALC differ from your experience in other classrooms, if at all?” Students described themselves as being **more engaged in course content, less hesitant to speak up and ask questions, and having more interactions with their instructors and peers**, when comparing their experiences in the ALC to their experience in other classrooms. Students also appreciated the ALC round table arrangement for group work.

“In a lecture based classroom I am less engaged in class discussion. Having groups makes it easier for me to discuss in smaller groups about our views which made it easier to speak up to the rest of the class. We also got the opportunity to even speak with the professor because she was able to check in to see what kind of ideas we were coming up with.”

“Amazing set-up for group work.”

“The peer-learning based format of the class enhanced my learning by making me more thoughtful [sic] what I needed to do to be prepared and be able to contribute to the peers in my learning group. It also enabled us to ask questions more often and less hesitantly, and therefore better clear up misunderstandings or misconceptions about the material, as well as evaluating our

own and each others' learning. The classroom itself helped this class format because it facilitated discussion through its layout and technology."

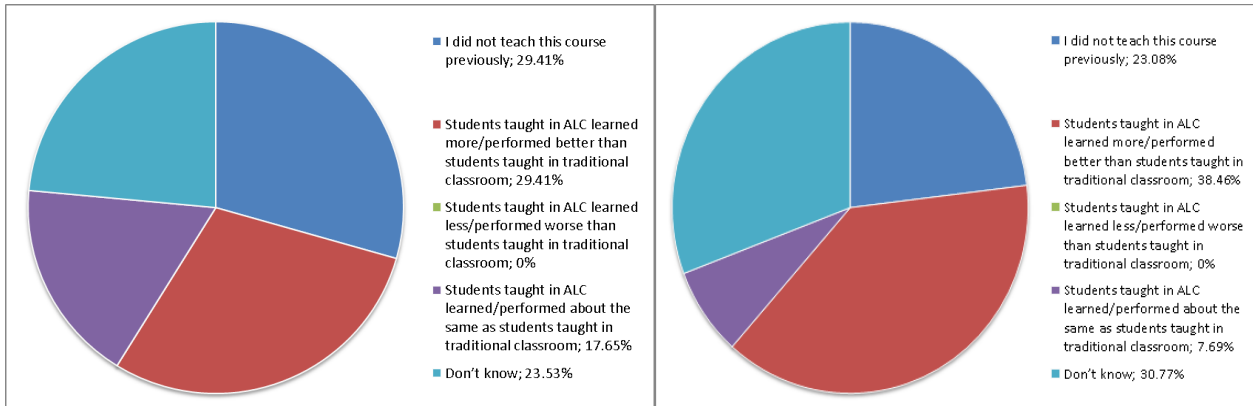
"I was much more involved with my peers than in other classrooms, and I spent less time asking the teacher for answers and more time discussing it with my peers."

Students report greater gains in learning than instructors when comparing experience in ALC to traditional classroom.

Instructors were fairly cautious in their responses to a question that asked them, "How would you compare the learning outcomes of students taking your course this quarter, taught in the ALC, to those of students who took your course previously, taught in a traditional classroom?" Many instructors had not taught the same course previously, and all had not calculated final grades when the survey was sent. As the figures below indicate, although there was some uncertainty about their students' performance, just under half of instructors in Winter and Spring believed their students had performed better or about the same when taught in the ALC; none thought their students performed worse.

Winter quarter: Students taught in the ALC performed better or about the same in ALC: **47%**

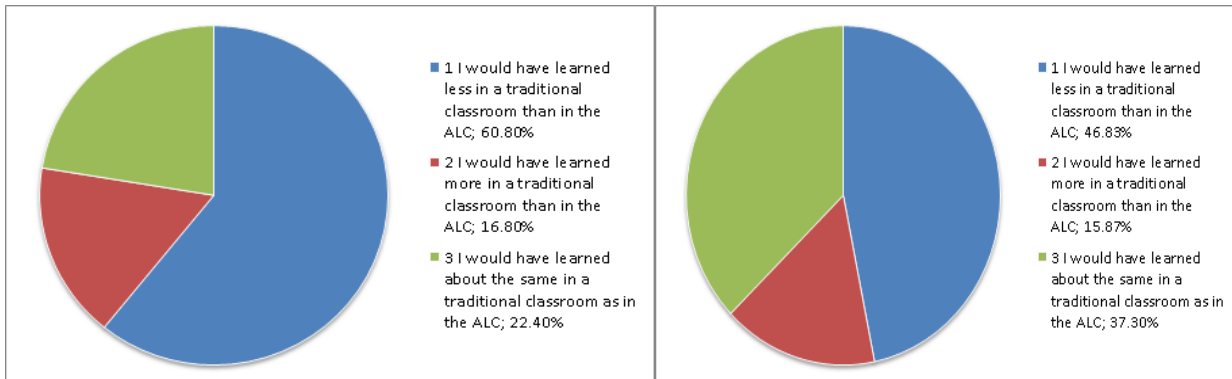
Spring quarter: Students taught in the ALC performed better or about the same in ALC: **46%**



In response to a similarly worded question ("Imagine you had taken this course with the same instructor in a traditional classroom. What effect do you think this would have had on your ability to learn the material?"), **the majority of student survey respondents reported that they would have "learned less" or "about the same" if they'd taken the course in a traditional classroom** (see figures below).

Winter quarter: Students would have learned less in a traditional classroom or the same than in the ALC, **83%**

Spring quarter: Students would have learned less in a traditional classroom or the same than in the ALC, **84%**



A follow up question asked students to explain their answer. Comments here suggest that students who reported that they would have *learned more* in a traditional classroom than in the ALC appeared to be in courses where the instructors still primarily lectured, as illustrated by this student quote:

"[B]ecause so much of the class was just someone lecturing us, I feel like I learned about the same as I would have in a regular lecture hall."

III. ALC DESIGN

Some features of the room were valued more highly than others by instructors and students.

Of the total number of instructors who responded to the survey in Winter and Spring quarters combined (N=30), 50% or more indicated that the following features were **"essential"** to achieving their pedagogical goals in the ALC:

Essential ALC features for teaching:	
Movable chairs	87%
Digital display at table	83%
Ability to send content to table displays	83%
Podium laptop hookup	73%
Student table microphone	72%
Round tables	63%
Student laptop hookup to display	63%
Podium microphone	60%
Open floor plan	57%
Writable surfaces	53%
Podium audio control	50%

Other features were rarely used by instructors; 60% or more of these same respondents indicated that they **"did not use"** the breakout booths (60%), the document camera (63%), lecture capture (70%), the DVD/BluRay player (73%) or videoconferencing (80%) with regard to achieving their pedagogical goals.

These results suggest that **new ALCs with fewer technologies would still meet the needs of many instructors.**

In a similar survey question, students were asked to indicate whether features of the ALCs (and their instructor’s use of them) “enhanced,” “detracted from,” or “had no effect” on their ability to learn in the course. Of the total number of students who responded to the survey in Winter and Spring quarters (N=257), over 50% indicated that the following features “**enhanced my ability to learn** in this course.”

ALC features that enhanced student learning:

Power outlets	82%
Digital displays at table	75%
Round tables/movable chairs	71%
Audio/microphones	71%
Laptop hookup to displays	68%
Overall appearance/design	63%
Writable surfaces	61%
Open floor plan	59%

Student comments describe how these features, and the way their instructor used them, made a difference. The **digital displays** at each table were mentioned by students far more frequently than any other feature. Students appreciated the fact that “everyone could see” the information clearly and up close, **improving understanding and collaboration**.

“[The instructor] had us answer questions and share with the class via the screens connected to each table. This was great because everyone could see up close what we were talking about.”

“The main thing was that there was the notes up on the big screen that we could flip back and forth to while collaborating.”

Students benefited from using the **writable surfaces** to **capture notes, key ideas, draw diagrams and models**. Less frequently, they mentioned appreciation for a TA or instructor writing notes. Some students mentioned that they wished their instructor had them use the boards more often, and that the instructor would provide feedback on this work.

“We used the walls/whiteboards for integral thinking activities in which we hashed out issues we were having on our research proposals.”

“The writing walls helped because you worked with your classmates to brainstorm and answer the questions or translations.”



Many students appreciated the ability to **clearly hear their instructor and communicate with other students** across the room, especially when instructors “made” students use the tabletop microphones. Students specifically mentioned benefitting from the ability of **instructors and TAs to move around the room and check in on them**.

“My professor used the microphones at each of the tables to get our opinions and thoughts on the class material. It was easier to communicate our thoughts and ask questions without hassle.”

“My instructor regularly encouraged students to utilize the microphones at our tables and to work in groups when solving problems.”

“It was nice to have enough space for the professor to roam around.”

Some student comments specifically mentioned the role of the **tables** in supporting **group work and interaction**.

“I like how we were broken down into discussion groups. The round table really helped facilitate active and engaging discussions.”

“I think the small group tables were beneficial when required to complete in-class activities with the group we were assigned to work with. This particular part of the curriculum allowed the focus to simply be on each other and work without other outside distractions.”

Some students highlighted the benefits of being able to **connect their own laptops to the digital displays** at each table. While the videoconferencing, video camera and document camera features were not widely used by instructors, students commented that they were used to great effect when they were supporting communication.

“Each group got their own screen and we were allowed to pull up things ourselves.”

“Our whole class had a video Skype conversation with a researcher who's [sic] paper we studied in class. That was cool because the camera would turn on you when you asked a question.”

The design of the ALC makes some aspects of teaching and learning challenging.

Almost all instructors teaching in the ALCs still integrated some degree of lecture in their classes, and it was here that they noted the greatest challenges with the design of the room. Without a central screen, instructors found that they were often lecturing to the backs of student heads, turned to face the table screens. In our focus groups, **instructors talked about how important it was to make eye contact with students as a way of checking comprehension**. In addition, those who were used to using a pointer to reference parts of slides when lecturing found that they were unable to do this without a central screen. Others described students' awkwardness in having to turn away from someone they were talking to (a professor or a classmate) in order to use the tabletop microphone. Instructors also noted problems with some of the table displays blocking their view of some students from the podium.

“[T]he classroom does not work well for classes that have lectures due to the table groups being round tables. Many people had to either face away from the table and not have a writing surface, or have their back toward the instructor.” – ALC student

Students, too, had negative reactions to particular features, though these were relatively few. The feature that received the greatest number of responses for **“detracted from my learning”** was “open floor plan” (10%). Next were “round tables/movable chairs” (9%), and “digital displays at table” (8%).

Comments from students suggest that these ratings reflect screens blocking sight lines to instructor or other students; an inability to see the screen from their seat at the table (especially when table is full), or frustration in not knowing where to look when an instructor discussed slides.

“I actually found the room actually [sic] very frustrating. I consistently felt as if I was trying to get comfortable in room, either because I couldn't see the screen (with a head in the way) when the professor was lecturing, or I couldn't hear someone because the mics weren't working or people forgot to use them, etc.”

“It doesn't work well for lectures, it was hard following some problems without a central whiteboard that everyone could see.”

IV. BEST PRACTICES

All instructors who responded to our survey noted that there were things that they would do differently if they were to re-teach their course in the same room in the future, suggesting that active learning strategies require practice and refinement. Many instructors indicated that they would **restructure the small student groups**, making changes to enhance group dynamics, build in group work skills throughout the course, and mix up groups more often to provide more students in the class the opportunity to work with one another. Most instructors commented that they would like to **continue to experiment and expand their own active learning pedagogy**, incorporating new interactive exercises. In the future, several instructors commented that they would **use the different ALC features early** in the course, introducing the ALC technology from the very start of class. Some instructors mentioned that they would **allow more time for course planning** and plan for more time to practice using the technology features for course activities. Common themes around best practices emerged from these discussions:

1. Orient students to the ALC and to active learning



In focus group discussions, several instructors observed that their students were not prepared to participate in an ALC and often arrived with different expectations. Experienced ALC instructors advised new instructors to clearly explain how their class would be structured differently in this room, and to coach students on how to engage in active learning and with the ALC features.

“Because class is less structured now, perhaps students were looking for more structure and less open ended questions in the assignments. Students are not trained to be in this environment yet.”

“My grad students were prepared for a lecture class, in the future I will set it up differently, prepare them for active learning starting day 1.”

“The first night of class involved a game tied to the content but helped them practice with the technology of the ALC, giving students a chance to practice with the elements of the room and made students more comfortable during the class.”

“Being at peace with chaos is a general piece of advice for [future ALC] instructors, having the room being loud and raucous is a good thing. Helping students understand why that’s a good thing is important; showing them data about the benefits of active learning.”

2. Be intentional in use of group work

Instructors valued the group work focus of the ALCs, but many reported challenges: What was the best group size? Should students stay in the same group, or change? Should groups be free-forming or assigned, and how should group dynamics be monitored? When was a group activity “done?” Instructors advised spending more class time getting students comfortable with each other so that they could have productive group discussions.

“[ALC instructors should] spend some time having the students getting to know each other rather than just throwing them into group work together.”

“It was hard to know when group discussions moved from talking about assignments to socializing. Lots of bonding, but also hard to know when discussions were really done.”

Others observed that students benefitted by having defined group roles, or having some ground rules for how they would work together:

“I ran an activity to help them get to know their core group of three people and set some norms for their groups as to what kind of feedback they wanted to receive and set expectations for working together. That helped them set up as a team.”

“I assigned roles the first day of class...I asked them to do a short survey. Assess the category you feel most comfortable. [Roles included] table manager (to keep track of time); table IT role (help out with technology at the table), etc. For each table they had a role depending on [their response to the] survey.”

3. Seek advice and guidance in adopting active learning strategies



Although teaching in the ALC presented a mix of opportunities and challenges, almost all the instructors we spoke with wished to teach again in the new classrooms. Several said they wanted the chance to iterate on and refine new practices. Many instructors expressed a desire to share best practices for teaching in the ALCs with other ALC instructors. In the course of discussing how and to what degree they had prepared to teach in the ALC, instructors mentioned a range of helpful resources, including the Teaching with Technology

Fellows Program, the UW Libraries and Center for Teaching & Learning ALC Learning Communities, on-site staff assistance and online guidelines and readings for structuring effective group work. One piece of advice that many instructors agreed with: **“revamp [your curriculum] in baby steps.”**

Year 1 Modifications

As a result of the assessment project, several immediate actions have been taken to improve student and instructor experience in the ALCs:

- Instructor orientations and training materials have been updated and include a “best practices for teaching in the ALCs” document.
- ALC course reservation policies have been created to give priority to instructors whose course plans meet the criteria for active learning.
- ALC operations have changed based on instructor feedback.
- Additional technology supplies were purchased for use by instructors and students, including 40 adapters for connecting student devices to the tables, and 9 tablets with styluses.
- The ALC partners—UW-IT Classroom Technology & Events, UW-IT Learning Technologies, and UW Libraries—have a clarified and improved support framework.

Future Directions

Our research and the continuous improvement of the ALCs will continue into the 2014-15 academic year and beyond. Future directions include:

- Continue to assess student and instructor experiences in the ALC;
- Investigate the experiences that best prepare instructors to teach successfully in the ALC;
- Collaborate with instructors of select courses to learn more about the ALC student learning experience;
- Offer student orientations to the ALCs;
- Create structured opportunities for ALC instructors to share resources and observe one another’s teaching;
- Foster a community of instructors and other individuals interested in active learning.

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Appendix 1: ALC Assessment Team Roster

Name	Unit
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Jacob Morris	UW-IT, Learning Technologies
Aimee Plaisance	UW Libraries
Louise Richards	UW Libraries
Alex Rihm	UW Libraries

Appendix 2: List of Courses Taught in the ALC Autumn 2013-Spring 2014

Autumn 2013	Course Department	Course Number	Course Section	Instructor
1.	BIOL	355	A	Martin-Morris, L
2.	BIOL	355	B	Martin-Morris, L
3.	CHIN	101	A & B	Bi, N
4.	COM	546	A	Hosein, H
5.	E E	447	A	Hannaford, B
6.	HCDE	310	A	Munson, S
7.	HSERV	481	A	Mackenzie, S
8.	HSMGMT	506	A	Masuda, D
9.	IMT	540	B & C	Saxton, M
10.	INFO	101	A	Boiko, R
11.	PB AF	503	A	Bullitt, D
12.	PB AF	511	B	Evans, L
13.	PB AF	511	A	Dobel, J
14.	PB AF	511	C	Thomas, C
15.	PSYCH	443	AA	McNichols, N
16.	SCAND	232	B	Lucas, M
Winter 2014	Course Department	Course Number	Course Section	Instructor
17.	AES	340	A	Bonus, E
18.	BIOL	401	A	Crowe, A
19.	CHIN	102	A	Bi, N
20.	CHIN	102	B	Bi, N
21.	CHIN	470	A	Bi, N
22.	CHEM	531	A	Boydston, A
23.	COM	529	A	Crofts, A
24.	EDUC	210	A	Lopez, S
25.	ENGL	297	A	Matthews, C
26.	ENGL	368	A	Gillis-Bridges, K
27.	ENV H	510	A	Daniell, W
28.	ENVIR	439	A	Wheat, E
29.	HSERV	481	A	Mackenzie, S
30.	INFO	101	A	Boiko, B
31.	MS E	170	A	Luscombe, C
32.	PB AF	403	A	Bullitt, D
33.	PB AF	512	B	Page, S
34.	PB AF	512	C	Suarez, D
35.	PSYCH	445	AA	McNichols, N
36.	SPHSC	504	A	Werner, L
Spring 2014	Course Department	Course	Course	Instructor

		Number	Section	
37.	AMATH	483/583	A & B	LeVeque, R
38.	BIOL	355	A	Martin-Morris, L
39.	BIOL	355	B	Martin-Morris, L
40.	CHIN	101	A & B	Bi, N
41.	COM	546	A	Hosein, H
42.	E E	447	A	Hannaford, B
43.	HCDE	310	A	Munson, S
44.	HSERV	481	A	Mackenzie, S
45.	HSMGMT	506	A	Masuda, D
46.	IMT	540	B & C	Saxton, M
47.	INFO	101	A	Boiko, R
48.	PB AF	503	A	Bullitt, D
49.	PB AF	511	B	Evans, L
50.	PB AF	511	A	Dobel, J
51.	PB AF	511	C	Thomas, C
52.	PSYCH	443	AA	McNichols, N
53.	SCAND	232	B	Lucas, M
54.	AES	340	A	Bonus, E
55.	BIOL	401	A	Crowe, A
56.	CHIN	102	A	Bi, N
57.	CHIN	102	B	Bi, N
58.	CHIN	470	A	Bi, N
59.	CHEM	531	A	Boydston, A
60.	COM	529	A	Crofts, A
61.	EDUC	210	A	Lopez, S
62.	ENGL	297	A	Matthews, C
63.	ENGL	368	A	Gillis-Bridges, K
64.	ENV H	510	A	Daniell, W
65.	ENVIR	439	A	Wheat, E
66.	HSERV	481	A	Mackenzie, S
67.	INFO	101	A	Boiko, B
68.	MS E	170	A	Luscombe, C
69.	PB AF	403	A	Bullitt, D
70.	PB AF	512	B	Page, S
71.	PB AF	512	C	Suarez, D
72.	PSYCH	445	AA	McNichols, N
73.	SPHSC	504	A	Werner, L
74.	AMATH	483/583	A & B	LeVeque, R
75.	BIOL	355	A	Martin-Morris, L
76.	BIOL	355	B	Martin-Morris, L
77.	BIOL	418	A	de la Igleisa, H
78.	CHIN	103	A	Bi, N

79.	CHIN	103	B	Bi, N
80.	GWSS	241	A	Habell-Pallan, M
81.	HONORS	496	A	Villegas, J and McCue, F
82.	HSERV	482	A	Bezruchka, S
83.	HSERV	510	A	Ornelas, I
84.	ENGL	198	C	Vidakovic, M
85.	SPHSC	461	A & B	Werner, L
86.	BIOL	401	A	Crowe, A
87.	ENGL	345	A	Gillis-Bridges, K
88.	GWSS	451	A	Habell-Pallan, M
89.	HONORS	222	B	Popa, S
90.	JSIS C	336	A	Pianko, N
91.	PHIL	460	A	Hankinson Nelson, L
92.	EDSPE	507	A	Meeker, K
93.	ENGL	198	C	Vidakovic, M

Appendix 3: Classroom Observation Forms

Odegaard ALC Observation Form: INSTRUCTOR

Observer: _____
 Room # _____ Course: _____
 Instructor: _____
 Date & Time: _____ # of TAs: _____

**See directions for completing this form on other side*

Time (5 min inter- vals)	Instructor & TA activity <i>Mark "I" or "TA" (and # if necessary)</i>					Technology <i>Display--mark "I" or "S" for source of content</i>							Comments
	Lecturing	Facilitating discussion	Roaming/ observing	Consulting	Other	Comp. Laptop	Display	Mic	Doc camera	Whitebd	Light control	Other	

Instructor Form:

- Record at 5-minute intervals what instructor and TAs are doing and what technology/features of room are being used (see form).
 - LECTURING = Instructor (or TA) is presenting to students as a whole group
 - FACILITATING DISCUSSION = Instructor (or TA) is engaged in discourse with students as a whole group (e.g., asking questions, listening to their responses, or answering questions from students)
 - ROAMING/OBSERVING = nonverbal activity; may include listening in on a group or watching for raised hands, etc.
 - CONSULTING = Instructor (or TA) is interacting with individual student or group of students
- For DISPLAY record "I" (Instructor) or "S" (Student) for the source of content being displayed at tables.
- Record "I" or "TA" to indicate who is doing what; Indicate NUMBER of TAs where necessary. For example, if two TAs are consulting with students, record TAs (2) under the column "consulting."
- Use "comments" to explain activities. If you use more than one line for comments, indicate the time interval to which the comment belongs.

Instructor Map:

- Record placement of instructor ("I") at each 5-min interval and RECORD TIME next to the "I". Do the same for any teaching assistants ("TA").
- If instructor is interacting with a group of students other than the whole class at that time interval, placement of these students ("X") can be indicated on the map as well.

Odegaard ALC Observation Form: STUDENTS- SINGLE TABLE

Observer: _____
 Room # _____ Course: _____
 Instructor: _____
 Date & Time: _____
 Table #: _____ # of students at table: _____

**See directions for completing this form on other side*

Time (5 min intervals)	Whole/ Large/ Small	Off task	Individual work	Student/ class	Student/ instructor/ TA	Technology <i>Display--mark "I" or "S" for source of content</i>					Comments
						Laptop	Display	Mic	Whitebd	Booths	

Students-Single Table Form:

- Choose one table of students to observe; record the table number on observation sheet. Be sure to choose a table where you can view the screen.
- Record at 5-minute intervals what students at the table are doing what technology/features of room are being used.

TABLE ACTIVITY

- COLUMN 1:** Record "whole," "small," or "large" for the type of activity that is happening at the table:
 - Whole = the whole class is engaged in a discussion or listening to the instructor
 - Small = the students at the table are engaged in a small-group activity (2-3 students working together)
 - Large = the students at the table are engaged in a large-group activity (4-9 students working together)
- OFF-TASK:** Record the NUMBER of students who you can reasonably assume are off task (e.g., you can see they are looking at something on their laptop that is not related to class). Do not make assumptions about students whose work you cannot see.
- INDIVIDUAL WORK:** Record the NUMBER of students who are working individually at the table you are observing.
- STUDENT/CLASS:** Mark an "X" in this column if a student at your table is presenting to the class as a whole, or asking a question in a whole class discussion, OR if students at your table are listening to a student at another table do this. Explain in comments.
- STUDENT/INSTRUCTOR/TA:** Mark an "X" in this column if one or more students at your table is interacting with the instructor or TA in any way. Explain in comments.
- Use "comments" to explain activities. If you use more than one line for comments, indicate the time interval to which the comment belongs.

TECHNOLOGY:

- LAPTOP:** Record the NUMBER of laptops being used at that time interval (classwork or otherwise).
- DISPLAY:** Record "I" or "S" for the source of content on the display (I=Instructor; S=student).
- MIC:** Mark "X" if a student at your table is using a mic
- WHITEBOARD:** Mark "X" if one or more students at your table are using a whiteboard
- BOOTH:** Record the NUMBER of booths students at your table are using at that time interval.

Single Table MAP:

- Record placement of students ("X") at table at start of class and, if relevant, placement of student laptops.
- If students have moved substantially at any of the 5-min intervals, indicate their new placements on the map and RECORD THE TIME next to their new "X".

Appendix 4: Instructor Survey

Thank you for taking this survey. Your responses will improve support for instructors using the Active Learning Classrooms and inform recommendations for new classroom designs. This survey should take about 5 minutes to complete.

I. Support and Operations

1. How satisfied were you with the training and support you received on how to operate the Active Learning Classroom?


- Very satisfied
- Satisfied
- Dissatisfied
- Very dissatisfied

2. What challenges, if any, did you encounter in the day-to-day operations of the ALC?

3. What suggestions would you offer to improve the training, support, or operations around the ALC?

II. Teaching & Learning in the ALC

4. Do students meet regularly for your course **outside** of the hours scheduled in the ALC?

- No, all class sessions take place in the ALC
- Yes--some class sessions are scheduled in a traditional classroom or lecture hall
- Yes--students meet in quiz sections one or more days a week in a different classroom
- Yes--this is a hybrid course; some class sessions take place online
-  Other:

5. What were you hoping to achieve by teaching in an Active Learning Classroom rather than in a traditional classroom?

6. How successful would you say you were in achieving these goals?

- Very successful
- Somewhat successful
- Unsuccessful

7. What, if anything, would you do differently if you were to re-teach this course in the same room in the future?

8. The Active Learning Classroom includes a number of physical and technological features designed to support active and collaborative learning strategies. Reflecting on your experience this quarter, how would you rate each feature **in regard to achieving your pedagogical goals?**

a. General space

- Open floor plan
- Round tables
- Movable chairs
- Writable surfaces
- Break-out booths

- Essential
- Useful
- Problematic
- Did not use/NA

b. Instructor podium

- Laptop hookup
- Microphone
- Ability to send instructor/student content to table displays
- Document camera
- Blu ray video player
- Lecture capture
- Videoconferencing
- Audio control
- Lighting control

- Essential
- Useful
- Problematic
- Did not use/NA

c. Student tables

- Digital display at table
- Ability for students to connect laptops to display
- Table top microphone

- Essential
- Useful
- Problematic
- Did not use/NA

9. How would you compare the learning outcomes of students taking your course this quarter, taught in the ALC, to those of students who took your course previously, taught in a traditional classroom?

- I did not teach this course previously
- Students taught in ALC learned more/performed better than students taught in traditional classroom
- Students taught in ALC learned less/performed worse than students taught in traditional classroom
- Students taught in ALC learned/performed about the same as students taught in traditional classroom
- Don't know

10. Is there anything more you would like to tell us about your experience teaching in the ALC?

11. Your class(es): [drop down list]

Thank you for your feedback!

Appendix 5: Student Survey

The two new Active Learning Classrooms (ALC) added to the Odegaard Library are new classroom designs, and we're eager to hear your feedback. Tell us what impact they've had on you and your learning. Results of the survey will help us make recommendations for future classrooms.

This survey should take about 3-4 minutes to complete. Your participation is voluntary (but highly encouraged!); your instructor will not know who has or has not taken the survey. Thanks!

1. How did your experience as a student in the Active Learning Classroom differ from your experience in other classrooms, if at all?
2. The Active Learning Classroom includes a number of features designed to support learning. What effect, if any, did each of these features (and the way your instructor used them) have on your ability to learn in this course?

Open floor plan (ability for instructor/TAs/students to move about room)

Round tables and movable chairs (ability to form flexible groups)

Digital displays at table (ability to share instructor or student content)

Laptop hookup to displays (ability to share content at table/with other tables)

Audio/ microphones (ability to hear/be heard by other students and instructor)

Writable glass surfaces

Break-out booths

Lighting

Power outlets (tabletop and wall)

Overall appearance/interior design of classroom

- Enhanced my learning
 - No effect
 - Detracted from my learning
-

3. Describe one way your instructor used the features of the Active Learning Classroom that was especially helpful to you and your learning.
4. In what ways, if any, do you think your instructor could have made better use of the features in the Active Learning Classroom for teaching this course?
5. Imagine you had taken this course with the same instructor in a traditional classroom. What effect do you think this would have had on your ability to learn the material?


I would have learned less in a traditional classroom than in the ALC

- I would have learned more in a traditional classroom than in the ALC
- I would have learned about the same in a traditional classroom as in the ALC

6. Please explain your answer to the previous question.

7. How has your experience as a student in this class influenced your use of the ALC outside of class?

Select all that apply:

- I have not used the ALC outside of class
- I have used the ALC to study individually
- I have used the ALC to study with a group
- I have used the technology in the ALC
- I have met with my TA in the ALC
-  Other:

8. Is there anything more you would like to tell us about your experience in the Active Learning Classrooms?

9. Your class: [drop down list]

Thank you for your feedback!

Appendix 6: Focus Group Questions

How do you define active learning?

Did you see any effect on students as a result of being taught in the ALC?

What, if anything, did you change in your lesson plans or assignments in order to take advantage of the features of the ALC?

Was there a specific technique you used or activity that you designed that led to a successful outcome?

Was there a time when a particular activity failed to result in active learning? Describe.

What advice would you give a new instructor as they were preparing to teach in the Active Learning Classroom?