Teacher Insights & Opportunities

Teacher User Research: August 2012

Who We Talked To

Greg
- Health & physical education teacher
- Teaches at a public middle school in NJ
- Dislikes co-teaching – less class lose control and less flexibility
- Uses a Smart Board

Ben
- Teaches grades 6 – 8, currently teaching grade 8
- Uses laptop in classroom for power point presentations
- Computer lab access once a fortnight, email for assignments
- Nervous about technology in the hands of students

Jessica
- Moved to a technology based school 5 years ago
- Works in blended classroom, teaches grades 11 - 12
- Classes are 80% on laptop, 20% 'traditional'
- Starts class with "Do Now", ends with "Exit Ticket" at the door
- Views her job as the "conference chair"

Who We Talked To

Nicole

- Teaches English with a co-teacher
- Co-founder of a Transfer school – no grades, students have returned to school to earn credits to graduate
- Develops curriculum, expert in the Danielson Framework
- Teaching for 9 years; 7 years in the NYC public school system

Erin

- Teaches at private school for learning disabilities in Brooklyn
- Previously taught at a public school in Queens & a charter school in Philadelphia
- Has taught grades 4-7
- Uses Smart Board, Laptops, Google Docs

Louis

- Teaches Science for grades 4 – 8 in Queens
- Most tech-savvy of all teachers we spoke to
- Students taught in 3 "tracks" (based primarily on performance in Math) for the whole year
- School "Open Week" allows parents to drop in any time

Who We Talked To

Chris

- Teaches special education students in NJ
- Young teacher - has 1 year experience, taught 4 students
- Joining a classroom next year as a co-teacher
- Teaches all subjects except health and social studies
- Likes hanging out with kids and helping them

Teachers don't just group students based on performance, but by learning styles, behavior, reading level, or randomly.

- Assess the student's DRA [reading level] to group students and find readings for them (Chris)
- It would be good if Teachers could add behavioral notes beside students in the roll, and move kids into groups to blast them different questions (Erin)
- Teachers use a lot of pairing and small group work for activities

Teachers differentiate learning with or without the use of technology.

- It would be good if Teachers could add behavioral notes beside students in the roll, and move kids into groups to blast them different questions (Erin)

Students should be able to learn in the style that's best for them.

- Reading on the computer doesn't work for all – "students eyes get tired" (Jessica)
- Help teach (special needs) students how to do short answer questions by reading the question first then highlighting the relevant passages when reading the text. (Chris)
- Don't ignore "natural teaching moments" that come up in class (for example showing a video in response to a students' question) (Chris)

How might we allow teachers to group students on a variety of factors, not just performance?

- Allow teachers to have "saved groups" of students
- Teachers can select and group students in session on the fly
- Teachers can share different content to individuals and groups
- Teacher can manage groups in flexible custom ways

Teachers like to break their class up into small groups

- Very small-group oriented teaching (Louis + Nicole + Erin)
- Small group activities and pair work (Jessica)
- "We could use [Nearpod] to show different presentations to different groups" (Nicole)
- Interactive Model: push to groups, do a group activity, present results to class (Erin + Louis + Nicole)

How might we support a class that is primarily taught in small groups ?

- Teacher can select and group students in session, then manage groups in a custom way (custom groups)
- Make student groups available outside live sessions (persistent groups)
- Students can share content etc to others who are only part of their group (private group work)

- Work done by a group appears in all tablets for students of the group (co-work)
- Work done in groups can be shared back to the rest of the class (share group work)

Building a rapport with students is a big part of teaching

- "It's important to make a connection with kids and their interests" (Chris)
- "I started watching hockey so that I could talk to students about it" (Chris)
- "I know that if I support students, they'll support me." (Ben)
- Gave parents a questionnaire about student interests (Chris)
- "I like taking a boring subject and making it interesting" (Ben)
- "Teachers are awesome [...] when they go off topic." (Students)

How might we allow teachers to inject personality into their classrooms?

- Teachers can give custom badges and awards
- Teachers can post status messages

- Teachers can customize parts of the student Notebook for their class
- Share-able profiles of both teachers and students

Teachers don't want to lose anything by going digital (sensory, social, contextual)

- Students write their own notes (Louis + Jessica)
- Paper allows the teacher to understand a student's thought process (Jessica)
- "The problem with online multiple choice is that it doesn't tell you why you got it wrong." (Jessica)
- Felt hand-writing notes was more valuable for learning than typing (Jessica)

How might we help teachers see students' thought processes and scratch work?

- Stylus so students can write their scratch work
- Have a side note-taking/scratch pad within each activity
- Take a picture and attach physical notebook work
- Allow students to eliminate possible answers in a multiple choice question

- Keep track of students selection actions in a quiz
- Similar to "Draw Something" app, record student actions e.g. typing and deleting for teacher to play back. Can also see how long it took them to complete activity
- Allow students to leave audio messages to the teacher, to ask questions or explain their approach

How might we allow students and teachers to use tactile learning aids?

- ❈ Make it easy for teachers and students to print content

- ❈ Allow students to graphically/cognitively organize their work

- ❈ Stylus so students can hand write notes

- ❈ Evernote moleskin: put handwritten notes in Evernote app

- ❈ Students share a question as an audio recording

- ❈ Students record in class audio on their tablets (e.g. if they go to the bathroom they can catch up on what they missed)

School is about learning social skills and how to interact with other kids, not just information and facts.

- "[Nearpod] should be more interactive—otherwise, how is it different than watching TV?" (Nicole)
- "[Sundae] takes away the social participation and interactions between students." (Greg)
- "You still want human interaction." (Jessica)
- Meet students at the door at the beginning and end of class (Louis + Erin + Nicole)
- Stand at the door at the beginning of class to get a read on the emotions (Jessica)

How might we help students build social skills and emotional intelligence?

- Team activities, small group projects with multi-media creation and upload
- Encourage group play on Tablet outside of class
- Helping teachers identify leaders & quiet kids
- Allow students to post anonymous communication to class & teacher (eg. Personal Development class)
- Have a Q&A forum where students can help each other (teacher can moderate).
- Using the tablet for "Show and Tell"

- Ice breaker and other games introducing people and names (e.g. Match "what I did last summer" to student)
- Give students a "bio" page to personalize
- Assignment gallery where students can show their work
- Give students privacy controls, allow for selective sharing
- Tablet makes flipped classroom learning far easier, allowing class time to build people skills and social behavior

Teacher time is limited when it comes to lesson plan sharing (but it does happen).

- "You can't know everything" - Information is not shared well between teachers (Erin + Nicole)
- "There's no time to coordinate lesson plans with co-teachers" (Louis + Nicole)
- "My day is like a marathon" (Erin)
- Teachers need a common time to plan (Chris)
- Uses Smart Exchange to find other teacher's lessons and collaborates with other teachers

Teachers use Google and online lesson planning sites …
… But resources require customization and tweaking.

- Teachers shouldn't re-invent the wheel – they should beg borrow, share (Chris)
- "With some online vendors it's hard to find something that works for you" (Jessica)
- Skeptical about using vendor content for lesson plans as opposed to writing from scratch (Jessica)
- I always make changes to the lesson plans to include things from their text book, so the students aren't confused when they go to do their homework (Chris)

The web helps with keeping track of materials, but it could be improved.

- Gmail allows me to search for all communications with a student (Jessica)
- "It's great to have an online portfolio for students and teachers – I don't have to worry about losing things" (Jessica)
- Opportunity to make bookmarking resources easier for teachers (Erin)

How might we help teachers share and re-use lesson plans and resources?

- Drag n' Drop content and links from web, DropBox, GDrive, hard drive etc
- Intra-school collaborative lesson planning
- Style like Pocket app to organize material and lessons

- Share lesson plans between teachers at the same school: more similarity, less customization required.
- "GitHub for Teachers" to see revision history, branching and evolution of lesson plans

Teachers map out course or unit learning objectives to a timeline …

- Teaching by design: I break the course objectives into benchmarks (Nicole)

… and use it to build daily lesson plans for smaller periods (e.g. week, month)

- "Sunday is my planning day" (Chris)
- Teaching by design: I break each benchmark into two week blocks of lesson plans (Nicole)

How might we help teachers coordinate "big picture" and "up close" lesson planning?

Teachers constantly have to adjust lesson plan content and timing at short notice or on the fly

- I am constantly changing plans – I submit them to the school, but I'm changing them within 48 hours – sometimes minutes before class" (Ben)
- Teachers have to submit a lesson plan, but ... "What the school's don't know won't hurt them"(Ben + Greg)
- A one day lesson might take you three days to teach (Chris)
- "You have to be really adaptable as a teacher" (Chris)
- I tweak lessons between classes on the fly (Jessica)
- "I'm always looking for new material" (Jessica)

How might we support teachers who need to make last minute changes?

- ⚛ Teachers should be able to share material which wasn't in the lesson plan (e.g. video, poll)
- ⚛ In-class content recommendations

Teachers get feedback from students when lessons don't work and adjust their lesson plans.

- Student's tell me when they're confused and what I planned isn't going to work (Nicole)
- I let the student's questions drive the direction of the class (Louis)
- I usually try to write it down in red pen, but if I forget to then sometimes I make the same mistake in another class or again the next year (Nicole)
- My content evolves and is refined from what I learn in class (Ben)

How might we help teachers remember what was and wasn't effective for next time?

- Student feedback on lesson content is attached to or saved with those activities
- Teacher can add a note or correction to a lesson activity from Sundae

How might we allow students to shape the direction of the class?

- ⚛ Teachers can track student's interests from what lesson content they consume

- ⚛ Stats about what types of activities students like

- ⚛ Instant thumbs up/down from students, teacher can see percentages for class

- ⚛ Student mood indicator – happy, ok, confused.

Teachers are becoming more accountable for lesson plans

- My lesson plans used to be more lightweight but now they have to be more specific because I have a co-teacher (Erin)
- Next year, the Common Core Standard is required on all lesson plans (Chris)
- "Everything is documented, we're under a microscope … new format needs more detail" (Greg)
- Teachers have to submit their lesson plans every two weeks for review, or once a month for tenured teachers (Chris)
- With the move to a technology based school, I've had to "front load" lesson planning more (Jessica)

How might we provide schools with visibility into teachers' planning and preparation?

- Reward/incentivize preparation
- Teacher can submit lesson plans directly from planning tool when they are complete

- Lesson planning tool automatically check and report on progress
- Lifecycle tools for lesson planning: see status as started, in progress, complete. (Similar to students completing activities)

There is real need for an easy way to get feedback and track performance in real time.

- Instant quiz results are "awesome" (All teachers)
- "I wish it were more interactive, but I like the quiz" (Ben)
- "It would be nice if I could see where students are in the reading" (Chris)
- The most efficient way to check for understanding is a quick poll (Chris)

How might we allow teachers to better gauge understanding, performance and progress in real time?

- "Single touch" to send instant check for understanding to all students
- Automatic comparison of student's current performance against past performance, others, and expected level

Teachers feel there is a lot of pressure from parents to see how kids are performing.

- "Each parent thinks that their kid is more important than all the other kids" (Ben)
- Parents want individual attention for their kids (Louis)
- Parents want daily communication and updates, on all aspects of the student performance e.g. Behavior (Chris)
- Parents love any form of communication and involvement – sending a video home of their kids in class (Chris, Louis)

How might we help parents see their child is getting individual attention?

- Forum for parents, based on sections
- Activities that include parents too!
- Allow teacher to take notes on each student (during and outside of session) to easily assess behavior and performance on call.
- Automatic summary/stats on students performance, class participation, etc which teachers can refer to

Teachers want to be protected/insulated from constant scrutiny by schools and parents.

- Parents try to influence their kids grades by pressuring their teachers (Louis)
- Open Week at school gets hectic. "You know the whole time they're [parents] waiting for you to do something wrong" (Louis)
- "I get an email every day from one parent", I don't mind but some teachers really don't like it (Chris)
- Dislikes about teaching: communication with parents (Erin)

How might we protect teachers and students from inappropriate intrusion and scrutiny?

- Student passcode on their tablets, Sundae, or class notebooks
- Parent portal can help teacher control narrative

- Teachers and students choose which work to showcase e.g. in Assignment Gallery
- Expiry date on content

Letter grades don't capture performance or progress very well

- "Report cards don't really explain things" (Erin)
- Narrative reports are more satisfying and useful (Nicole)
- Marking period grades are more important because "they show what you learnt" (Alex + Jean)
- "Grades don't capture performance change or progress" (Greg)
- Students don't understand grading system (All students)

How might evaluation capture the process of learning and not just the result?

- Media capture (video, audio, photo) of in-class events for parents to see.
- Capture a portfolio of student's work for grading
- Allow students to scan documents into Portfolio
- Tie assessments to Core Common Standards or objectives/checkpoints

- Provide feedback on "chunks" of work for each learning objective
- Aggregate teacher's inline comments/ feedback in one place for each student to view
- Allow teachers to attach examples of student's work and teacher's feedback in their reports

Teachers and students learn from each other how to use technology

- My students are better at technology than I am… they teach me." (Ben)
- "Sometimes the internet filter blocks sites that I need… I get around it the same way the students do." (Ben)
- "It's hard to make assumptions about students' skill level with software." (Louis)

Technology that's available in the classroom isn't being used to its full potential

- "I know that the Smart Board can do more…" (Greg)
- "A lot of teachers don't use technology the way they should" (Chris)
- "Mr. (…) didn't activate his Fusion page until October! (Students)
- "It's not fair!" Students talking about how other classes got to use technology more than they did

How might we help help students and teachers learn from each other how to use the tablet?

- Allow teachers to remotely control students tablet to help younger kids navigate, open apps etc

- Tips & Tricks forum

- Video tutorials, in-app help and tutorials

- Shared areas of app interface to look the same or as similar as possible

Teachers are used to having one visual reference at the front of the classroom that everyone can see.

- Can we project [Nearpod] onto the Smart Board? (Louis + Nicole + Erin)
- "I like having an overhead where I can bring up the internet." (Greg)
- Smart Boards have a shade function that lets the teacher focus attention on a portion of a reading (Jessica)
- It's hard to make sure that students are on the same page at the same time (Chris)

How might we support teachers accustomed to having a shared visual reference?

- Teachers able to share their screen with students
- Teachers able to shade or hide parts of the screen to draw focus to an area (like Smart Board)

- Teacher can control a pointer or highlighter on the screen
- Give students the opportunity to control a "shared screen"

Teachers are realistic/pessimistic about hardware robustness, logistics and practicality

- "What's the battery life like?" (Greg's first question)
- "I'm very, very nervous about technology in the hands of certain students… [it] will get stolen or broken" (Ben)
- "What happens if a student breaks this?" (Greg)
- "How difficult is it to make a lesson [on Nearpod]?"
- Laptop carts are "Horribly cumbersome" (Greg, Ben, Louis, Nicole)
- "Why is it [laptop carts] so difficult?" (Louis)
- After the tablet crashed: "When stuff like that happens, I freak out" (Greg)
- "Wires are the worst part about it" (Louis)
- If the technology doesn't work, teachers ditch it and move on (Jessica)

Teachers know that students always find a way around control mechanisms

Teachers need to see what students are doing to feel in control

- Prism website blocker: "Students always find a way around it" (Greg + Ben)
- "We have a program that lets you see students' screens—it's how we find the sites they use to get around controls" (Ben)
- Q: "How do you maintain control?" Louis: "Cardio" i.e. running around the classroom
- "I don't feel comfortable with this [Sundae] when I can't control what the students are seeing" (Chris)
- "With the Kindle you can't see the book cover and know what they're reading" (Chris)
- "How do I see a student is on task with the tablet?" (Greg)
- "If I hold the tablet like this, you can't see the screen." (Louis)
- Nicole: In our computer lab all the screens face the center so that teachers can see what students are doing. Erin: "That's a great setup!"
- Students found a way around the lock screen in a couple of minutes

Teachers accept technology adaptation as a given

- Excitement and fear about "the way things are going"
- "I love it, I feel like it's the future" (Chris)
- "This is the way things are going" re: tablets and technology (Jessica)
- "There's going to be a waiting list a mile long – we won't see it" re: iPads coming to the school district (Ben)
- "In the last few years everything's going onto computer" re: lesson plan content (Greg)
- "You don't have to plan teachable moments" thanks to technology (Chris)