Imagine if you will a “traditional” classroom with a computer lab contained within in. Students may enter the class and select a computer, logging in with a standard password and being instructed to utilize software available on that system. Students may not be particularly comfortable with those particular desktops, operating systems, or software packages installed, however there often appears to be little choice in the matter for students in many cases. Students work through these classes confronted by the limitations inherent in the technology that they are required to use, often with little interaction with their peers.

While a model such as this may have been valid during periods of time when students did not already possess computational technology of their own, at this juncture we are seeing student adoption of technology at an all-time high, with Pew Research Center statistics (in the 2015 Teens, Social Media and Technology Overview) indicating over 91% of students owning smartphones independent of household income. This seems to indicate that smartphone ownership is one of the highest possible priorities for students (even as young as 13-14 years old at 88/89%), and by the time students reach University level, faculty can confidently expect that most students will possess a device of this type. http://pewrsr.ch/1HTaNk1

I have heard of many instances of faculty colleagues feeling challenged when students are utilizing their phones during class, and have spoken with peers who have developed a number of “preventative” tactics in order to discourage phone use during lectures (ranging from simply taking them away, to asking students to leave, etc). I would like to posit that this is a wasted opportunity, and that the enormous technological convergence that we are seeing in smartphones of this generation, can be repurposed towards enhancing the learning environment in dramatic fashion through the adoption of some simple conceptual frameworks and inexpensive tools. The first step from my perspective, is to begin by considering that each student’s smartphone contains the processing power of enormous desktop computers from just a few years ago. Moore’s Law continues to hold valid with the power of computational devices continued on page 2
So many exciting projects were completed this summer that time seemed to fly by. It is hard to believe we are already into October. One of the summer highlights is our annual Teaching with Technology (TWT) seminar. Every year we are amazed by the creative ideas shared by all the faculty participating. We host two different two-week seminars including faculty from all over campus. This year we learned more about flipping classrooms, starting with outcomes by using the backwards design model in designing courses, and the challenges / rewards of using mobile devices in teaching & learning. We will be hosting a TWT Meet & Greet in the next couple of months. Watch your inbox for an invitation to join us in learning more about the exciting innovations faculty have implemented in their courses.

Tim Pasch is guiding the focus of this newsletter by asking us to imagine a new type of learning space (classroom) shifting the model to student-owned technology. We have survey results from our 2014 Edcusearch survey to indicate 97% of UND students own a laptop and 86% own a smartphone. It will be interesting to see what the results of our upcoming 2016 survey will be for smartphone ownership. Dr. Pasch suggests that by discouraging student use of "smartphones in class may be a wasted opportunity" that could be directed toward learning.

As we work towards completing President Kelley’s goal of renovating 100 classrooms by 2020 we recognize the need to incorporate technology into the spaces. We have pictures of several of the classrooms that were renovated summer 2015. If you would like a tour of the new spaces, please contact our office and we will schedule a time. This summer’s projects included ten classrooms that were designed using UND’s Identity Guidelines. We are in the process of gathering input from students and faculty regarding the new furniture and color themes. We definitely know we are at UND when we walk into those rooms, kind of fun! UND is currently undergoing a Master Planning initiative, which will include prioritizing the next round of classroom renovations.

doubling every two years, approximately. Often, student laptops, smartphones, tablets and other devices fail eclipse (in some labs) what the University can offer. Rather than preventing student use of these technologies, I offer that we look towards developing spaces and technologies that will enable students to ‘plug-in’ to our classroom ‘hubs’, enabling their technology to be even further enhanced for the purpose of collaborative learning and synergistic pedagogy.

CILT and other units have been working towards these eventualities in fantastic ways on campus. The new SCALE-UP classrooms and other innovative labs on campus have begun utilizing Apple TV’s and other receiving, broadcasting technologies in select classrooms, enabling students to immediately project information from their devices (either using Apple’s Airplay technology or other protocols to similar effect) enabling students to project/mirror their course material widely. There are a number of other ways to assist in transforming student-owned devices from distractions, to engaging learning tools. I personally love the bullseyeview service enabling students to immediately engage with questions, vote activities and topics up or down, ask questions throughout the course without interrupting the flow, create word and topic clouds in real-time, and more.

Cameras on smartphones are at near DSLR levels at this juncture, and with judicious use of inexpensive apps, students can create enormously professional and compelling projects combining image, video, audio, and other forms of multi-sensory media that only a short few semesters ago would have required enormous investment in recording studio technology, video recording equipment, still cameras, microphones and much more. Student homework assignments at this juncture that are solely limited to text-only, are perhaps only scratching the surface of the possibilities of what students can provide to their Instructors utilizing technologies already at their disposal.

I have heard criticism that student produced smartphone-based media artifacts can never be as high-quality as those produced by professionals in the industry (whether this be higher-ed education pedagogical materials, final course projects, homework assignments, student news stories, student research, etc). I will argue that students utilizing their smartphones (with judicious use of inexpensive apps) hold the potential to produce media that will be, in many ways, even more immediate and compelling (especially to young people) than media produced in more traditionally ‘pro’ environments. The lines between professional and amateur are blurring to such an extent that technology is no longer the limiting factor: and this is an extremely exciting and empowering concept to some: and very frightening to others.

I believe that it is the role of faculty and staff at a research-intensive institution of higher learning to open our minds to all possibilities of empowering our students to utilize the technologies that they already possess to their full potential. Continuing to create spaces where students can ‘plug-in’ their technologies on campus and project their content to their peers, use their apps for the production of high-quality content for their courses, access mobile information available online (even during class) to bolster their understanding of topic material, and engage in real-time with instructors to provide feedback while the class is ongoing, are ways that we can better serve students increasingly used to digital interaction at a very rapid pace.

Whether you are a faculty or staff member, we all have the ability to help students discover these skills and help them market themselves for the future. Katharine Brooks, a well-known career advisor and author of You Majored In What? Mapping Your Path From Chaos to Career (2009), suggests creating a Wandering Map. Students can list everything from their academic major, areas of interest, coursework, key skills and experiences gained from those courses (i.e. working in a team structure, problem solving, critical thinking, etc.), future aspirations, past student employment positions, research interests, study abroad experiences, life experiences and use this to form a mapping which helps them discover a clear path between their experiences at UND and how that fits into their future. Through this exercise, students start ‘connecting the dots’-literally and see how these events and experiences are interconnected and related.

Students want to make the connection between what they are learning in the classroom and how they will use this knowledge in real life. The Wandering Map is just one of several resource ideas, but I believe the Wandering Map is a clever tool that enables students to make correlations between their academics and real life experiences, which translates into an articulate and self-actualized UND graduate.

Need more examples? There are dozens of software products and apps out there to help students generate wandering/ mind maps. These maps are not only useful in helping students discover all of the possibilities with their major, but can also assist them with note taking, breaking down large theoretical concepts, and more.

Click here for a list of the available mind/ wandering mapping software, many of them free of charge!

It’s important for all of us here at UND to help students keep their eye on the ball, dream big and plan for their future now. Today’s student needs to not just think about that first job after graduation, but should be asking themselves the question, “What will my second or third job look like?” By coaching and supporting students in this way, everyone from college professors to student employment supervisors to Career Services staff will be part of a dynamic team that prepares our students for a “smooth ride” down the road to student success!
Atomic Learning Just-In-Time Tutorials at UND by Jane Sims

No matter what time of day, students, faculty and staff are able to access online training resources on over 200 software applications, career skills and academic practices. UND’s partnership with Atomic Learning provides the help you need with 24/7 online video training. Most videos are short and to the point — often less than 1 minute long. Examples are:

- Applications: Microsoft Office, Blackboard, Adobe Applications
- Career skills: Time Management, Communication, Effective Listening
- Academic practices: APA Formats, Avoiding Plagiarism, Creating Research Posters

Instructors can embed Atomic Learning videos directly into their Blackboard courses. This provides a quick and easy way to make these resources available to your students, and to help them learn skills that support your course goals. Here is one of the longer videos Blackboard courses. This provides a quick and easy way to make applications, career skills and academic practices.

If you are interested in what Atomic Learning has to offer, check out this short video preview. Log in to Atomic Learning with your UND username and password to browse for different software tutorials, topics and categories. There are two ways to access Atomic Learning:

- UND Tech Support > A to Z Directory > A > Atomic Learning
- Inside your Blackboard course, click on Tools > Atomic Learning (does not require a log in once you are already in Blackboard)

Tegrity

Tegrity was updated to the Summer 2015 release on July 20th. Below are some of the major changes.

New Additions

- Tegrity is now being deployed on the Amazon Web Services (AWS) infrastructure.
  - Benefits include: faster uploads, smoother playback, and fewer service interruptions.
- New Download Manager for Windows and Mac.
  - Benefits include: queuing multiple recordings, no 2GB download limitation, and it functions as an automated process: Start it and forget it; it’ll finish on its own.
- New iOS and Android App.
  - Benefits include various performance upgrades and a cleaner, more intuitive interface.
- Updated recorder for Mac.
  - Benefits include various performance and feature updates to put it more on par with the Windows version.

Discontinued Features

- DVD Archive.
  - Feature is being replaced with the new Download Manager (see above).
- Tegrity Note Taking.
  - Smart Bookmarks remain, and are unaffected.
- DRM (Digital Rights Management)
  - Complete removal of feature alleviates inconsistent DRM-related errors with various browsers.

Visit the Tegrity page on the UND Tech Support site for more information.

Citrix

Our Citrix administrators have added a new tool that hopes to improve both performance and stability. That tool is Virtual Desktop. Instead of launching some applications as standalone programs, you will be able to launch a virtual machine and access applications from within the virtual machine. The following applications will now be available through Engineering Lab Virtual Desktops: Risa 3D, ETAP, Circuit Design (Multisim and Ultiboard), Labview, Matlab, ANSYS, CSE, Creo, ChemCAD. You can find more information on using the Virtual Desktop client through Citrix on the UND Tech Support site.

Exam Proctoring for Online Courses

Exam integrity is a critical component of online course delivery. In order to increase exam integrity and simplify the proctoring process, updates were made to the system used to collect proctor information and share exam passwords with accepted proctors for UND Online & Distance Education courses. Some of the new features include:

- Proctor designation and exam links are no longer course specific. Students and instructors will log in using their NDUS/Identifier username and password at: https://aps2.und.edu/proctoring to designate proctors (students) and add exam details (instructors).
- Proctors will create a secure login/password to access exam details. Exam details are delivered through the web portal instead of in an email.
- Instructors are able to view proctor information and proctor status (accepted/pending/declined) for students within their online courses.
- Instructors can designate assistants (GTAs, etc.) who can post exam details and review student proctor information.
- Additional exam details can be added with proctors (exam time limit, allowable materials, printed exam, etc.). Note: This does not replace the exam instructions that are added in Blackboard.

In addition to the above features, the new proctoring system also allows for a more seamless integration with ProctorU. Instructors who wish to allow their online students to use ProctorU can click a button for electronic proctoring eligibility when adding the exam details. ProctorU will receive a list of exam information daily to streamline the process of listing exams. Instructors who choose not to use ProctorU may indicate so when adding the exam details and should also notify students that ProctorU is not available for the course. To learn more about proctoring for online and distance courses and ProctorU, please visit the UND Tech Support website.
Meet Our Staff

Afton Cameron
I started working as a CILT Instructional Support Technologist in August 2015 and I am currently finishing my degree at UND in Information Systems. Before joining CILT, I worked at Best Buy for a little over a year and Frank’s TV in Roseau, MN before that. I have worked with technology for a few years and enjoy helping others overcome certain obstacles they may face when using their own devices. When not at work I enjoy spending time with my family and relaxing on the couch with a good book.

Michelle Efert
I graduated from UND in 2010 with a double major in English and Classics and then went on to graduate work in English. Previously I worked at UND Tech Support as a student and then remotely from my home in Minot as a part-time worker, while I worked on an English Education degree. My family and I finally moved to Grand Forks in May when I accepted a position as full-time staff. Ideally, I would like to finish my Master’s thesis and continue my English Education degree in my spare time, but I am really enjoying reading for fun a little too much for that right now.

Carl Hermanson
I came to UND in 2011 as a student worker for CILT at the Memorial Union Service Desk for four years before becoming a Desktop Support Specialist in July. I enjoy helping the faculty and staff through their technological problems. During work, I am looking forward to finishing my degree in Information Systems.

Outside of work, I am a board game enthusiast and have a passion for football. I also run replay systems for the football team here at UND for home games.

Blackboard was on Campus for a Faculty Day

There are many tools available to assist in teaching our students. How we use them can make our work easier and more effective. Mark Burris, Customer Success Advocate from Blackboard was here on Wednesday, September 23, 2015 to meet with faculty and staff. He, in collaboration with the Center for Instructional & Learning Technologies, offered three Faculty Engagement sessions.

Flipping the Classroom Collaborate Style - An interactive session on how and why to ‘flip a classroom’ using Blackboard Learn with Collaborate.

Methods for Encouraging Academic Honesty - An interactive session on how educators can create an academic dishonesty prevention plan with countermeasures to reduce cheating.

Designing an Exemplary Course - Using the Blackboard Exemplary Course Program rubric and the CILT Course Design rubric as a guide, this session discussed how to transform a current course into an informational resource to an interactive learning environment.

If you were unable to attend one of these sessions you can view the recordings by visiting cilt.UND.edu.

Summer 2015 Active Learning Space Projects by Dave Bell

Classroom Services was busy this summer working together with Facilities, Arts & Sciences, College of Nursing & Professional Disciplines, College of Education & Human Development and College of Engineering and Mines upgrading classrooms to Active Learning Smart Spaces.

Active Learning Smart 3
- Education room 17 – seats 24
- Harrington room 217 – seats 42
- Nursing room 201 – seats 60
- O’Kelly room 310 – seats 36
- Robertson-Sayre room 204 – seats 22

The Active Learning Smart 3 classrooms include furniture and technology designed to encourage collaboration and problem-solving activities during class. Students have access to displays at each table to project their work and discuss solutions. The rooms have capabilities enabling students and faculty to display from their mobile devices without being hindered by cables. From the teaching station, faculty can share their content to all of the table displays at once or select individual students to share with others. Whiteboards are available all around the rooms to encourage group work utilizing markers and student’s drawing skills. The rooms also include Blackboard technology tools (cameras and microphones) used by distance and on campus students to learn together during class sessions.

We also upgraded 11 classrooms to Flexible Seating Learning Spaces (chairs with work surfaces on wheels, or tables and chairs on wheels). Ten of these rooms were designed using UND’s Identity Guidelines creating UND branded rooms.

Flexible Seating spaces
- Abbott 115 – seats 32
- Babcock 108 – seats 24
- Education 5 – seats 50
- Hughes Fine Arts Center 248 – seats 36
- Merrifield 304 – seats 24
- Merrifield 313 – seats 30
- Montgomery 201 – seats 50
- O’Kelly 125 – seats 24
- O’Kelly 221 – seats 30
- Witmer 209 – seats 30
- Witmer 303 – seats 36

For more information on these rooms, classroom technology specifications and upcoming projects visit our website.
Flipping the Classroom Starts With Your Expectations and Roles by Jane Sims

When we prepare to teach our courses, we focus on what we expect students to know and do with the content or skills of the course. Just as importantly, we should focus on our roles in the course — which can change our expectations of what we do in the course.

Using the strategy of flipping the classroom offers us an opportunity to change our expectations of our students and ourselves, and consequently, the roles we each play as we learn together.

Flipping the classroom involves not only changing the sequences of learning activities, but also how we plan and achieve our learning goals. Using the principle of Backwards Design (Wiggins & McTighe), we begin with the end and work backwards. When we envision what we want students to know and be able to do at the end of the course, our goals include both content knowledge and procedural knowledge. Goals become focused on what prerequisite knowledge and skills they bring to our class, but also their values (goals) and expectations for the content and experience. Then our role becomes a builder of bridges between the beginning and end, and our values and theirs.

As a bridge builder, our role involves developing content, activities and assessments to help students in their work, which is learning new concepts, checking their understanding or abilities and making adjustments to then meet the goals. Our feedback is not only on course achievements or misunderstandings, but also on ways to develop their learning skills. In flipped classrooms, students get more feedback more often, usually as formative feedback, and from more people — not only from instructors, but also their peers who are learning right along with them.

The materials we select to support learning, the lectures and tutorials we prepare to provide explanations, and the questions, activities and assessments we create to engage students in connecting and extending their understanding can be sequenced in ways that fit the time-shifting tendencies of today’s students. This shifting changes what we do and when, such as providing feedback in class rather than out of class. The shift also changes what we do and when, such as providing feedback in class rather than out of class. The shift also changes who does the work. Getting students more involved in doing the work of learning is promoted by Terry Doyle, who states “the one who does the work does the learning.” Robyn Jackson also advises to “never work harder than your students.” These authors encourage instructors to shift their roles from preparing, delivering and assessing information to facilitating and coaching students to manage their own learning processes and interactions with the content. Instructors who step back a little in the classroom encourage students to step up a little more to engage with the material and each other, thus building stronger networks for their learning, not just in your course, but for life.

Flipping the classroom not only changes expectations and sequences of learning, but also the role that everyone brings to the room.

In flipped classrooms, students get more feedback more often, usually as formative feedback, and from more people — not only from instructors, but also their peers who are learning right along with them.

The materials we select to support learning, the lectures and tutorials we prepare to provide explanations, and the questions, activities and assessments we create to engage students in connecting and extending their understanding can be sequenced in ways that fit the time-shifting tendencies of today’s students. This shifting changes what we do and when, such as providing feedback in class rather than out of class. The shift also changes who does the work. Getting students more involved in doing the work of learning is promoted by Terry Doyle, who states “the one who does the work does the learning.” Robyn Jackson also advises to “never work harder than your students.” These authors encourage instructors to shift their roles from preparing, delivering and assessing information to facilitating and coaching students to manage their own learning processes and interactions with the content. Instructors who step back a little in the classroom encourage students to step up a little more to engage with the material and each other, thus building stronger networks for their learning, not just in your course, but for life.

Flipping the classroom not only changes expectations and sequences of learning, but also the role that everyone brings to the room.

To register for the session, visit [http://UND.edu/cilt/workshops/workshops.cfm](http://UND.edu/cilt/workshops/workshops.cfm) or contact Devona Janousek at 777-2129 or devona.janousek@UND.edu.