

Student Agency Supported by Visible Progress Trackers

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Abstract

For more than a decade Leysin American School (LAS) has been exploring ways in which to shift responsibility for learning from the teachers to the students. Student agency is supported through an on-campus research center focused on self-regulation for both teachers and students. The center runs professional development programs, created a progressive middle school, and is currently running a microschool program, all of which had or have student agency as a central focus. In the past five years, much of the program development and execution has been influenced by an adoption of an agile mindset, borrowed from the business world. In the center's latest initiative, a microschool for grades 8 to 12 called the [LAS edge Program](#) has been designed to support student agency.

In the 2020-2021 school year, seven teachers began the second year of the program with a commitment to student agency in the *LAS edge* classrooms. The goal was to release, in a significant way, the control of the curriculum, syllabus, and pacing to the students in order that they learn how to manage their own learning. One significant tool were visible progress trackers, used in different manners in all classes. For the first four weeks of school, the teachers recorded how they were using the visible progress tracker they had designed.

Implementation of the progress trackers varied, as did the perceived efficacy of the progress trackers to support student agency. More work is necessary to either realize the full benefit of the progress trackers or to shift to an alternate and more effective support system to support student agency.

Keywords: student agency, self-regulation, agile in education, agility, kanban

Student Agency Supported by Visible Progress Trackers

Leysin American School (LAS) is an international boarding school in the Swiss Alps. Approximately 300 students from over forty countries study in grades 7 through 12 (12-19 years old), graduating with an American high school diploma and for many, a diploma from the International Baccalaureate. Teachers at LAS are typically native English speakers with a range of international school teaching experience. Many teachers are open to trying new ideas and challenging traditional school models.

Origins of Agility at LAS

In 2009-2010, LAS established a professional development program which emphasizes teacher collaborative learning through discussion and feedback. Over the years, the emphasis of teacher experimentation and documentation as professional development steadily grew, coalescing in the creation of a research center with several part-time faculty members supporting many more faculty members working on various action research projects. The basic Deming cycle (Henshall, 2020) of *plan, do, and reflect* became incorporated by several faculty members in the research center who were interested in pulling agile, from the software world, into class instruction, curriculum development, and professional development.

The earliest adoption of agile practices in the academic side of school originated in a suggestion made by Bill Tihen, the school's IT director at the time, to consider adopting scrum methodologies, specifically eduScrum (Wijnands, 2020), to manage an experimental project based world language class. Through eduScrum's founder, Willy Wijnands, we connected with other early adopters of agile in education, most significantly John Miller of Agile Classrooms, who eventually worked with our school faculty on three separate occasions and introduced us to Scrum Alliance and many individuals working with agile practices in education.

Pulling agile into education continues to be a central focus of the research center (see e.g. [Agile in the Alps](#), [EDgility](#), and [Spotlight: Pulling Agile into Education](#)). Our early

experiments with eduScrum and later attempts to understand the application of agile practices and the agile mindset in education led to quite a bit of work with kanban boards, known by various names, including a flap (eduScrum) or radiator, for example. Early adoption of agile may often concentrate on a kanban board, because it is as easy to understand as to apply in classrooms (Logan, 2020).

Toyota is generally credited with making kanban popular, using it to organize just-in-time stocking of materials used in production (Kanbantool.com). Literally 'signboard' or 'billboard', the use of kanban at Toyota signalled when more materials were needed at any step of the production process, thus limiting overstocking but not slowing production by running out of needed materials. The current usage in the agile community maintains this emphasis on lean manufacturing by using kanban to set limits to the amount of work in progress. Kanban boards are now familiar in the agile community as visible organizers of workflow and come in a variety of shapes and sizes.

It is not only the physical display of work and workflow but *how* the display is used that makes it effective or not. At LAS, kanban boards are now relatively commonplace in quite a few classes and administrative offices, but their utility in the classroom is still uneven. We continue to experiment in order to discover more effective ways for learners to utilize the kanban board - or any visible display of work and workflow - to support their personal agency.

Continued Experimentation with Agility

Middle School

In 2016-2017, LAS introduced a new middle school model for students in grades 7 and 8. One of the main goals of the program, as developed by the research center, was to give the students more autonomy and choice than in traditional environments. The focus on agile in the classroom already present at the school became a mindset that underpinned the middle school's principles and practices. Students were enrolled in both core classes (e.g. math, science, and language arts) and more experimental classes, which lasted between four and six

weeks, called Academic Exploration. Topics included robot gardens, computer coding, life skills, art, Swiss history, language construction, engineering, and international cooking, to name a few. Within these non-core subjects, teachers were most able to experiment with alternative teaching methodologies, including our understanding at the time of agile in education. Academic exploration classes were not graded and were, to varying degrees, managed by the students with assistance from teachers. The teachers experimented with different methods of making learning visible, hoping to teach students lifelong learning skills in addition to content, with the ultimate goal of generating the students' interest and ability to play a larger role in their own learning.

LAS edge Program

The *LAS edge* Program, created three years after the middle school, is a set of elective classes for students in grades 8 to 12, couched within the larger traditional program. Its hallmarks include small, ungraded classes in four disciplines: outdoor adventure, the arts, entrepreneurship, and design and technology. Like in the academic exploration classes of the middle school, learning how to learn - the skills of learning - are an intentionally significant part of the curriculum. In fact, in the *LAS edge* Program, skills for being a good learner are emphasized more than content. In other words, a successful outcome for the program is students with greater personal agency, who know how to manage their own learning.

In these courses, frequent, low-stakes feedback is valued over the teacher's summative judgments about the quality of student work. Students maintain a journal, develop an ongoing portfolio of their work, demo their work to others regularly, sit side-by-side with the teacher as they are working, and give feedback to their peers. Like in academic exploration, there are no grades. (Actually, to fit in the traditional program, students do receive a Pass on their transcripts. Teachers in edge tell their students early in the semester that they all have earned a Pass, intentionally removing one of the larger carrot and stick control mechanisms from the program.)

Year 1 - 2019-2020. The original structure of LAS *edge* required students in each of the five specialties to plan in two-week increments. Each two-week period contained seven class meetings. Students were asked to pull (to select) one project that they could complete in 3-4 days and a few class-long training activities of their choice. Training activities included games for agile training, collaboration practice, and self-directed feedback, like the journal writing and peer-to-peer feedback mentioned above.

The structure mirrored a two week sprint from Scrum (a version of the Agile framework, see for example the [Scrum Guide, 2020](#)), but there was little spirit of a sprint among the student groups. Implementation from the teachers varied from subject to subject and the variable student engagement led to a continual loosening of some of the early program guidelines. Adherence to any uniform process loosened considerably. Teachers generally did not use kanban boards, though each two-week chunk of work was often posted or written by the students themselves in their journals.

By the second semester, many students had, nonetheless, adopted a fair degree of student agency and were working on projects of their own interest, at their own pace. Some students excelled and used the time and freedom afforded them. For example, two of four students in the Alpine specialization embraced their ownership of the curriculum, though sometimes at the expense of collaboration with the other two students; most of the artists were able to focus on their individual projects; some young entrepreneurs started businesses and earned money while others struggled to start anything significant; and a few students in the makerspace adopted a strong self-starter stance in the course of the second semester.

In February and early March of the first year of the program interviews were conducted with a number of students about their experience. The paraphrased comments or occasional quotes below come from students in several of the content areas.

“I was confused.” This is a fairly general sentiment of most students. In the beginning of the year, students had not internalized the purpose of the program. Teachers believed the

students were going through a process of *unlearning* what school is and what was expected of them. So while the teachers were willing to give students time to sort out their relative freedom, teachers also learned that they should make these new learning procedures more clear.

Students reported that getting started and staying focused were both difficult skills. (They are also both worthy goals of the program that students needed to practice.) It wasn't uncommon for students to express that the program could be more structured in the beginning "to help people get the idea." Some students also expressed a desire to get started with their self-regulated projects earlier. In an interesting twist, some of the first semester training in agile and collaboration - mostly small simulation games stressing collaborative work - may have actually gotten in the way of the self-regulated practice students could have been experiencing.

Students did get direct experience with the effort it takes to stay focused. "You have to set a goal for yourself," one said, in order to be more creative and have more control. The same student thought the course might be helpful for her future when she had to plan for herself, and "not just because the teacher forced me to." Other students agreed. At least one student mentioned the effect traditional school can have: "Because we grew up with how school works in general - you are told what to do. Here no one is governing me."

"We can think by ourselves," said one. And in a delightful formulation of a non-native English speaking student: "Edge is stairs that I can go up by myself."

Year 2 - 2020/2021. In its second year, the LAS *edge* Program expanded to include classes in grades 11 and 12 within the same disciplines (Alpine adventure, arts, design and technology, and entrepreneurship). The program grew from 35 students to over 90, partly due to planned expansion and partly due to scheduling needs. The number of teachers increased from five to seven. The program continues to gain momentum and reviews from parents and students have been positive so far. As the *edge* department looks ahead to the program's third year, there are plans for further expansion within other areas of the school, a move that will increase again the number of students and teachers involved.

During the first semester of the second year, students have been providing constant feedback to help us monitor and address some of the concerns of the previous year; namely, being unsure of the program's purpose and waiting too long to get into their own projects. The school year began with three introductory lessons using Agile games, a kanban board and explained the *edge* way of thinking about school. In comparison to the first year, this was perhaps one-fourth of the orientation and training to the program. The first requests for student feedback repeatedly echoed the student comment that "this class is really good, because I can create a thing that I'm interested in, it helps my brain to move".

Having choice is a constant refrain, both in the content the students decide to take on and the manner in which they do it. "I like the way the class works because I can choose what I want to learn, and this makes the class so different from the others - making the learning fun and interesting." Another wrote: "I enjoy being able to take control over my project(s) versus having a teacher hover over and control with constant due dates." And a third: "I think this is a great course to make our imagination come true." One student summed up what feels like a thought worth some serious consideration, when she commented on the practice of taking breaks when you need them, determined by oneself. "The fact that we can take breaks is truly amazing. We're all humans after all." Indeed.

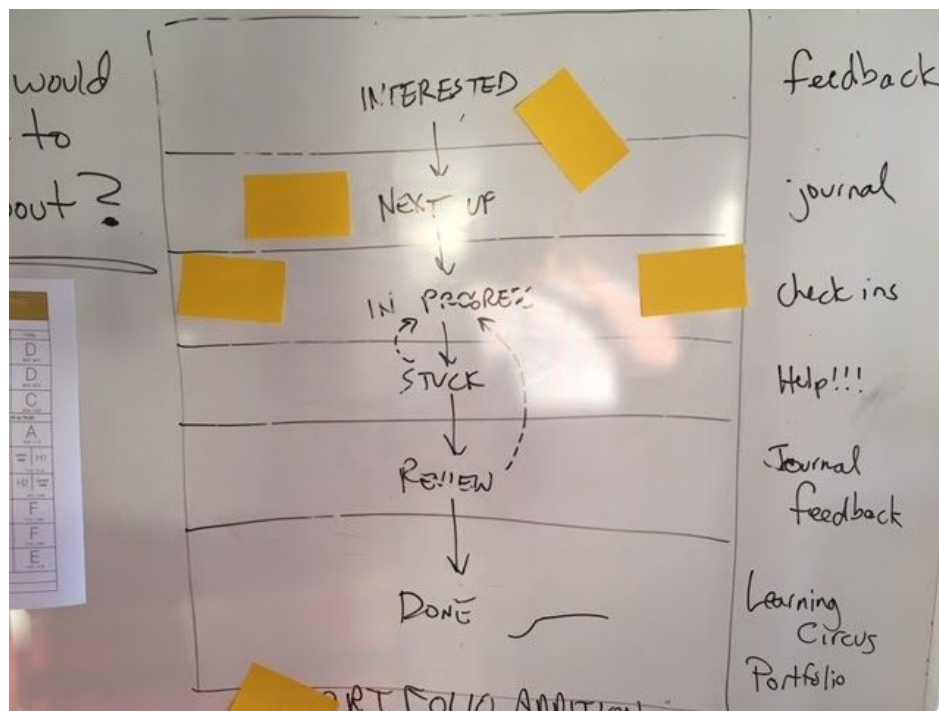
Making Learning Visible in the LAS *edge* Program

A central goal of the LAS *edge* Program is to emphasize learning skills over content (though both still occur). Teachers are asked to shift their role to facilitator and avoid telling students what to do in order to increase the amount of time spent *listening* to what students want to do. Moving into the second year of the program, it was decided to reemphasize making learning visible, as had been done in the middle school, in an effort to help students understand the purpose of the program and to support their personal agency. Based on our previous experience with kanban boards, we decided to loosely base our visual progress trackers on the spirit of the boards, if not their more traditional appearance and general uses. For example, we

did not emphasize limiting work in progress or using the boards for individual or group planning, both staples of kanban practice. To avoid the argument of whether or not we were doing kanban at all, we shifted our terminology from kanban to visible progress tracker (taken from a method of colleagues who developed [The Modern Classroom Project](#)). Those in the agile community could take issue with calling our progress trackers a kanban board in anything but the most general sense, since we decided to trial many different looks of the visible display of work. We got to the visible progress tracker through kanban, but perhaps are no longer doing what many would perceive as a kanban system. Before the school year began, the program director created a template of a visible progress tracker (see figure 1) and then teachers developed their own versions and determined how they would use them. See figures 1-5 for examples of progress trackers at the beginning of the school year.

Figure 1:

Our original design from the first department meeting.



There was also a desire to make sure students were working on projects in manageable chunks and learning how to ‘smallify’ their work appropriately so they could get more specific about what they were getting done, on what kind of rhythm, and how often. Students were given lots of time to reflect and discuss how things were going for them. Teachers worked closely with them on the process of learning and managing their own work, with all the complications of sustaining motivation, climbing over hurdles, and learning from mistakes. The extent to which the visible progress trackers helped the progress isn’t entirely clear. Some teachers didn’t use the visual progress trackers much, yet still had classes with significant examples of student agency.

In the design and technology class, students started each lesson by writing on the whiteboard what they were going to get done in this class period. They were effectively ‘smallifying’ their project into manageable chunks. (See [Tihen, 2020](#) for more discussion about the notion of smallify.) Figure 2 and 3 show examples of what this looks like in class. In the early stages students would write things like “cut the pieces for my car” or “use tinkercad to make the 3D design.” Their statements were often quite vague and they often described work that would take them much longer than one lesson. With some reminding they were able to focus their daily tasks to more manageable and specific things so that they were able to complete them within the lesson time. Students began writing more focused tasks, like “cut out the wheels for my car” and “design the king for my chess pieces with Tinkercad”. Making the learning visible on the board opened up group discussion about what they were working on, how they could break the project into manageable chunks, and how they could communicate that to each other clearly. It also allowed us to do a stand-up at the end of each lesson to check in on whether the students completed their tasks for that lesson, and if they didn’t it was a good time to discuss the reasons why.

Figure 2:

The daily task board in the design and technology class.

Name	Project	What I'm working on today	Teacher help?
Louis + Joki	3D LAS Logo Completed by: (1 week)	Animation for LAS logo #2	No
Kosuke + Aina	Cardboard Lamp Completed by:	Finish glueing. Plan light.	No
Nacho + Alvaro + Isabella	Da Vinci Bridge Completed by:	Finish Portfolio. Plan next project.	Yes
Abdullah + Yvonne Tom + Baihao	Completed by: Lego machine	Build the base + folding machine	No
Jordi	Raspberry Pi Completed by:	3D print a design from tinkercad. Lego brick?	Yes
Andrea	3D Printed Glasses Completed by: 3D Printing + Tinkercad	Cut fabric for pillow case.	No
Yuki	Redesign the LAS uniform Completed by: Sewing a Pillow Card trick tutorial Completed by: Instructable	Finish portfolio. Plan next project.	Yes

Figure 3:

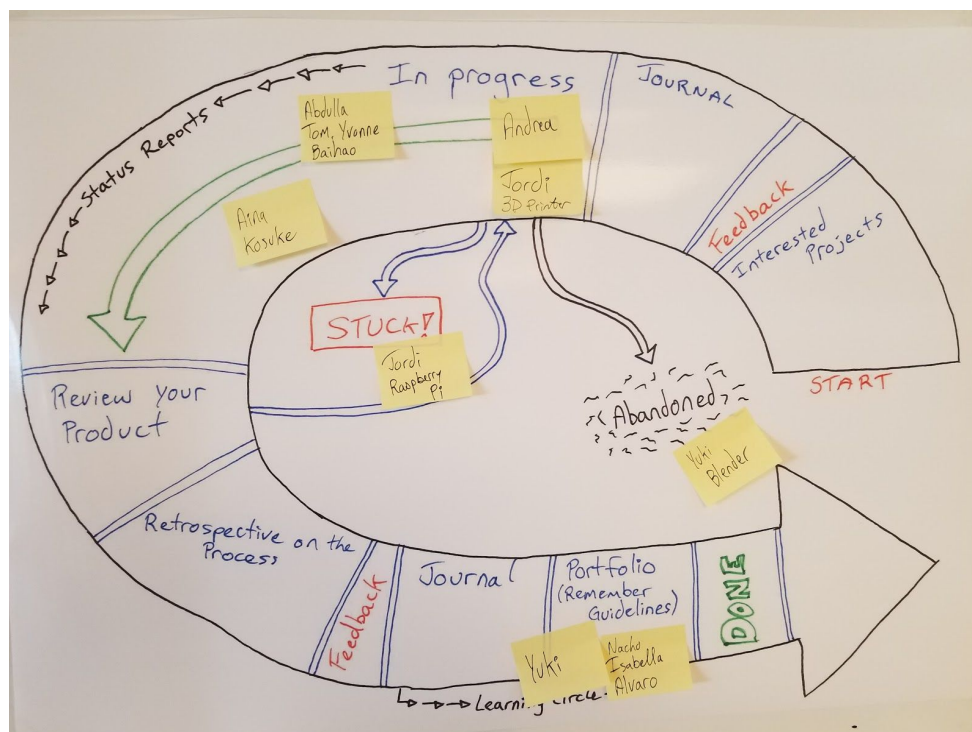
A progress tracking board in an LAS edge music class.

GUITAR, DRUMS, VOICE KANBAN TABLE				WEEKLY PRACTICE PLAN MADE IN DIARY?	PRACTICE DONE?	MUSICAL DU PNT EVIDENCE & RECORDED?
NAME	PROJECT	WORKING ON...	NEED TEACHER			
NICOLE	LEARN MAJOR 'CAGED' CHORDS ON GUITAR.	MIND & MUSCLE MEMORIZATION OF MAJOR 'CAGED' CHORD SHAPES. PLAY WITH DIFFERENT STRUMMING PATTERNS.	✓			
GUSTAVO	"	"	✓			
NACHO	"	"	✓			
DAVIEL	"	"	✓			
ALEX	"	"	✓			
FUN TASK	HOW MANY WAYS/KEYS CAN YOU GET JIMI HENDRIX'S VERSION OF THE SONG 'WILD THING' TO WORK WITH MAJOR 'CAGED' CHORDS					

The version of a visual progress tracker that was originally used in the design and technology class is shown in Figure 4. The aim was to make sure students knew where they were in the overall scheme of their project. A planning phase was required before starting, as well as a reflection period at the end. Students were asked to share their project with others and to complete an entry in their portfolio. These practices helped them realize that they were learning quite a few skills through their projects. In some classes this board also served as a pacing tracker and students could visually see where they were compared to their classmates. Although students did not have firm deadlines for their projects, they worked closely with their teacher to agree on a time when they thought their product was going to be “good enough”.

Figure 4:

One of the original progress tracking boards.



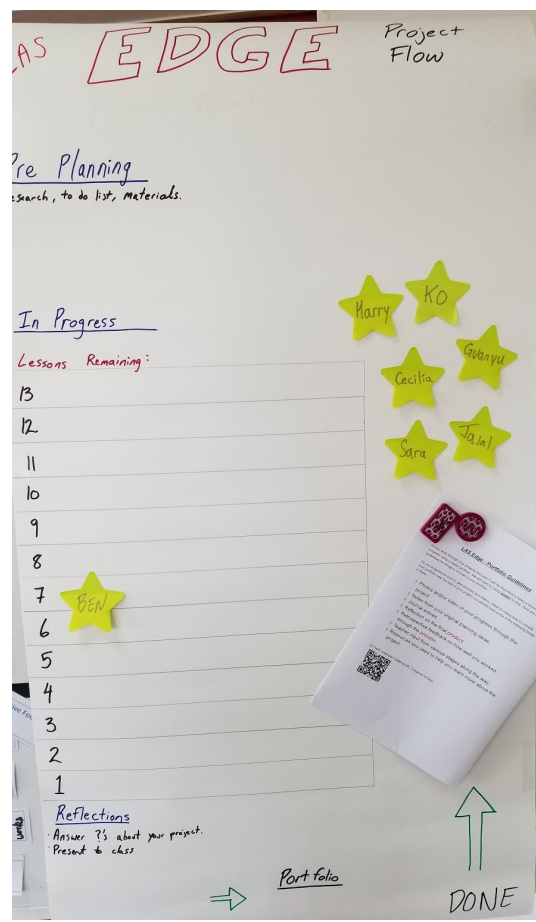
Feedback

Teacher Thoughts After the First Month

As progress was made through the initial phase of embedding visible learning into classes, it became obvious that students were increasingly comfortable getting right to work after arriving in class. They moved their attention away from the progress tracker and instead just started working. Students getting to work without prompting is excellent to see as a teacher, yet there was still a desire to emphasize the visible tools. Some teachers redesigned their progress trackers, while some teachers left the original progress trackers in place, either quite neglected or occasionally updated. The second version of the progress tracker from figure 4 is shown in Figure 5. The photo was taken on the day the board was introduced to the class so student names had not yet been added. The second version was intended as a simpler design of the first version, placing more emphasis on the number of lessons required to finish a project, and including the steps needed to finally say a project is sufficiently done.

Figure 5:

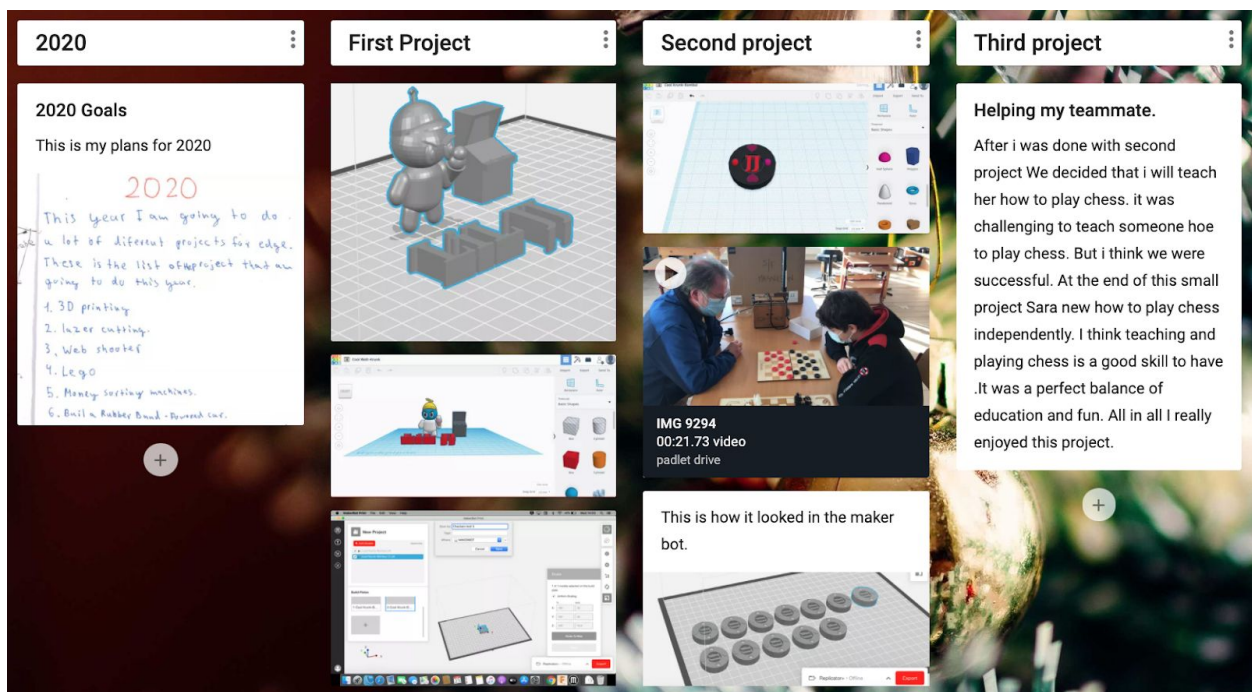
The second version of the progress tracker in the design and technology course.

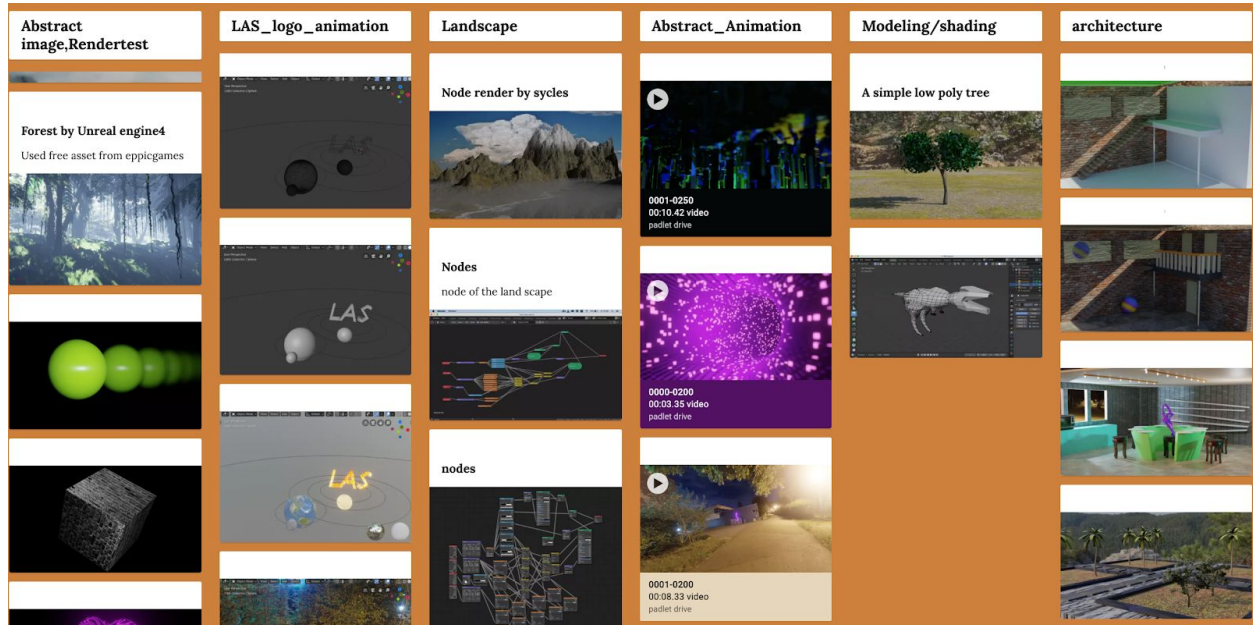


Since students are not graded on their final project, it was necessary to find a way to make sure their end product was still recorded somewhere so that it could be shared with peers, parents, and other faculty easily. Students in each speciality created a portfolio using a Google Site, Google Slides, or in design and technology, a website called Padlet to document their progress over time and reflect on their work (see figure 6). This gave the students some confidence that their work would be preserved and that they would be able to remember what they had created over the course of the school year. It also provided a basis with which students showcased their work to other students and teachers in a gallery walk format.

Figure 6:

Examples of student portfolios.





Student Thoughts After the First Month

Student comments were gathered after the first month of implementation in the classroom. A main theme from the combined student comments focuses on a feeling of freedom. Students being “able to do what they want,” summarizes the students’ perception of the difference between their LAS edge classes and their traditional classes. When asked to elaborate on that idea, many clarified their responses, paraphrased to: “well, not whatever we want, but we have the ability to choose what we work on.” A student in the design and technology class wrote this in his journal when asked what aspects of the class he liked most:

“I think this is great since the projects that we can do in this class are endless.

And there are many materials that we can use. Also, when I am at school, this class is the most anticipated class in the whole school day. Because I want to finish my project quickly so that I can play with it.”

There are many options in these courses, since students are not limited by the imagination of the teacher. Instead, the options are amplified by the imagination and determination of everyone in the room. Many students report that they enjoy coming to an LAS

edge class because they are able to focus on the task they are interested in, for as long as they want, without having to follow the lead of the teacher. The irony of this particular student's comment is that at the end of the semester he was still working on the same project he started at the beginning of the semester, despite wanting to finish quickly so he could play with it. Hopefully this is an example of the student's perseverance and dedication to a complicated project and not an indication that our use of progress trackers and the format of the class doesn't offer enough push to complete a project.

LAS *edge* is very intentional about letting the students take the lead, whether in the pace of work, as mentioned above, or the choice of project. Students are very aware that the structure of the classes is different from the other more traditional classes during their day. One student wrote:

"I think this is a great course that allows students to unleash their creativity and imagination. We are allowed to do something that is usually not allowed in other schools and this makes the *edge* program stand out from the rest."

Students appreciate that they are being offered something different that they aren't able to do in other contexts. They find that exciting. The freedom they have is not without its challenges, however. A student noted:

"I like that in this class we get to choose what projects we get to do and do things that interest us. The only downside is that sometimes it can be hard coming up with new ideas all the time."

The difficulty of coming up with new ideas is a very real problem. It is perhaps exacerbated a bit in a context, like school, where students are almost always given assignments instead of giving *themselves* assignments. Another way to say this is that there is an assumption in school that teachers give students ideas. In LAS *edge* there is room - almost even the requirement - that students give teachers ideas. This student has noticed the difference and is now tasked with learning how to generate ideas himself.

Adjustments to the Model

A student survey asked students about their experience with the progress trackers. Eighty-one percent of students said they were using a progress tracker. When asked if the visible progress tracker helped them with their learning, 68 percent of the students responded that it did. We frankly do not know if this is a good statistic or not. Given our various levels of understanding of how best to use the progress tracker and our distribution as a team of LAS *edge* teachers across two campuses, seven out of 10 positive responses is perhaps acceptable. On the other hand, since there are so few program requirements regarding the management of LAS *edge* classes, and since the progress tracker is one of those requirements, two of 10 students not using it at all - plus the additional percentage of students who don't agree it is helpful - may signal a problem. It will be interesting to see in the coming semester, using a uniform progress tracker across all LAS *edge* classes, if students find it more helpful.

Conclusion

The school year began by having all LAS *edge* teachers agree they would use a version of the progress tracker that they felt comfortable with and that would be adapted over time. It was also agreed that we would eventually arrive at one visual project tracker that is universal in all LAS *edge* classes. This point has not yet been reached nor are we sure any longer that having a common visual project tracker is necessary. There is some evidence to show that a majority of students find that the visual progress tracker is helpful, but it is not yet known if the students experiencing the greatest feelings of personal agency are the ones who have bought into the progress trackers the most. We rather doubt it, in fact. At the same time, there is reason to suspect that a stronger visual progress tracking system across the program would benefit those students who report that they enjoy the program's freedom but are not getting very much accomplished (an admission that is a bit harder to elicit in a survey but something all LAS *edge* teachers witness anecdotally in the program for some students). As one piano student put it, the self-regulated class works great for him because he is very motivated to learn piano, but it is

harder for students who may have been placed in the class without any real personal motivation to learn to play. Indeed, he regularly updates the progress tracker as he enters the classroom. Some of his classmates might never update the progress tracker without the teacher calling attention to it and this creates an interesting situation. For this less motivated student seeing what his classmates are working on and the progress they are making might help less motivated students understand the opportunity they have to take control of their learning. We struggle the most to use the progress tracker with the less motivated students, though we think those are the students who stand to benefit the most. As reading teachers say, anyone can teach a good reader to read. Teaching the struggling readers is what makes a great reading teacher. As we move forward, helping the struggling students - the ones without great personal agency - to use a system of visible progress tracking will be our best measure of real progress.

Conclusion

The progress trackers remind us, as teachers, to reflect with students on personal agency and how well they are able to motivate themselves. The simple act of not updating the progress tracker (which is usually left to the students) or of having the same status on the progress tracker over several classes reminds us all of the purpose of *LAS edge*, namely, learning how to manage one's own learning. But whether or not the progress tracker makes a significant contribution to the success that has been gained with students taking charge of their own learning is still unclear. With luck, the coming semester will teach us more and future students in the program will benefit.

The agile mindset, which led *LAS edge* towards showing students work visually in the first place, will remain something of a lighthouse for our teaching and learning philosophy. While we grew increasingly doubtful during the first month of the program that we were actually using a kanban process, the agile mindset and the related desire to give people control of their work and support their personal agency continues to be important to us. Using a kanban board correctly isn't the program's goal. Developing student agency is. So while we now use visible

progress trackers instead of kanban, we know the two are related and that our interest in using visible displays of work was inspired by kanban. We are proud of the personal agency that we do see among many of our students and know that kanban has been part of our journey so far and will continue to influence us as we try our best to support student agency in class. Their success is our success. We can't lose sight of that.

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