

Inquiry Project

Designing an app for Course Tracking

By Erin Borsoff

04.07.2018



<https://pixabay.com/en/educational-apps-education-773651/>

INTRODUCTION

Problem:

The courses I teach have an open sign-up and are delivered asynchronously without due dates on assignments. Deadlines for course completion are loose and as long as a student is “semi-active” they are not usually withdrawn. If a course is needed for graduation, the action of withdrawing a student is less likely. It is not unheard of for a student to be in online Planning 10 or PE 10 for example, for three years!!! (Because the course is a grad requirement). This, of course, is not best practice; as educators we want to encourage students to complete courses in a timely manner to ensure success and accomplishment for the learner.

Current Situation:

Im my online support blocks, I currently employ paper progress charts to keep track of student progress and completion. I design a schedule based on a seventeen week semester and fill out the schedule for each student based on how many specific units or assignments each course has. The schedule is divided by interim and midterm dates. On the whiteboard, I give weekly percentage updates as to where a student should be in their course progress. This percentage correlates with the specific week of the semester a student is on as well as what unit/assignment

it links with. These charts are also linking to course planners (created in Google docs) where students fill out the specific due dates of assignments based on their intended completion date.

The trouble with the paper/face-to-face progress tracker is that it helps guide students but because they are less involved with the updating, it might not be as meaningful to them as an app would be. Also, the progress charts are only available to the students who are enrolled in m online support blocks, which is not all of my students. And the google docs course planners are not available for all courses. If online learning truly is learn “anytime, anyplace” (Horn and Staker, 2015), then students should be able to access all tools regardless of time and place.

Solution:

I want to create an idea for an app that can help students leverage their time by creating an interactive timeline/schedule planner/tracker that keeps students focussed on leaning in their online courses. The life skills that are learned from proper time-management, goal setting and follow-through are invaluable to all aspects of life. “Students learn across both time and space and move from topic to topic” (Richards, 2013). For students to have the ability to control their own time and decide on time/place of their learning with a mobile element- creates better engagement and motivation to complete their course.

As already implemented in the paper charts with sticker rewards for each completed unit, I want to extend gamification design in creation of a mobile app. In the proposed app, students are rewarded by a virtual sticker or badge which can be used as leverage and motivation to keep themselves on track. Students would have the wherewithal to set-up start and end dates for their courses and fill in when an assignment/unit should be due. The app would provide reminders as to when the assignment should be submitted; as well as alert the teacher (who will also be linked to the data) when a student is passed a chosen deadline.

GUIDING INQUIRY QUESTION

How can m-Learning, through use of a progress tracker app, take elements of the Community of Inquiry model (CoI) and serve as a platform to build motivation and engagement for learners?

CONNECTION TO COURSE CRITICAL CHALLENGE QUESTION

- How can mobile technologies augment formal knowledge and assist both the student and the teacher with their learning?

BACKGROUND RESEARCH

Before a tool can be developed or used, there needs to be a rationale for *why* it should be used. As stated by McQuiggan (2015), learning is not about the device or tool itself but rather the experience and opportunity provided by the educational advancements afforded by the tool. Technology that can promote “anywhere, anytime learning enabled by instant on-demand access” (McQuiggan, 2015), allows for personalized learning and knowledge creation. Learning needs to be relevant to the learner and they need to be able to use real life skills for “connectivity, communication and collaboration in [their] everyday lives” (McQuiggan, 2015). To provide opportunity for relevancy and engagement, the tools provided to students need to reflect not only a cognitive connection but also opportunity for social presence, guided by teacher presence. We do not want to rely on a device for the sake of using technology, but rather is it to enhance communication and collaboration (Richards, 2013). We want to use mobile technologies in a meaningful and applicable way.

Community of Inquiry

Engagement. Community. Connection...

Content and pedagogy need to be connected (Robbins, 2014). Students need simple and easily accessible tools to develop skills to be lifelong learners, but these tools need to be directly aligned with an intentional purpose. Students should be engaged in learning, connected to content and be part of a supportive learning community. The proposed app for course tracking and progress needs to be connected to a *purpose*. As with all learning promoted in my courses, I want to connect a sense of relevance to the course work and to students’ futures.

In the [Community of Inquiry \(CoI\) Model](#), students are supported through their educational experience by cognitive, social and teaching presences (Garrison, Anderson, & Archer, 2001). These connections present various opportunities for learning which promote engagement. Learning needs to consider how each of these presences can work together to create authentic opportunities for applicable skills for now and for the future.

Giving students the ability to set goals for their own learning in a fun and engaging environment helps extend the cognitive presence where learners are able to construct and confirm meaning through sustained reflection and discourse”, (Garrison, Anderson, & Archer, 2001). If students are invested in their learning by deciding on how and when they want to complete a course, they can develop skills to transfer from one area to another. Skills like goal-setting, task management and prioritization can create effective and productive people. Use of the course tracker and progress app would support these cognitive skills in the course and beyond.

Social aspects of online learning are not always apparent. When students learn in isolation, their work is independent of their peers and connection to others can be low. Gamification, where elements of a game are added to non-game situations; like point systems and rewards (Isaacs, 2015), offers increased engagement by providing fun opportunity to learn in a more social way. Using an app to help with course completion can promote social presence, “the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop interpersonal relationships” (Akyol et al, 2009). So although students may not be in the same physical space, a safe environment is established in relation to the app which is accessible anywhere. Social presence comes down to engagement. How is engagement created in an e-Learning or m-Learning environment? Elements need to be interactive, have choice and flexibility. Students can have choice over when and where they complete their course. They might be able to decide the order of the unit completion as well as decide on a timeline for completion and also have the ability to change their mind. Another possible gamification element, a leaderboard, can promote social presence where students can see who has submitted what unit first and how fast they are progressing through a course can create healthy competition for motivation and engagement.

Of course, these activities still need to be guided by a teacher presence, where there is an overseer of the use of the app. Teachers will have the ability to send messages to students when they fall behind with their self-negotiated timeline to offer encouragement; or to offer praise when a student is ahead of schedule. “Teaching Presence is the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes”, (Anderson, Rourke, Garrison, & Archer, 2001). So, in order for an app to create authentic learning experiences, an effective teacher must be behind the scenes to facilitate in the cognitive and social processes. The teacher will be linked to all students through use of the app and can use it as a messaging system.

Connection to Credo

My Credo statement, revised January 2018, succinctly states what I want for all learners:

Students have the ability to be competent problem solvers, inquisitive thinkers and life-long learners when supported in a learning community that reflects connection, engagement and choice. They are guided to use various learning tools and strategies to develop purpose and drive; and discover passion through exploration. Transferable skills are refined through self-assessment and reflection. They are equipped to take on challenges, persevere and overcome.

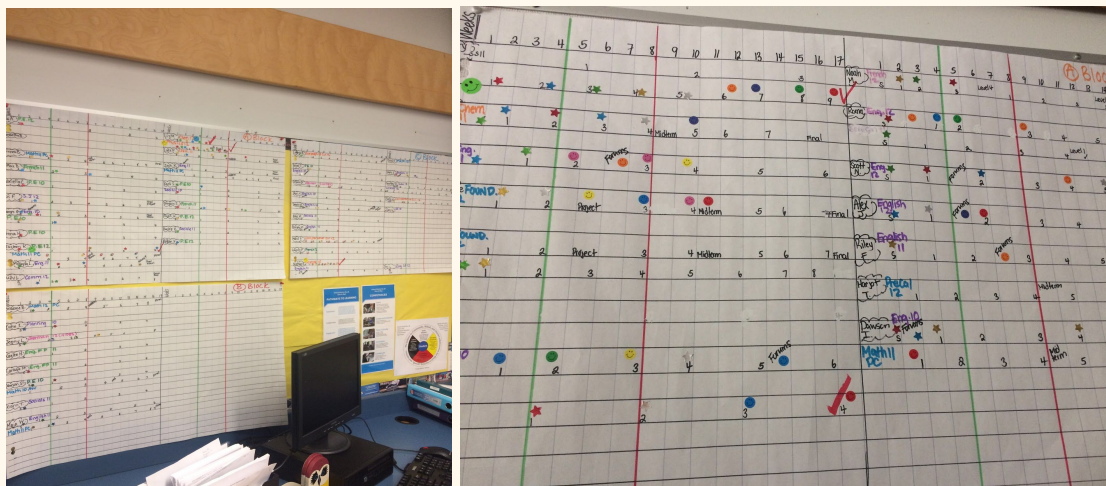
The ideas to develop this course tracker app are grounded in the guiding principles of my credo. There is a purpose to why there is a need to want to create and use a tool like this. The

connection of m-Learning allows use of “mobile devices [to] enable and even encourage students to multitask, collaborate and teach each other” (McQuiggan, 2015). Students learn indirectly from one another when they see the leaderboard. They can multitask on their mobile devices to be reminded of upcoming due dates, even if they are engaged in another activity.

Mobile technologies can truly assist in accessible learning on the go. The course tracker app helps to redefine the responsibilities of teachers and students. It is “blurring the lines between formal and informal learning” (McQuiggan, 2015). The teacher can be now seen as a facilitator of learning, using devices most students already have, to tap into various technological opportunities to learn. All tools need guidance, even if their users are digital natives. Deliberate choices need to be made for learning, but by having students involved in scheduling and completion process, it takes the onus off the teacher and gives students more control. A goal of distributed learning (blended, online or mobile) is that the “context is constructed by learners through their interactions with devices and each other” (Richards, 2013). Knowledge may be easier to digest and to retain when students can create the schedule in which to learn. Mobile technologies can assist with better accessibility of learning and can eliminate the inflexible, traditional methods of education (Richards, 2013) to increase success of the learner.

APP DEVELOPMENT AND DESIGN

Starting Point: Original idea - Paper course trackers



- Paper course trackers are on display in my classroom space. Each student in an online support block has their name and course recorded. The course assignments are spread over a seventeen week semester. Students are given interim and midterm guidelines designated by the green and red lines.

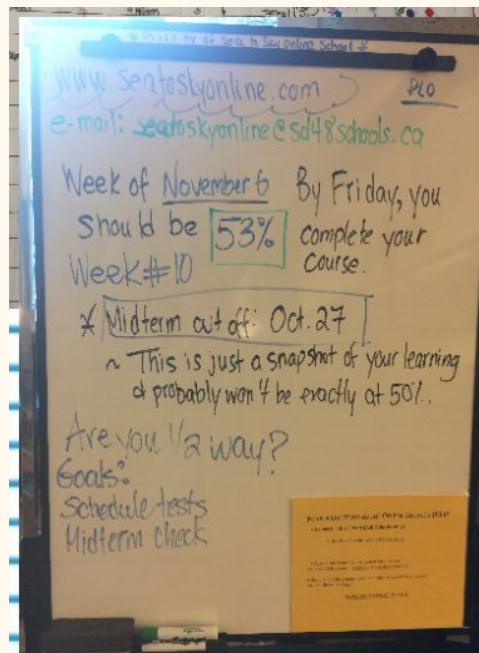
[Schedule Planners](#) in Google Docs and Progress updates on class whiteboard:

Schedule Planner English 12
Semester Long

This is based off a semester being 17 weeks. It is here to serve as a guideline to keep you on track however you can complete the course sooner, or take up to a year. Please use this form to ensure you meet your timeline goals in this course.

%	Week	Unit	Specific Date (You Fill In)	Complete ✓
3	Week 1	Substantive Assignment (must be completed to ASAP to complete registration)		
6	Week 2	Forums select 5 from list		
12	Week 3	Unit 1: Getting Started Quiz: Post on the People		
18	Week 4	Quiz: Effective research		
24	Week 5	Unit 2 - Writing Warm-up		
29	Week 6	Unit 3 - Novel Study *start reading novel before this date		
35	Week 7	Forum: Novel's Critic		
41	Week 8			
47	Week 9			
53	Week 10	Unit 4 - Ideas worth spreading Ted Talks		
59	Week 11	Awesome Things Forum: 3 Awesome Things		
65	Week 12	Unit 5 - Short Stories Quiz: Short Story Elements		
71	Week 13			
78	Week 14	Unit 6 - Poetry Quiz: Poetic Devices		
82	Week 15			
88	Week 16	Course Final Exam		
94	Week 17	Exam Prep - Practice Texts **check with teacher about provincial exam dates		
100	Done			

* Please note this schedule does not include holidays such as Christmas Break or Spring Break. These are considered bonus weeks where you can catch up if behind or work ahead.



-Schedule planners are available for English and Math courses online through Google Docs links. Students can fill out their own due dates based on the suggested timeline.

-The whiteboard update correlates with the schedule planners and the course trackers and lets students know where they should aim to be each week.

Development:

By transforming the face-to-face progress charts and whiteboard updates, (face-to-face learning) as well as the google doc course planners, (e-Learning); to elements of m-Learning through the new course tracker app, then students would be able to fully embrace anytime, anyplace learning (Horn and Staker, 2015). By creation of a mobile tool, students would have better engagement and motivation, helping to create better learning environment that reflects true m-Learning.

Traditional forms of classroom management can be extended into online environments and can easily be applied to the specifics of m-Learning as well. In the Edutopia article, “Extending Classroom Management Online”, (Wolpert-Gowron, 2017), several key elements are discussed which can be utilized to help give the the app the background for which it is designed. It is important to “build an engaging online environment” (Wolpert-Gowron, 2017). The app serves as a “parking-lot” that links the course and learning anytime, any place. Students know that they can check their progress whenever they think about it. An app is a good way to extend the

community build in the classroom. The article discusses that students should be able to connect in more than one way. The app provides a readily available means to be connect to coursework, other learners and the teacher at the click of a button. Students are motivated when keeping up with their peers' progress. Other pro's of m-learning are highlighted by Holz (2018), in "7 Pro's and Con's on m-Learning in the Classroom". The app needs to provide "direct" connection to course material; it needs to be "on-demand" where an available minute, while waiting for the bus; for example, can be efficiently used, (Holz 2018). Apps can help with this by providing a new digital resource that is m-friendly and accessible (UNESCO, 2013).

The development of the app must reflect a tool which is accessible anytime and anyplace, on demand and connected learns to peers and coursework. These elements directly correlate with all aspects of Col to increase engagement to complete courses. Students engage their cognitive presence to create a personalized timeline. At the starting point, in the paper charts, stickers are used to mark completion of a unit or assignment. Gamification can be employed to give students virtual badges or stickers each time work is submitted. This can provide motivation for frequent and regular progress and engage social presence; connected teaching presence is through guidance and overseeing of progress. As mentioned by Holz (2017), "tracking student progress is a core function of teaching. With online tools this function becomes not just easier, but more effective". This is true in the sense of keeping track of student logins and grades with an learning management system (LMS), but not necessarily true for following a timeline to complete coursework when there are not set deadlines. It easy very easy to get off track when courses are self-paced.

It should also be highlighted that an educational app does not take the place of good teaching and interaction, but rather be used as an extension of the teaching and support that students already receive (Robbins, 2014), through existing elements of online learning like e-mail communication, google hang-outs and blended learning and LMS structures.

Design:

GOALS - the goals of my app are to take an existing tool and problem and design it to be more accessible and effective for all learners. I want to:

1. Transform an already existing tool into a m-Learning application
2. Give students more control over learning by having voice and choice in the scheduling process - connection to Col and Credo.
3. Add gamification elements to course planners/progress trackers to increase motivation and engagement for students

JISC, an organization for digital solutions for education in the United Kingdom offers other mobile learning goals that align well with the intentions of my proposed app.

1. Curriculum redesign
2. Personalisation of learning
3. Student satisfaction
4. Digital literacies
5. Reducing costs (doing more with less)
6. Graduate attributes and employability
7. Enhancing assessment and feedback
8. Widening participation
9. Improving student engagement and retention
10. Energy efficiency (Jisc, 2015).

Jisc (2015) discusses that “Without an overall vision for what mobile learning is able to achieve in your particular context it is doomed to failure.” Design is important here. Clear thought planned steps from start to finish is required.

The [SAMR model](#), (Schrock, 2018), helps to highlight how to transform the existing course tracker tools to m-learning in the creation of the new app.

S - Substitution of paper charts and whiteboard updates is replaced by the app. The app can track students’ progress equally as well as the charts, if not better.

A - Augmentation, students sign up for the app and now do not have to rely on a face-to-face check in. The app allows for a mobile element where the existing chart is now found online.

* * *

The most drastic change is not in the form of mere enhancement but more so, in the actual transformation of the learning. The development of the app allows for *modification* and *redefinition* of what can be accomplished through the use of the app. Since the app use is through mobile devices that are a part of students’ everyday life, it extends learning into a cultural norm of checking one’s phone for information. Full potential of mobile learning is driven “by combination of both technological advances and societal shifts” (UNESCO, 2013).

M - Modification of the student progress charts and course planner are changed by the redesigned approach by digitally transforming the progress charts through the development of the new app.

***R - Redefinition** - The app provides a whole new approach to learning through mobile advancements. Apps have an innate appeal (Robbins, 2014), they are part of our everyday lives and students are connected to their mobile devices almost 24/7. The ability to click on a personal device to be reminded of course progress, check status in alignment with peers and read teacher reminder messages on the go, speaks to each presence in the Community of Inquiry (Athabasca, n.d), in a relevant way which encourages learners to remain active and complete their courses in a timely manner then students are engaged and motivated.

App Planning:



Access my app mockup and created with Hotgloo (2018), a wireframe and mockup program:

<https://erinborsoff.hotgloo.io/share/F0sIFsHvolmWMvA>

(*Please contact me if you would like further information: eborsoff@gmail.com)

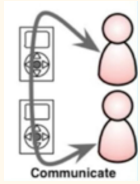
Notes as explanation for each aspect of the app included on the side.

Connection to Quinn's 4 C's (Quinn, 2010).

The goals and intentions of this app idea work well with Quinn's "Compute" and "Communicate" of mobile learning.



Compute - The compute aspect "takes in data from the learner and processes it" (Quinn, 2010) to allows the user to interact with specific information through the app that can assist in better progress to accomplish courses in a timely and effective manner. The compute aspect can increase engagement as it lends well to the cognitive presence of Community of Inquiry in that students will need to determine for themselves when and how to complete their work. The added aspects of gamification, with badges and a class ranking, connects with social presences to increase motivation of learners.



Communicate - The communicate aspect allows for connection of learners with others (Quinn, 2010). Teachers can interact with students based on the reflection of their progress, or lack of, to offer encouragement for motivation. The communicate aspect highlights the teaching presences as well as extend part of the social presence as well (Community of Inquiry, n.d.).

Quinn states that, “mobile devices can form an engaging platform for teaching and learning, with the potential to expand the realm of the classroom. Functionality and context are key” (Worklearnmobile, n.d.). When students can use an app to support their existing online learning and extend their goal-setting and organizational skills it can help connect with seeing the relevance of time management and planning in other areas of their lives.

CONCLUSION

Through the abilities of mobile technologies, the proposed course tracker app can extend the knowledge and learning of students beyond that of just completing a specific course. Formal learning can be augmented to provide students with 21st century skills that are available to them in a familiar and usable environment. Through the app, students have greater control and choice over course completion by determining a personal timeline and are motivated by gamification elements of badges and class rating; as well, students have opportunity for problem-solving and re-examining situations in order to be successful. Students are supported in a community of learning which connects cognitive, social and teacher presences to increase engagement with coursework and motivation in becoming self-motivated individuals. The mobile technologies equip students with tools that can be used in everyday life, in a convenient and accessible way. When resources are made m-friendly, students can use them on a more regular basis to increase their connection to online courses and be more driven to complete them in a realistic and productive timeline. The teacher can use the app to guide cognitive abilities of students and offer various social supports to lead the student to be their own advocate for their learning. Mobile technologies offer new tools for accessibility of anytime, any place learning with the control literally in the hands of the learner. When supported by a solid foundation of purpose and intent, mobile apps can provide unique opportunities for utilization of technology for better motivation and engagement of learners that were not available before.

Works Cited:

Akyol, Garrison, Ozden (2009). "Development of a community of inquiry in online and blending learning contexts" retrieved from:

<https://www.sciencedirect.com/science/article/pii/S1877042809003279>

Anderson, T., Rourke, L., Garrison, D. R., Archer, W. (2001). [Assessing teaching presence in a computer conference Environment](#). *Journal of asynchronous learning networks*, 5(2), 1-17.

Retrieved from: Community of inquiry <https://coi.athabascau.ca/>

Borsoff E. (2018). Screenshots.

Community of Inquiry. (n.d.). Retrieved 04/07/2018 from <https://coi.athabascau.ca/coi-model/>

Holz, S. (2018). "7 Pros and Cons of m-learning in the classroom". Neo blog. Retrieved

04/08/2018 from: <http://blog.neolms.com/7-pros-and-cons-of-m-learning/>

Holz, S. (2017). "What works for tracking student progress in online learning". Neo blog. Retrieved

04/08/2018 from:

<http://blog.neolms.com/works-tracking-student-progress-online-learning/>

Horn, Michael B., and Staker, Heather. (2015). *Blended : using disruptive innovation to improve schools*. San Francisco, CA :Jossey-Bass. [Kindle ed.] Retrieved from <https://read.amazon.ca/>

Isaacs, S. (2015). "The difference between gamification and game-based learning" Retrieved 03/19/2018 from:

<http://inservice.ascd.org/the-difference-between-gamification-and-game-based-learning/>

Jisc. (2017). Mobile learning: a practical guide for educational organisations planning to implement a mobile learning initiative. Retrieved 04/03/2018 from:

<https://www.jisc.ac.uk/guides/mobile-learning>

McQuiggan, S. et al. (2015). *Mobile learning*. Retrieved from:

<https://oltd508lewis.weebly.com/uploads/8/2/7/9/8279059/mobile-learning-a-handbook-for-developers-educators-and-learners-scott-mcquiggan.pdf>

Moqups (2018). Wireframe development. Retrieved from: <https://moqups.com/>

- Quinn, C. (2010). "Writing and the 4 C's of mobile". Retrieved 04/10/2018 from:
<https://blog.learnlets.com/2010/02/writing-and-the-4cs-of-mobile/>
- Richards, R. (2013). Theory of mobile learning [Web log post].
Retrieved from:
https://oltd508lewis.weebly.com/uploads/8/2/7/9/8279059/theory_of_mobile_learning_d_r._reshan_richards.pdf
- Robbins, C. (2014). "Developing apps for education". Retrieved 04/07/2018 from:
<http://www.classthink.com/2014/06/11/developing-apps-for-education/>
- Schrock, K. (2018). "SAMR Model" in SAMR and Boom's. Retrieved 03/14/2018 from:
<http://www.schrockguide.net/samr.html>
- UNESCO. (2013). The future of mobile learning: implications for policy makers and planners - "Enablers/Barriers". Retrieved from:
https://oltd508lewis.weebly.com/uploads/8/2/7/9/8279059/future_of_mobile_learning_unesco_2013_pgs_27-31_barriers_enablers.pdf
- Wolpert-Gowron, H, (2017). "Extending classroom management online" In Edutopia: Blended learning. Retrieved 04/05/2018 from:
<https://www.edutopia.org/article/extending-classroom-management-online>
- Worklearnmobile. (n.d.). Designing mLearning. In Designing mLearning – Clark Quinn, Quinnovation. (7:08). Retrieved 03/12/2018 from:
<http://www.worklearnmobile.org/mobile-experts/designing-m-learning-clark-quinn-quinnovation/>