Pulling agile into education

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Our school is pulling agile into education. Now three years in, here's a snippet of our journey, highlighting the multiple paths we've been moving along and where we hope to go in the coming years.

A few years ago we created a research center at the high school level dedicated to exploring our ability to foster self-regulated learning in our students.

The origins for the center grew out of a study evaluating some donated Samsung hardware and software that promised to individualize and improve student learning. What we found instead was cumbersome software designed to share (and control) student tablets, software that seemed cool but was mostly a distraction, student behavior that was more off-task in our experimental classes than our control classes, and a teacher who pulled out of the study because he didn't feel he could afford to lose any more time due to the technology.

We turned our attention to iPads, with which we had some success. After a semester of study, though, our most promising experimental user sent the iPads back to our IT office. Smart Boards? Well, they fared better, with our research observations and teacher feedback reporting in at least neutral. At least we were doing no harm, which felt at the time like something of a success.

All three studies, Samsung, Apple, and Smart Boards, were conducted using an [observation tool](#) that we developed ourselves in order to give feedback in professional development programs to our teachers. Our understanding of the tool grew with its use, as did the need to move it from a paper to a web version. Eventually, in collaboration with the local university, we

created a second tool from the original, which we are just beginning to use and understand better.

Our research center also evolved. What began with a single professor spending his sabbatical with us developed into a support structure for two main types of academic activity: visiting scholars, whom we invite to work with our students and teachers in order to further their own research agenda, and resident scholars, our own faculty members who take on extra research and curriculum projects as an extension of their professional development.

One productive line of inquiry that evolved from our early commitment to self-regulated learning was a suggestion by my colleague Bill in the IT department to structure a class using scrum, a methodology supporting collaborative, iterative group work that is well known in the tech world – but only just beginning to appear in education. And here the story of EDgility - thank you Bill for the name - really begins.

In school year 2014-2015, I taught an experimental class to 17 students, grades 10-12. The students had three principle tasks. First, they were to spend their time learning one or more languages, with online support. Second, they were to review, in teams, online learning platforms, like for example Babbel and Duolingo. Third, they were to create language awareness activities based on a template.

By early November of that school year I was seriously foundering. I was in need of some sort of structure, or framework, to support the self-regulated learning I was dreaming of. Bill pointed us in a new direction with a late night SMS: "check out eduScrum," he wrote. "It could help." And so scrum entered our education vocabulary at LAS.

I checked out the website and contacted the method's lead creator, Willy Wijnands. Willy was on sabbatical and suggested I contact John Miller of Agile Classrooms. I did. John offered to

skype with Bill and me and soon we had a monthly check-in to talk about how things were going in my experimental class. We were on to something.

I put the students into groups of four (with one group of five, if you remember I had an odd total number), assigned a scrum master, provided limited background on the process as I understood it from eduscrum, and got them started with daily standups for a weekly sprint of four class periods. Each chapter that I wanted them to work on was the equivalent of a task on a sticky on a simple Kanban board, with columns of TO DO, DOING, and DONE. I made the board very large, however, and taped to it any drafts or work we had already done. Hard copies on A4 paper, taped to the wall.

"If people aren't laughing at your dreams, your dreams aren't big enough."

- *Robin Sharma or Grayson Marshall*

Students, it turns out, are wonderfully flexible. They understood easily the principle of pulling in a chapter, working on it to a specified set of standards (the definition of done, according to scrum), and understood the value of the stand up to introduce their work. They reported their daily work on a burndown chart, showing how much was left to do and the amount of time they still had to do it. In some instances, scrum masters assigned homework so that the work would be done on time. In a rare instance I helped a group reflect on their process.

The first finished chapters started coming in. I felt a little like I had jumped off the bank of a river into the water without checking the depth. Or the temperature. Or whether I was wearing a bathing suit. But now in midair, well, necessity is the mother of all invention.

While students were working on their second sprint (their second chapter), I met with working groups from the first sprint to review their work. I decided to set one grade for the whole team. I

structured my review of their work based on our preset definition of done – the equivalent in education-speak is probably best understood as a rubric. I set it up a bit like a group defense of a thesis, requesting that all team members be able to answer any question in order to check that the work was collaboratively achieved, not merely created by a nominal team that had broken the work into four barely connected individual tasks.

By now any certified scrum master is probably squirming with questions about the various mistakes and misapplications of the methodology. (I prefer to think of them as small liberties.) But the improvement over my previously non-methodological approach to self-regulated learning was evident and we did, as a class, publish an iBook, called [Language Awareness](), at the end of the school year.

Bill and I, checking in with John, also convinced ourselves that we were on to something. We brought two of our colleagues to a conference hosted by the Dutch group scrum@schools – an offshoot of eduscrum – and witnessed in the northern town of Gröningen what classes using the process could accomplish. Like in the original eduscrum videos that had convinced me to give this approach a try, the students we saw were able to start class independently, without a teacher, confer briefly about what they planned to get done, and get down to work in what appeared to us, anyway, a spirit of collegiality and collaboration.

We were off and running.

To mix metaphors, our running wasn't necessarily smooth sailing. I had no experimental class the following year to continue learning with. The application of eduscrum by teachers existed, though minimally. Bill stepped up, however, with the after school activity makerspace he was running. Bill didn't use eduscrum, but furthered self-regulated learning in a simple way. He required students to write down on a white board what they were going to work on and take a picture of what their project looked like at the beginning of the activity. Ninety minutes later as

they were leaving he required them to take a second picture of what they had attained. While not a perfect system – some students still do manage to get by without producing much – the atmosphere in the activity has shifted markedly in the direction of positive, goal-oriented work. More than ever we are convinced that students want to create things, they want to get things done. Setting the minimal structure to maximize their self-regulation is the trick.

We sent a second group of teachers to the eduscrum conference the following year. We also invited John Miller to do a two-day workshop at our school (for us and invitees from other schools). Our teachers were interested, attendance was good, the workshop was good, and the day Bill and I spent with John walking along the footpaths of Lake Geneva brought out some of the best learning I had that year. We arranged with John to come back as a visiting scholar and promised to keep up the effort.

In addition to the work with the research center, other work gave us a chance to use a new tool, namely Trello. Trello is familiar in the IT world, but not necessarily in education. It is an online kanban board which can be set up however the user wants. Introduced by a colleague in IT, Trello quickly caught on with several of us organizing larger projects. Two major projects, designing a middle school and a self-study required for a ten-year accreditation visit, required that a number of additional faculty use Trello on a regular basis, resulting in many more teachers getting a feel for how kanban helps make work visible. We'll return below to how visibility became our first step in introducing agile at the classroom level.

Our school embarked on a planning year to create a new section, a middle school, which in our case meant adding a seventh grade and putting seventh and eighth grades together in one building. Curriculum, extracurricular activities, and residential life was to be planned by several people, over the course of a year. We began with a backlog, a to-do list of courses to be planned, a to-do list of projects that cut across courses (e.g. assessment philosophy, integration

with the grades following the middle school, discipline, parent reporting), and to-do list of residential and extra-curricular planning. Teachers working on program development, administrators checking on progress, and admissions staff wanting details to sell the program were all invited into the process. There was no scrum here - the two of us in charge were in fact fairly top down - but the work was visible. We could call it a first step in introducing a feature of agile, visibility, to the wider school community.

During the same year we were preparing as a school for an accreditation visit. Schools generally are accredited by one or more organizations. A common feature of the process is a year-long self study, pulling together evidence to support claims of well operating systems and self-identifying areas that need work. Reports are sent to the accrediting organization which arranges for a group - nine international educators from around the world in our case - to visit the school to check that the school's report matches their impressions of the school. Reports and evidence are required in seven areas, including for example overall management, teaching and learning, safety and security, admissions, the physical plant, and so on. The school is also required to involve all faculty members in the year-long self study.

One word: Trello. All committee chairs, department heads, and section leaders were working from a shared board again, moving fairly large pieces of collaborative work from doing to done. But there were opportunities to make some small bets using our growing agile mindset.

First, the steering committee was required to do lots of editing, but could only meet together for short amounts of time. We organized ourselves as a committee with a white board and tasks, and spoke about working in 25 minute "sprints" between check-ins. ("Whoa!" says the reader trained in scrum. "That's not a sprint!" Well, you may be right, but we are not dogmatic.) Working alone, in pairs, or in small groups we pulled sections to edit, stayed heads down for a 25 minute spr … well let's call it a [pomodoro], and then relaxed as we checked in with each other. We

asked the traditional stand up questions: what did you get done and do you know what to do next? And is anything holding you up that we could fix right now? To a purist we're all over the map. We say: baby steps, small bets.

The process required us to make a plan to address any deficiencies we identified. We modified the template the accrediting organizations had provided us to create tables with actionable steps. The final column we labeled "definition of done," which encouraged us to state the work we were committing to in terms of outcomes. To address connections between classes, one outcome reads: "Pro learning schedule for 2016-2017 includes specific time for horizontal work with a specific agenda for those times, published and shared at the beginning of the school year." We were grooming a mindset that requires specific outcomes to address identified problems, with some of the vocabulary from the agile world. Moving forward, enough faculty understand "definition of done" so that when it appears in other work, the bar to assimilating this mindset is just a little lower. Baby steps and small bets.

During that year, two of our faculty working in the research center, and who had attended John Miller's two-day workshop on Agile Classrooms, introduced a kanban process to the girls in their dorms. The girls planned their annual Christmas party as a dorm, using a primary tool of self-organization - visibility. As residential hall directors Andie and Suzy described in a presentation to administrators later: "Our goal was to create a tool that would encourage better leadership, teamwork, and accountability among our student leaders in the dormitory when planning events."

And finally, during the same year, two teachers in the ESL department experimented with visibility through kanban boards. One of them, DeLona, had attended the Scrum at School conferences in the Netherlands. The other, Aaron, had attended John Miller's workshop. In both cases one could call their efforts beginning - because they are beginning, after all. In neither

case would I say their work with the agile mindset is insignificant, because of course incremental change is the name of the game and the theme of the last several paragraphs. We are inclined to think that the early adoption of the ideas in classrooms, dormitories, and program administration will set us up well for our next steps: agile mindset classrooms across the middle school and a curriculum development and review process for the middle school that is much more agile and much less hampered by the "big plan." And when we've achieved that, we may open the door from the middle school into the preparatory years (grades 9 and 10), where we will literally take what we've learned to the next level.

Key events at LAS

2013-2014 school year and earlier

- Creation of the research center with focus on self-regulation
- Student led coding club

2014-2015

- Experimental linguistics class
- Eduscrum conference in the Netherlands for 4 faculty members
- John Miller skypes and workshop
- Makerspace activity year 1

2015-2016

- Middle school program development
- 10-year accreditation self-study
- Eduscrum conference in the Netherlands for 3 faculty members
- John Miller skypes and workshop
- Makerspace activity year 2
- First appearance of kanban working with a project in a girls' residence hall

Summer 2016

- Experimentation of agile mindset in university course
- Second meeting of agile schools (at LAS)

2016-2017

- Beginning of middle school, with promise to include agile in teaching and learning
  - Two early adopters of kanban and some elements of scrum (eg standups) in year long courses
  - Four courses (Coding, Robot Gardeners, Makerspace, and Project Innovate) explicitly designed with an agile mindset
- Scrum Alliance conference in Munich for 2 faculty members
- Makerspace activity year 3
- Expanded documentation of teaching and learning that provide insight into the agile mindset

2017-2018

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Schools and people pulling agile into education

Agile Classrooms (English)

Agile Learning Centers (English)

Agora and Nieké Roermond (Dutch)

Blueprint Education (English)

eduScrum (Dutch, English, and German)

Leysin American School (English)

M.H. Willeke Adaptive (English)

Scrum at School (Dutch)

Vizdos Enterprises (English)

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