Date: September 27, 2018
TO: Classroom Review Board
From: Julia Murphy
RE: Minutes of September 17, 2018

Members Present: Alex Bernasek, Nick Bohn, Kristi Buffington, Pat Burns, Anne Cleary, Austin Fearn, Bryce Hoyt, Jason Huitt, Stan Kruse, Julia Murphy, Al Powell, Tom Satterly, Simon Tavener

Members Absent: Dave Carpenter, John Didier, Matt Hickey

Guests: Kevin Nolan – ACNS Learning Management Systems, Nick Leinen – ACNS Technology Teaching Center

1. Introductions and Welcome
   The board welcomes new members Alex Bernasek - Economics and Senior Assistant Dean of Liberal Arts, Anne Cleary - Pshychology, John Didier - Philosophy, Bryce Hoyt, Chair – UTFAB, Austin Fearn, Vice-Chair – UTFAB, and Nick Bohn, Chair – UFFAB.

2. Approval of Minutes
   The minutes from April 26, 2018, meeting were approved.

3. Interactive Cloud-Based Response Systems
   Kevin Nolan and Nick Leinen from ACNS joined the group to present the evaluation of the interactive cloud-based response systems – iClicker Sync/REEF and TopHat Cloud. CSU has been using iClicker in classrooms for over 10 years. Interactive response systems are provided by a number of other vendors and they are all moving toward cloud-based platforms, everything occurring over the internet with students using their smart phones. Over the last year they have been looking at, and evaluating, other solutions to move CSU to a cloud-based solution. They have narrowed the field down to two vendors, iClicker and TopHat. CSU is a member of Unizin. Querying the membership determined that it is about a 50/50 split for use of iClicker vs. use of TopHat. Their initial summary of the evaluation is attached as Attachment #1.

   One thing they are interested in is data is not being collected by any vendor they worked with. We want to be able to use the collected data. Unizin has a data platform with the goal of trying to integrate data from all member schools. Putting it in that platform we can start to look at trends of usage of that data in terms of improving student success. One of the things we are talking to our vendors about is to see if they can use the Caliper Standard which they would use to put data into that Unizin data platform. iClicker is working with Michigan and TopHat is working with Indiana University and they are both getting to the point where they can start to pass data over to Unizin which is one of the criteria we had for evaluating their system.

   Technology requirements would be that you have to have access to web or a phone. iClicker would give us the option of still maintaining our base stations in the classrooms. If there were issues with the Wi-Fi on a particular day or in a particular classroom, students could still use their traditional iClicker hand held device otherwise they would be using their smart phone. TopHat would be using a smart phone and relying on Wi-Fi. The network staff at ACNS have

been consulted about the possible need to accommodate Wi-Fi needs in classrooms if necessary.

The base-station approach does not allow the data to be captured and put into the data platform. We will need to develop a plan to make that happen. Kevin will check to see where Unizin pulls the data from for the data platform. With the cloud-based system it's the base station that gets pushed up into the cloud.

Single sign on - currently neither system has single sign on. Ideally we would like to have sign on with eID and then click on an address link and go directly into the system. Neither system can accommodate that right now. Both systems require both students and instructors to create an account in their system. For students they want their CSU email address. They call for a CSU ID but as far as we can tell that doesn't really get used in the listing of the account. Jason – Both systems indicate they are looking to support single sign on. They're just not there yet.

Geo-fencing – Currently, if a student does not attend class, that student can give his/her iClicker device to another student who then logs into the system as both. With a smart phone, the concern is a student could be sitting in a residence hall or any other location outside of the classroom. With iClicker, if an instructor turns on the Geo-fencing feature he/she could set their location on campus. If a student is more than 200 feet outside of that location, they can't click in. They cannot participate in the pole. They have to be physically in the class. With TopHat they use Bluetooth technologically to try and determine the location of where you're at in location to your fellow students. They don't prevent you from participating in the pole, they just go into the interface and mark these students were taking the pole but they were not actually in class based on the geo-fencing that is set up. The difference is that one locks you out while the other lets the instructor know that you weren't physically in class. iClicker would require a specific location be set up. TopHat allows the entire class to move to a different location and still recognize the close proximity of all students in the class to the instructor.

How does an interactive response system integrate with Canvas? They looked at multiple use cases on campus. An instructor with one course, one section. He/she teaches it. People answer. Multiple instructors, multiple sections at different times or potentially all at the same time. They also looked at multiple ways of uploading scores into Canvas, total column or individual sessions. Tested multiple aspects to see how each product would support us knowing how people are using it currently on campus.

The biggest difference is currently with iClicker as you start a poling sessions there's a screen shot. Their questions are built into their PowerPoint slides. That will populate on screen. Student can click in. They will see the question on their smart phone. It's an on the fly way of doing poling. TopHat makes you upload all of your PowerPoint slides into their software and then all of the questions have to be built within that software. Everything is run from the cloud. You can select a correct answer immediately so the scoring comes through immediately from TopHat. In iClicker, after you are done with the poling you session you have to select the correct answer. See Response Matrix iClicker TopHat.

iClicker does not allow co-teaching where one instructor teaches on Monday and another on Wednesday. TopHat does. As of September 17, iClicker says that is due to come out in the next

week or two but currently is not available. Current work around is that the iClicker software lives on thumbdrive and the instructors share that device. There is no work around for multiple instructors teaching multiple sections at the same time.

Sending scores into Canvas. If an instructor teaches three classes he/she can have all score populate in a single column in iClicker even though those sections are not meeting at the same time. With TopHat every section would have to have a different column. With the cloud version, it is recommended that everything be uploaded in a single total column because now students can go back into their phone and see all question if the instructor allows that to happen. iClicker would have one true column. TopHat would have multiple columns across a cross-listed course.

Pat – What does the app have that the current hardware today doesn't have and what is motivating us to go that. Nick- The ability for students to look at questions after-the-fact if the instructor allows them to have access to the questions. Also allows the ability to have targeted questions. You could look at a picture of a skeleton and ask students to point out a specific feature. Both systems are similar in the types of questions that can asked/answered. Both provide a richer environment. Both are similar for getting into the class in the solution.

iClicker requires software installed on a computer for access to the base station. TopHat is entirely cloud based.

Financially

		iClicker	Top Hat (mobile only)
	Remote only Std Clicker	$31.99	n/a
1 yr	mobile only	$16.99	$30.00*
5 yr	mobile only	$30.99	$55.00**
1 yr	Remote + mobile	$33.99	n/a
2 yr	Remote + mobile	$35.99	n/a
5 yr	Remote + mobile	$37.99	n/a

* Top Hat offers a $15 buy back for students who have an iClicker.
**Top hat 5 yr is a lifetime subscription.

If you have a laptop or tablet you can participate in poling. You do not have to have a smart phone.

Nick contacted TopHat to get names of faculty on campus currently using TopHat on their own. There are a few but they cannot integrate with Canvas because it is not the standard on campus. The designated standard will be the only product to be uploaded into data analytics.

IT support for the two solutions. TopHat support is not as robust as desired. iClicker developers have consistently made themselves readily available.

Pat - Stay with iClicker for time being while Nick reaches out to instructors using TopHat to conduct a pilot project (4 or 5 names provided by TopHat). Motivation to switch would be richer

functionality and our need to let Unizin know how to start collecting our data. Form a recommendation and take it to the Committee on Teaching and Learning. Kevin to invite both vendors to come to campus for demonstrations. Need to get more faculty input. Take this to the UTFAB for input and have Bryce join the board when we take this before COTL. Nick and Kevin will look into running both classic iClicker and cloud-based iClicker to try a pilot of cloud-based as well.

4. <u>Update on CRB Charter Review</u> - Jason
Jason provided a revised draft of the CRB charter. The board has been asked to review offline and provide comments to Jason or bring to the next meeting for adoption.

5. <u>Budget Update</u> – Renee
$82,563 as of end of September 16, 2018.

6. <u>Classroom Utilization Report</u> - Julia
Julia presented a classroom utilization report to the board that she had recently presented to the Joint Cabinet and the Council of Deans. 186 general assignment classrooms. Looked at utilization, percentage of classrooms used for a course section at a particular time, seat fill, percentage of seats that are filled, and estimate enrollment compared to capacity. Looked mostly at prime time, 10 am to 2 pm, the most popular time on campus for scheduling classes. Does include some 40,000 bookings in general assignment classrooms for events, i.e. study sessions, review sessions, organizations, evening exams, anything that's happening in a classroom that's not a regularly scheduled class. Broke the classrooms down into five different buckets, 1-50 seats (small), 51-100 (low mid-range), 101-150 (high mid-range), 151-200 (large), and >201 extra-large. The majority of classrooms are small. Added 18 rooms between Fall 2016 to Fall 2017, majority in Walnut and the Stadium. 13 of those rooms were small. 3 mid-range. 2 large. Need more rooms that seat 60 students and more rooms that see 101-250 students. Smaller rooms are the least well utilized (63%). Large rooms are best utilized (77%). Seat fill is pretty standard across all different classrooms. Available capacity doesn't always mean we can schedule classes in there because we schedule by MWF 50 minutes, TTH 75 minute schedule. Things might not fit where we have capacity. Departmental classrooms are only being used at about 25% capacity for classes. GA classrooms overall are being used at 60%. Departmental classrooms are being used a lot more for faculty meetings, departmental meetings, etc. Departments were doing double work to schedule in EMS and Outlook because EMS does not have the same functionality as Outlook. Currently looking at a plug in to EMS that will be able to pull some of the data from Outlook so we can look at utilization of departmental classrooms. Room for growth in general assignment classrooms at 8 am and after 3 pm. We don't want to have more than about 60% of classes in prime time because it makes it harder for students to get into those classes. Also, prime time does not work as well for non-traditional students. Utilization in Fall 2012, 9 am to 3 pm, we were consistently between 80% and 95%. Fall 2017 we were at about 60% to 75%. This is positive because it provides more flexibility in our general assignment classrooms. This could be the result of adding 26 general assignment classrooms in that period. There is a very large gap between estimated and actual class enrollments. We may need to look at bringing these more in line, maybe using historical data.

Challenges – More classes moving to TTH from MWF. A couple of TTH prime time slots are completely filled with no unused general assignment classrooms. Have to follow MWF, TTH schedule in general assignment classrooms but not in departmental classrooms. Keeping classes

on grid allows students to build their schedules better and graduate faster. Travel time between classes, buildings. Really need to keep general assignment classrooms in the center core of campus when buildings are renovated. Integration with Facilities software. Really need to have one system of record for space on campus. Events scheduling needs better oversight.

Aylesworth rooms coming off line in Spring 2019. Shepardson rooms coming off line in Spring 2020. No time line at current for Glover.

Looking at opportunities for larger flipped classrooms. Per Stan Kruse current demand for small flipped classrooms is pretty much being met. Mike Rush working on a potential design for a classroom in the round somewhere in the 40,000 sq ft addition to Shepardson. There is also a 40,000 sq ft renovation on the same building.

Al – Where can you go to watch a streaming version of your class if you can't get into the traditional classroom?

Jason – Invite Mike Rush to discuss classroom in the round potentially in Shepardson.

Spring 2018 Schedule:
September 17, 2018 – 4:00-5:00 pm, Morgan Library room 203
October 15, 2018 – 4:00-5:00 pm, Morgan Library room 203
November 12, 2018 – 4:00-5:00 pm, Morgan Library room 203
December 10, 2018 – 4:00-5:00 pm, Morgan Library room 203

CSU Classroom Cloud Based Response System Evaluation

September 2018

Prepared by: Nick Leinen (TTC), Kevin Nolan (ACNS)

Overview:

CSU has used the iClicker Classic for classroom response for over 10 years. This system requires that a base station be installed in the classroom and that students purchase an iClicker device. Now that the vast majority of students have smart phones, the goal is to pilot a campus cloud solution in spring 2019. Then move all of campus to cloud based solution by fall 2019.

Products Evaluated:

iClicker Sync / REEF
TopHat Cloud

Unizin and Response Systems:

CSU is a member of the Unizin consortium. There can be benefits to Unizin schools if they agree to standardize on a certain platform or software. As of fall 2018, 6 schools use iClicker and 4 schools use

TopHat. At this time, it does not appear that there is a compelling reason for Unizin schools to standardize on a response system.

Data Access:
We plan to add response system data to the Unizin Data Platform using the caliper data standard.
Unizin provided both vendors with a sandbox to test data integration.
iClicker is working with the University of Michigan to develop and test their integration.
TopHat is working with Indiana University to develop and test their integration.

Estimated Cost for students: See attached

Technology Requirements:

iClicker

Instructors – web for iClicker management, install iClicker software on computer to administer polls (accommodates the use of legacy base stations in classroom).

Students – web or iClicker REEF app or iClicker remote. Students must click on the iClicker Sync link in a Canvas course to associate their account with the corresponding iClicker course.

Top Hat

Instructors – web for TopHat management and polling.

Students – web or TopHat app

Account Creation
- Both systems require that instructors and student create a separate account. Both ask for student email account.
- Users will need to know to use their CSU email account.
- Both ask for student ID, but do not appear to use to be able to participate in polling.
- iClicker requires student to click on iClicker Sync link in Canvas course to join iClicker course.
- TopHat requires students to enter 6 digit join code to enroll in TopHat course

Summary:

iClicker Pros:

- PowerPoint on instructor machine can be quickly changed and saved on the fly.
- Scoring sync in Canvas cross listed / combined courses can be aggregated in a single column.
- Option to use mobile, computer or iClicker Classic remote with base station. Helpful in a classroom that does not have strong wifi if a student cannot afford another device.
- Instructor web interface fairly similar to current iClicker Classic in use at CSU.
- Lower subscription price for students.
- Geo location – can prevent students participating in poll if they are not physically in class.
- Support – CSU has close relationships with the iClicker development team.

TopHat Pros:

- Instructor manages and conducts polls through web interface. No software to install.
- Can quickly create questions, discussions in the web interface and present to students.
- Multiple instructors in a TopHat course can run their own polling sessions.
- Can select correct answer as you create questions; scoring updated on the fly.

iClicker Cons:

- At this time, does not accommodate multiple instructors in one iClicker course.
- For instructors, requires both web and locally installed software
- To associate their iClicker with a course, students need to click on the iClicker Sync link in the corresponding Canvas course.
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TopHat Cons:

- PowerPoint slides need to be uploaded into TopHat. A little more difficult to make changes on the fly.
- Scoring sync between Canvas cross listed / combined courses requires a separate grade book column for each section.
- Does not sync dropped enrollments in cross listed courses.
- Geo location does not prevent students from participating in polling session.
- TopHat grade book displays as percentage. Does not have option to display as points.
- If student does not have a phone or computer, cannot participate in polling.

Change Impact

- Each product requires a different work flow for the current iClicker classic. Both would require documentation / training for instructors and students.
- The iClicker web instructor management is very similar to the iClicker classic management interface yet some training would be required.
- TopHat's interface would be new and would require training.

Support

iClicker

User: email, web resources

Administrator: We have developed relationships with iClicker over the years and have direct access to their product developers.

TopHat

User: Provides email and chat options as well as web resources.

Provides email and chat options as well as web resources.

Administrator: During the product evaluation, we have had direct access to their development team

Geo Location / Fencing

With cloud response systems, whether the student is actually in class or answering from somewhere else can be an issue.

iClicker – Requires location services be turned on for a device. Can set a class geographic location and distance from that location (100 ft, etc.) If student's device is not within that range, the student cannot participate in the polling.

TopHat requires BlueTooth be enabled on the student's device and estimates that student's proximity to class based on the location of the peers' devices. Does not prevent student from participating in polling. Does note under Attendance that they were not in class.

Criteria / Use Cases:

- Ease of use for instructors and students to register / subscribe to the product.
- Caliper data integration with Unizin Data Platform
- 1 instructor teaching one course section in Canvas
- 2 or more instructors teaching one course sections in Canvas
- 1 instructor teaching a cross listed / combined course in Canvas.
- 2 or more instructors teaching a cross listed / combined course in Canvas.

For each use case:

Can product correctly pull a student roster for the course?
-Correctly display new enrollments and drops?

Can product sync response system scores to Canvas as either:
-Aggregate score
-Individual scores for each polling session.

Can results be shown as either points or percentage in response system? In Canvas?