
STUDENT-LED INTERNSHIPS:

An exploration of interest, motivation and process

JUNE 1, 2014
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The importance of personally taking control of the direction of learning from the very first steps cannot be stressed enough. If a person feels coerced to read a certain book, to follow a given course because that is supposed to be the way to do it, learning will go against the grain. But if the decision is to take that same route because of an inner feeling of rightness, the learning will be relatively effortless and enjoyable. --- Csikszentmihalyi, Flow, p 139

Traditional educational environments are not places where risk is rewarded. In our current educational climate, sometimes we consider small shifts, such as not being penalized for taking a “guess” on a standardized test, indicative of an environment where intellectual risk-taking has been provided. A great deal of academic time is spent on helping students learn to “be correct” and though process versus outcome is definitely a trend in education right now, failure is still not rewarded very often in learning environments; failure is still something to be avoided. Yet, at the same time we seem to send students mixed messages. We tell them we want them to be creative, think outside of the box, collaborate with their peers and think like entrepreneurs. Thinking creatively and outside of the box inherently involves a measure of intellectual risk. It is incredibly difficult to push intellectual boundaries when at the end of the day, everyone involved, students, teachers, administrators, and school districts are ultimately evaluated on their ability to not fail.

As Loewenstein says, “The pedagogical literature encourages teachers to stimulate curiosity and decries the educational system’s tendency to quell it” (1994). We firmly believe that giving students the opportunity to delve more deeply into their interest areas and curiosities, in a more open-ended structure with the support of peers and expert mentors so that they can try, and fail, and try again is a vitally important and highly relevant type of learning experience. This type of non-traditional environment doesn’t always fit well within the regular school structure or regular school day. So, we pulled it out. We wondered, how would students react without the pressure of grades and projects that had to work right? What if we began to look at learning, in a more non-traditional setting, with less structure and pressure than the regular school environment?

Through partnerships with schools that follow the Big Picture Model of learning (which includes internship experiences within the local community), afterschool programs and summer programs, we have developed what we call the “Student-Led Internship”. The design of this program, involving high school aged students, is developmentally appropriate, cognitively challenging and a more unstructured environment through which collaboration, creativity, entrepreneurial thinking, design thinking and constructivist learning emerge. In this environment intellectual risk-taking is not only encouraged, it is a necessary component for success. What is not necessary is having a project that works “right” or even looks like the idea that the students walked in the door with. The learning is in the process, not the product.

This paper explores the fundamental ideas behind the Student-Led Internship, the research that demonstrates the importance of programs like these and the role creative and intellectual risk plays in a more unstructured learning model. Specifically in this paper, we will focus on the role of interest and motivation, process and elements for success.

Interest

Silvia describes interest as a “knowledge emotion” (Silvia, 2001). It is one that is often largely positive and gives the individual a sense of being excited and “energized, captivated and enthralled.” (Paul, 2013). We feel that this true sense of interest, deep focus, and positive feeling is often missing for students within their regular school days. Our case study interviews with 40 young people indicated that the majority did not feel that school was a place for them to really delve into their passions and true interests; those were things they had to pursue on their own, externally, if they had the extra time or resources.

Silvia suggests that in order for something to truly be “interesting” it must be novel, complex and comprehensible (2001). The structure we employ with students, in its flexible nature, allows us to hit all three of those concepts. The novel approach of the student-led internship is having a teen pitch a project of interest to a group of adult mentors that are there to provide expertise and support. This allows students to select a unique topic that is complex and have a team of experts on hand to ask any questions they may have. Since a requirement is that the project take at least a month (most typically run significantly longer) their complexity is built-in at the outset and the team involved with the students works to ensure that they fully understand what it is they are doing. Even though there are mentors and experts available for guidance and support, students are expected to “own” their project and they must be able to explain and comprehend it.

One of the fundamental points we wish to make about the internships is that even though students pitch a particular project, it is a means to an end. We want students to approach us with a project and topic that is truly of interest to them. However, by no means do we expect all students who, for example, elect to program a game to actually still want to be programmers at the end of the project. In some cases, the students have even changed their interest entirely after experiencing a disconnect between what they expected and the reality of the work they did. One of the more fascinating components of the internship model we employ is that we purposefully try to expose students to experts in multiple areas of their fields. This allows them to gravitate towards (or away) from various aspects of the field depending on their developing interests.

In his research on interest, Silvia points out that, “If interest is not experienced in the context of an activity and magnified over time, an interest will not develop, regardless of why the feelings of interest arose in the first place” (Silvia, 2001). Our internship program is designed to tap into the initial engagement and intrigue with an idea and then hopefully magnifying that curiosity more fully and encouraging intellectual exploration.

Other research done on more open-ended afterschool arts programs has demonstrated that work in creative areas, such as the arts, provide a catalyst for important cognitive, linguistic and social-emotional development of youth (Heath & Soep, 1998). Of interest to us is not just the work the students complete on their internship projects but also the higher-level thinking they do around risk-taking, problem solving, hypothetical reasoning (what if?), conditional reasoning (if-then), project management and interpersonal collaborative issues. Those broad categories provide practice with a skill-set that we think will serve them extremely well in their future academic and workplace endeavors.

Grassroots movements and educational initiatives that focus more on student-interest areas (areas of interest initiated and pursued by the students) are becoming more popular as schools attempt to find ways to better connect with individual students and provide them better opportunities to apply their learning. At this point, the initiatives are often small in scale but provide important information for the

wider educational community about what these “extended learning opportunities” can look like (Richmond, 2015). Previous research by the Education Policy Center at George Washington University has found that inquiry-based learning opportunities, based on student interest, that enable students to learn more about their interest areas, also correlate with increases in motivation. These types of more open-ended learning opportunities, in a less structured learning environment, “engage students in self-directed thinking” and “develop analytical skills.” (Usher and Kober, 2012). These programs work particularly well when there is a real-world connection, such as working on one’s own vehicle, and a genuine opportunity to collaborate with fellow students [as well as experts]. We believe the real-world connection is largely-derived from the student’s own interest area to begin with. Imposing projects upon students is not the same as having the project generation piece take place with the students themselves.

That being said, part of intellectual risk-taking involves expanding one’s own thinking and delving more deeply into an identified interest area. Sometimes students are not even aware a potential interest area even exists as a field of study. This is crucial. If students are afraid to take risks and explore, they might not even feel comfortable exploring an idea which might then lead them into a new interest area. When students are worried about being judged they are less likely to want to explore.

A college female who was pursuing studies in finance commented in an interview that, as a high school student, she was very interested in mathematics but had no idea that the types of jobs in finance that she was now exploring existed. She reflected that it would have been great to have known about this area of mathematics earlier. In some cases, only a narrow band of options is presented to students and they aren’t fully aware of the spectrum of careers that might involve a field such as mathematics.

To maximize the chance that students will find a topic that captures their interest, we expose them to many different facets of a project during their internship. When we talk with students about their interest areas, it is a team brainstorming effort where we will often highlight other related areas of interest. With a group that wants to make a video game we will talk with them about the various types of game engines and types of game development teams. As they continue to work on their projects, we offer them the opportunity to visit different game studios, have them meet with artists, programmers and sound technicians so they can get a sample of the various career components of making a game. With one of our robotics groups, a student was much more interested in the mechanical aspects of the robot. After spending a few weeks on CAD, he remarked that even though he hadn’t planned on exploring CAD, he now better understands the vital role it plays in mechanical engineering. These opportunities are presented as options to expand student learning within a field. Often participants will gravitate more towards one opportunity rather than another, but most of the time, students take as many chances as they can get to look into their interest area more fully.

Motivation

Some students are not motivated by traditional learning structures. In fact, as researcher Steven Reiss points out, “Many people are not very curious and don’t enjoy learning for its own sake” (2004). He argues that people share a wide range of curiosity, and although some really enjoy spending time learning, even on their own, that is not how everyone sees the world. This is where extrinsic motivators, such as grades, come into play in a traditional school environment. However, what we try to capitalize

on in our internship program is the idea that when students are given the opportunity to explore topics that are interesting to them, their natural curiosity is more apt to be piqued. We don't use extrinsic motivation, students come to us about things they have a curiosity for and we work to expand from that point. Our goal is to help them identify what it is that does make them curious.

Now, in some cases one could argue that the finished product in our student-led internship, be it a film, game or robot, provides a type of extrinsic motivation. We have found, however, that this is not always the case. Instead, through our interviews we have found evidence that it is the learning process itself that is motivating the students. We are continually working to tap into that willingness of students to take risks and participate in the process of learning. When interviewing one of our robotics interns in the middle of the internship he said, "Even if we finished today, like our internship ended, I would say I feel accomplished in what I did, even if we didn't finish the project." We thought this comment connected well with the idea of competence motivation.

Mastery or competence motivation as described by White (1959) is based on the idea that people are motivated to explore and play such that they can have "effective interactions with the environment under the general heading of competence" (p. 371). Most of the students who participate in these learning experiences have limited knowledge about their interest area, but the key point being, it is an interest area. In some ways they are "playing" with not only the ideas and concepts, but also the software and materials necessary to do the work. Although there is a risk that they won't learn enough to do what they want or that what they want to do won't work, we let them know that we fully expect their project not to work right, not to end on time and most likely not to look like what they proposed at the outset. With their interest driving the experience, the freedom to explore within their concept area and the structural supports of the mentors and foundry10 staff, there is a strong foundation from which to delve into areas of curiosity.

However, as Reiss (2004) points out, "Highly curious people desire knowledge and understanding so strongly they pursue the inquiry process even when they must endure anxieties, severe criticism, devastating failures, and other frustrations. Knowledge is the end goal of curiosity, but thinking, exploration, and problem solving are not necessarily pleasurable" (p. 183). The internship experience will not always be "fun" and in fact, we think an internship that goes "well" involves some level of frustration and grappling with problems. The intellectual and emotional risks of the internships are a key part of the value to the students.

For instance, a robotics group expressed surprise at how much time they spent on the computer aided drafting portion of their work (several weeks). They repeatedly stated it was hard and time consuming. A film group discovered the massive inherent challenges in setting up a shooting schedule and having people not show up. One group of students working in an advanced video game engine described the repeated frustration of working with the software and encountering problems that slowed them down. At one point, right around their midpoint interview, they had lost a bunch of their work due to the engine crashing and them not properly saving their work. During one of their interviews, a video game development intern said, when asked about the group's progress, "I did not have an idea of where we'd be; I'm going with the flow; we are on-track; I think it would have been depressing if we had a timeline. We are learning as we go and crawling through it; we don't have perspective on where we should be. Ignorance is bliss." In light of these findings, it is apparent that the initial buy-in from students on their projects is vitally important. If they are not committed to the work they are doing, they will not be able to withstand the bumps that inevitably present themselves.

Research conducted by Kapur (2014) demonstrated that allowing learners to struggle, in this case when learning math, actually helps them to learn better. However, we do try to help ensure that the interns spend their time on problems of interest to themselves and considered high value by their mentors. Something we have observed in semi-structured settings is that without some oversight, students can slip into situations where they are spending a great deal of time on problems that are not necessarily facilitating knowledge acquisition that forwards their thinking. By this we mean if we can help to avoid students losing data, working with faulty equipment or wasting time because they don't have things they need to proceed, we do work to help them through these times. We want the intellectual risk to be expended on endeavors that are worthy of their time and energy, because we only have students for a relatively short time. Even with scaffolding and some assistance, they will encounter plenty of difficulties. We aim to solve the trivial problems that do not offer a chance to learn a skill (e.g., expired software license) so that the struggles students do encounter can further their understanding, thus making the intellectual risk worthwhile.

Silvia discusses the idea that growing knowledge naturally leads to growing interest largely because the intake of new information increases the chances that there will be "conflict" – coming across a piece of information that does not fit with our prior knowledge (Silvia, 2001). When we encounter such a conflict, there is a desire to try to resolve it, and thus our motivation to learn more about the topic is increased. We believe students need the opportunity to engage with these types of internal conflict so they can more deeply grapple with complex constructs. By varying the amount of structure present to mitigate this conflict, we attempt to find a balance point for the individuals where there is not too much structure or too little, which potentially would undermine student motivation (Richmond, 2015).

Process

We have designed our student-led internships to align with the view that creativity is a process, not a product. Torrance (1993) views creative thinking as a process, one that begins with some sort of problem state or missing information, progresses into a hypothetical state where that initial tension is addressed, an experimental attempt to understand and dig at the guesses and hypothesis, and then sharing the findings from this series of questions. The sharing component is an important piece of the intellectual inquiry process as we are motivated to share interesting things that we discover. This is apparent during the more formal interview portions with the interns (pre-mid-post) where they will often deviate from the explicit questions asked in order to share some interesting or new fact or finding from their projects.

The age range of the students within our internship program aligns with a plastic period within theories of vocational development (e.g., Berk, 1999). In early childhood children typically are within the fantasy period of career development, imagining themselves as astronauts, baseball players and fire-fighters. In early to mid-adolescence (11 to 17 years of age) young people move into a more "tentative period" of vocational exploration marked by the evaluation of whether or not a particular career path might be of interest (Berk, 1999). Most of our interns seem to fall in this category. Students come to us with a general idea of something that is intriguing to them, say film, and then explore the interest area within that career field. The "realistic" period of development in terms of vocational thinking tends to emerge in the later teenage years and early adulthood (18+ years of age; Berk, 1999). In the realistic period, teens begin to more heavily weigh whether or not a career path is viable for themselves in terms of education, training, work/life balance, and so forth.

However, based on our experiences working with teens in our internship program we suggest that even before they fully enter the "realistic" phase of narrowing their options and really knowing what they

want to do, they have begun to seriously evaluate whether or not they are pursuing a “passion” project (something they find very intriguing), to just explore an idea for the sake of exploring (trying it out), or delving into something they potentially could be quite serious about as a future career (realistic period). The structure of the internship program provides opportunities for intellectual risk (Can we produce a short film? Will we be able to program a game that works? Can we curate an art show with work from our peers?) and also sufficient support for students to feel safe to really put themselves out there on a project they are not sure will succeed. Tapping into the reason behind their motivation helps us to structure an experience that is most beneficial to the teen.

Reliably, during the initial interviews at the beginning of the project, students feel excited and nervous about the completion of their projects. Given that they only have a limited knowledge base from which to draw from in terms of actually producing a tangible product and engaging with the process they are always a bit hesitant about the success of the project at that point, but still quite optimistic. Some examples of the types of responses we get from students at the early stages when asked if they have any concerns are:

“One of the issues is that we are shooting too high. In our first meeting of the four of us guys, we said we wanted to go big and make a big fancy game instead of trying to keep it simple because we’d get to learn how to do the most stuff that way. But I’m worried we aren’t going to finish anything tangible, like just have models and have a level, but not have something to say, ‘Hey we did this we finished something.’” –High school sophomore

“I don’t have any fears I just hope that our project is doable in the amount of time that we have. We have a lot going on, but I think we’ll be able to put it all together.” – High school Junior

“I think it will give me a new experience; I’ve never done anything with film; it’s a new type of thing I’m experiencing; not sure what I want to do in my future.” – High school Junior

Many of the students’ concerns are project management related. Often, they have not previously experienced a project with this much structural freedom. Research by Heath and Soap (1998) suggests that highly effective youth programs regard young people as capable resources and therefore it is important ensure they are provided a variety of activities that require managerial and organizational skills. When young people come to us and pitch an idea for something they would like to delve into, but otherwise could not, they implicitly understand that a group of adults giving them the time, resources and support to do so is a unique expression of those adults’ inherent belief that they are capable of success. So often in educational settings we use standards and benchmarks to set a floor for expectations of student performance. Everyone achieves at least the bare minimum. By letting students dream-up an idea that they would like to try to achieve, the floor is already removed and students begin to estimate what the possible ceiling might be. It is not just a pretend version or a mock-up of an idea, it is the chance to actually execute the idea to the best extent they can. One junior commented,

“Feels like it is what an actual job feels like; learning to manage ourselves and see what it is like to be in a real company; it’s been a lot of fun actually. Learning about whole game creation part, what I like and don’t like, possible careers. Just kind of being in a working environment... I am way more productive than at school; being here makes you want to do stuff.”

We believe that the best way to explore and continue to increase motivation is to actually engage in a project that allows one to do what real people in that field do. Just throwing a coding day into a regular school model does not really show kids what it means to code or how that code is used. In fact, sometimes, in a traditional school setting, things get watered down or taken out of context and subject areas that were intrinsically interesting to students can be destroyed. We have had the unfortunate experience of talking to many students who were given the “opportunity” to explore robotics or programming in highly structured, rigid, artificially modeled settings which really turned them off to the whole idea of those subject areas. By co-developing a space for learning, in conjunction with experts from the subject area, students have the opportunity to both see and define for themselves what it means to actually “work” in a topical area.

Sometimes this intellectual risk leads them to realize that actually, these interest areas didn’t stack up the way they initially thought they would. One of the great comments we get from students who have an initial interest in making video games is, “Making video games is way different than playing them.” However, what intrigues us the most is how students are naturally able to start to formulate their own connections between exploration in one field and connections to another. We’ve seen automotive students who decided that mechanical engineering was probably more their thing. We’ve had video game students talk about how the 3D modeling component was really interesting to them and perhaps using that modeling for something like architecture might be a better fit for them. One more technology based project student said at his mid-point interview,

“I’m not super big into tech as much as I thought; I prefer meetings to email. I like to have group interactions...it doesn’t have that human interaction when it is through the computer. I’ve learned that about myself.”

The terrific thing about this development, is that the same student met up with another student during the internship process and they pitched a different project, one that involved more interaction with actual people but still enabled them both to further explore another area of interest.

By the mid-point interviews, the students typically have a very different understanding of what it means to do their particular project. This is often when we begin to hear, “This is not exactly what I thought it would be.”

Here are some thoughts at the mid-point from two participants in one of our game dev groups:

“You think this is gonna be sooo easy but game development is very time consuming. It is hard to plan for all the obstacles that may come up.”

“The goal when I got here was to finish the game; we’ve come to the conclusion it’s not about finishing but about making a good game; quality over quantity. We’ve decided a good couple levels is better than 20.”

As the reality of the project sets in, the idea that a completely polished project will be completed becomes a bit less likely. Often there are more complexities and intricacies involved than students initially imagined there to be. Again, a finished product is not a requirement of the internship program. However, as their skills become more developed, students realize that the overall quality of what they are putting out can be improved.

Sometimes students become so motivated in their projects and work that we actually have to request that they do finish up their project or re-evaluate the scope. They become so invested in the work they

are doing that they will stay for hours after the “end time” of their work day. They will put in additional hours on days they are not here, they will meet up on weekends and outside of the regularly structured times. We had summer interns who wanted to still work on their projects into the spring of the following year. This investment into the project, the dedication and willingness to pursue the quest for knowledge and to make it better was driven totally by the students. They committed to the idea and even though the work is not always “fun” their internal drive to resolve the problem state they created for themselves pushed them onward. And again, what we see over and over again, is that very often the problem state shifts from the perfect execution of a final project to a desire to delve more deeply into the pool of knowledge surrounding their interest area, a key indicator of competence motivation (White, 1959).

Students will often remind us, through their check-in interviews, what an important component the process work is for them. By process work, we mean the ins and outs of their workflow. Functioning in a group, setting deadlines, meeting small milestones. And often, they will pick up on things that we hoped might naturally occur. An intern from a different game development group commented at his second mid-point interview (his group asked for a half a year extension so they could continue their half-year project) that,

“The way that this is structured conceptually overall, is kind of perfect, you only get people who are driven and want to do something; you give them the tools and let them figure it out themselves; the way that has us learn is unique and very valuable. I have not learned in-depth coding specifically but that wasn’t what I wanted, I had that already. I wanted to better understand how a team would function to produce a game”

His response is in contrast to another student from a different game group who commented,

“I am learning a lot in c#, and I feel like it’s an accomplishment. My partner has been teaching me Photoshop. I had experience in Unity...I have a desktop at my mom’s...it didn’t have enough power to do what I can do here.”

Note that both students are making games in different groups. Both students came in with different personal goals, aside from just making a game and both feel like they are getting what they wanted out of the experience and are able to clearly articulate both their desired goals and the outcomes they are observing about themselves. Often it seems in traditional classrooms, there is no space for students to articulate their thinking and engage in the type of metacognitive reflection that can trigger great insights into one’s own thinking. This often is not due to lack of desire to reflect on the teacher’s part, but the clockwork structure of the school day or a fixed curriculum may simply not allow for it. Learning to make a game in a group environment involves an element of risk within the peer group. Learning to program a game in a language that you don’t even know provides a different type of risk.

Elements for Success

One of the key elements to the success of this type of model is the presence of appropriate mentors. These are people who are subject-matter experts and can provide a general direction and specific tools when asked by students. At the same time, what students regularly say about the mentors we provide is that they don’t tell students what to do and they allow students to take some risks and experience failures in a way that feels supportive. They also model what it means to be a professional in a specific field to the participants in the group. For instance, a student commented that their computer science mentor really modeled what it meant to approach general problem-solving from a computer science

perspective. Another intern commented, “She doesn’t control everything, she lets us mess up for a while before she tries to intervene.” It has been important to nearly all of the interns that the mentors not “tell them what to do” but let them figure it out.

We believe that one of the key aspects for the interns to feel like they can “figure it out” is to have a flexible structure and timeline. None of the interns ever stick to their original timeline. However, their effort levels are high and their time is managed very well, so that even though there might be some internal tension when they know they haven’t quite hit a benchmark they were hoping to achieve, there is enough room for them to feel like some deviations are acceptable.

Motivation, intellectual risk-taking, collaborative efforts and creativity aside, another key component that is necessary for success in this model are executive function skills. Harvard’s Center on the Developing Child defines these as, “A group of skills that helps us to focus on multiple streams of information at the same time, monitor errors, make decisions in light of available information, revise plans as necessary, and resist the urge to let frustration lead to hasty actions” (2011). Students who have the desire to pursue an area of interest to them, may be less likely to get distracted. But as Csikszentmihalyi (1990) states, “Pleasure helps to maintain order but by itself cannot create new order in consciousness”. A more open-ended structure that is largely driven by the interests of teenagers in groups will not be successful if those teens don’t already have some ability to control their impulses and stay focused. We believe that impulse control and attentional skills can emerge and be enhanced through the scaffolding of experiences that allow participants more and more freedom over their learning. However, many students reach adolescence, particularly those in more highly structured (which often correlate with lower-socioeconomic educational environments; need citation) without having the opportunity to refine and practice managing their own learning, interests and expectations. That being said, we have found that students who struggle in more traditional environments perform completely differently when put in the novel environment of the student-led internship program.

One student in particular came to us and we had been told that he was very shy and had a difficult time articulating his ideas. However, when he was speaking with us about his passion area and was developing his idea for a project, we saw a very outspoken and articulate young man. In fact, on several occasions it appears that the “student” we see in our student-led project group is not the same student seen in the traditional classroom at all.

The internship process, though open-ended from a student project perspective is structured on the back-end to help ensure opportunities for genuine learning occur. A phrase we like to use to describe the program is structured chaos. We carefully brainstorm, integrate and continually work with and monitor both the student groups, the mentors, the experts and the resources while maintaining a high level of flexibility. For instance, if there is a large scheduling issue, a group that hits the wall in their collaborative efforts, or a learning barrier with a new software or hardware, we will intervene to help students overcome those hurdles so they can get back on track with the interesting problems. We don’t tell them what to do, we are always respectful of the students’ autonomy and decision making ability. We see our role as helping the students to recognize that options exist where perhaps they didn’t see them before. It is by no means a free-for-all since we believe having very little if any structure could shift the learning to tasks that are not meaningful and not truly cognitively challenging to students.

Concluding Thoughts

The current educational climate often underestimates what students are truly capable of and, through our programs (particularly the internship experiences), we attempt to be the counterbalance that idea

by providing a safe and engaging atmosphere in which students can take intellectual risks. If students are not interested in the topics and don't display curiosity about the topics, it is less likely they will fully engage with the learning environment. At the same time, we keep developmentally appropriate principles in mind and that is why there are social, emotional and cognitive structures in place to make sure that we are providing a desirable level of difficulty for students. For instance, we bring in elements of cognitive research on learning by spacing opportunities for learning, providing intermittent feedback, and interleaving different concepts throughout the project (which naturally occurs in most cases, but we will supply if needed) (Bjork, 2011).

Another key environmental setting we attempt to provide students with is longer periods of uninterrupted time. This is typically not the case in a traditional classroom setting. Research discussed by DeMarco and Lister (2013) on flow (that state of being in a zone; highly focused, interested and at ease) suggests that when one is interested and immersed in a task it takes about 15 minutes to really descend into a deep level of concentration. And, once it has been achieved and one is interrupted, it requires an additional immersion period to get back into flow, often requiring several minutes. There are no class bells at foundry10. There are no paging announcements. Students know that when they come in for the day, they have the day. We are always careful to let them know if we will be doing interviews or if special events are going on so that we don't just repeatedly interrupt them throughout the day. We believe it is important to respect the flow state.

In the book *Peopleware*, DeMarco and Lister (2013) point out that the manager's function in a work setting is, "not to make people work, but to make it possible for people to work" (p 34). We believe that our internship environment applies the same principal for learning. We don't make kids learn, but we make it possible for them to learn.

This paper serves as introduction to the idea of the type of work we do with the student-led internship groups. Our internship program is continuously evolving; we are constantly weighing feedback from the student participants, mentors, staff and outside advisors (from the schools we work with) to improve the program. We will continue to write about our findings, particularly as we refine our questions. Quite honestly, our first year of these projects was working out the logistical aspects. Who would mentor? How would summer internships look? What about school year internships?

We now have a better understanding of how the fundamental structure should work. This summer, 2015, we will be taking 40+ interns on in about 12 different projects. For the first time, we will allow individuals to work on single projects because they will be working alongside many other students. In the Fall of 2015, we plan to offer our first after-school afternoon internships. We have only run full-day school internships in conjunction with local schools, so it will be interesting to see how this all works out.

Largely, our goal is to provide a non-traditional learning structure, to refine our interviews and metrics to get a better understanding of what it means to learn in this type of structure, to share what we have learned and to provide the best opportunity we can for these teens. Our work really emphasizes student interest, motivation and the more unstructured, non-traditional learning environment. We will continue to utilize research from education, cognition and psychology to drive our work with these students and hope that others might be able to learn from our work to enhance their own work with teens as well.

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