**Using the Design Process to Include Students in School Change**

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I don't think anything has been more impactful and beneficial for my overall perspective on education as a system and a practice than spending my last three years outside of a school building, working for an ed-tech game design company in Shanghai, China. Not only did this work allow me to "pull back" and get a more objective view of educational practices in the U.S. and the world simply by exposing me to whole new philosophies of education, but it also allowed me to view education as a profession in comparison to other professions (specifically, tech and design), instead of simply comparing educational organizations to each other.

And throughout that work, I kept coming back to a key thought - why don't we, as educators, think about the work we put into the world (classes, school structures, etc.) as "products" with a specific user base (our students)? Why don't we learn from other fields, where full processes and systems have been developed to do just that with the minimum amount of lost time, energy, and resources? We often design curriculum with our students in mind, of course, but seldom do we formally interview our student users, test out ideas, or prototype rough versions of our lessons before committing to a full classroom environment - most often improving via mistakes that affect (at minimum) a whole classroom of students, as opposed to being able to ditch our least effective work long before any students actually miss out on learning as a result.

With these thoughts in mind, just imagine my surprise (and excitement) when I left China to come to High Tech High as a School Leadership Masters resident and heard teachers and school leaders talking excitedly about the "Design Process" and work they had done with representatives from the Stanford D.School. And so, of course, it wasn't long after a few conversations with faculty at High Tech Middle school that I found myself part of a committee coming up with Professional Development workshops to teach all of the staff at HTM the basics behind the Design Process in order to apply those principles to examining - and possibly re-structuring - school protocols to best create cross-grade-level project experiences.

We ended up dividing the process into three "phases" - Phase I involved a two and a half hour professional development workshop to teach staff the whys and hows of the Design Process. Phase II had us coming back together to collectively apply Design Process concepts towards answering the question, "How can we create structures that best provide opportunities for positive cross-grade-level project experiences for ALL students?" And Phase III involved the creation of projects as prototypes to test out possible solutions to the question at the beginning of our second semester, to be taken into account for larger-scale school change the following school year.

**Phase I**

The Phase I workshop began by bringing in a handful of student volunteers to be interviewed by staff as potential "Users" of the "New Student Experience." These students were selected to present a cross-section of personality types and comfort with HTH. Staff practiced staying away from leading questions and getting away from their own assumptions to dive deep and truly understand one User's reactions, feelings, and concerns around being a new student, and what they might need to be more comfortable in starting as new students at HTM. Although students told me later that this process was a bit awkward at first ("all those teachers just stared at me"; "that was intimidating!"), they unanimously responded that they felt that teachers were really listening to their opinions and truly wanted to understand how they felt. Numerous staff reported being surprised by various answers that would not have occurred to them without the interviews ("I never thought about (the things the student said) before"), which informed their later attempts to provide a solution.

After the interviews, staff groups worked to sift through information and insights collected from their student Users to come up with a key obstacle preventing their User from having a fully comfortable New User experience, and a deep need that the User needed fulfilled to get around this obstacle. Staff then used these "Point of View Statements" to help focus following brainstorms around ideas to address their Users' issues. Following the brainstorming sessions, teachers individually sketched out 5 possible solutions and presented them to their Users.

The Users were instructed to be as honest as possible in assessing solutions, and to think purely about their own thoughts and feelings. At this time, they gave feedback to teachers about proposed solutions, letting them know what interested them, concerned them, and outright turned them off. Staff took this feedback and then "iterated" out an improved solution based on their findings from this first round of User-testing.

From here, staff groups chose two of their best solutions to prototype for follow-up testing with their Users. These prototypes emphasized creating a way in which Users could physically experience a taste of the solution - attempting to get away from explanations and questioning towards allowing Users to viscerally react to proposed solutions (as our reactions when actually experiencing a product or situation are often different from how we think or say we would react).

Users then tested out these prototypes and gave more feedback and reactions for teachers to take into account before iterating one final, "best" solution to present out to their peers.

And the resulting solutions (although still very rough) were surprisingly creative and different from "solutions" that had been part of school structures up until this point. Every staff member present stated that these proposals seemed much more "student-friendly" than previous attempts at new student Orientations, and they also all came to an agreement that some form of these solutions should be substituted for traditional Orientations starting next year. And the students? They all happily agreed ("They kept changing to make it better"; "I really hope they do (the things they presented) next year!").

Phase I was a success on a number of levels - not only did the workshop result in creating improved structures for new student orientation from a very student-centered perspective, but it also highlighted how the Design Process can be used as a tool to create solutions that may not have been realized via other means. Faculty as a whole responded very favorably to the workshop, indicating excitement for the next phase ("that was great - I hadn't thought about working with students like that before"), and multiple staff - who had not been exposed to "Design Thinking" prior to this workshop - began trying out Design Process protocols on their own classes. Student Users reported really enjoying the two testing phases, and were also excited about the thought that their ideas had been taken so seriously and would be the catalyst for major changes in the next school year's Orientation.

**Phase II**

Everything seemed to be going perfectly, and there was a lot of enthusiasm going forward as we prepared to apply the Design Process to a more difficult concept of creating multi-grade-level projects.

This was a concept that the staff had come to many times before, and attempted numerous solutions to, without feeling satisfied by solutions. Since staff were another layer of "User" of school structures, our "Design Thinking" committee conducted individual interviews with all faculty, using Design Process techniques to attempt to come up with potential obstacles and needs of our second level of "Users." These preliminary interviews found consistent concern over logistics - how could they carry out longer-term projects and have more time carved out in the day to do so without losing prep periods, or sacrificing other classes such as Exploratory (arts-curriculum) or X-Block (more active "elective" classes)? If we allowed students to have choice around which project they took part in, what would we do about classes that no

student picked? Another potential issue was that numerous teachers had already come up with tentative plans for projects with co-workers and were personally attached to carrying them out, which would make it more difficult to pull back a bit and possibly scrap or change them in light of what more in-depth work with students may reveal. Finally, the majority of faculty were worried about having enough time to plan their projects - if the design process took too long to come up with a solution, then teachers would not have the time to sufficiently fund-raise for larger projects. Therefore, these teachers wanted to know specific constraints on their projects (how many weeks, hours per day, how many students) as soon as possible.

To prep for the Phase II workshop, staff spent one morning meeting hour interviewing a group of 9th grade students, who had previously attended the middle school and had been selected to represent a diverse array of perspectives, to find their concerns and thoughts on mixed-grade-level class experiences. Again, this information was noted and focused into "Point of View Statements" pinpointing specific obstacles and needs of individual Users.

Two weeks after the first workshop, we held our second two and a half-hour professional development workshop focused on using the Design Process to examine the "mixed-grade-level" question. Looking at all of the staff concerns, our committee did our best to provide some answers, while leaving room for student input to push larger-level school structures. Our solution was to attack the issue from multiple levels.

The first level was the student Users. We planned to address them by having the full workshop time be devoted to using the Design Process to prototype possible projects that would best provide opportunities for success for all students mixed throughout grade levels. We also hoped to use student perspectives to address the question of "choice," as well.

The second level was staff Users. Therefore, we proposed that non-teaching faculty would form a committee to use the design process with staff as Users to address logistical concerns and make sure the schedule allowed for prep time, Exploratory, etc. We hoped that this would take some of the anxiety off teachers going forward, allowing for them to focus on their projects and actual classes.

The third level was the long-term view. With time relatively short, completely altering school structures for this school year seemed out of the question. Therefore, we proposed that all classes offered would serve as prototypes to test solutions to the "mixed-grade-level" and "student class choice" problems. Teachers would take continuous feedback from students throughout the class and report back out to the rest of staff to help inform a final design process at the end of the year to alter school structure on a larger level (or leave it as it is, depending on the results).

These different levels of solutions were presented to staff, and there was little comment, so we took that as a go-ahead to walk through the Design Process again (in much the same way as the previous workshop), only focusing on the question of multi-grade-level classes with possible student choice of projects. The only big change was that student Users were interviewed in pairs, as exit interviews with past participants had the suggestion that the interview portion of the process (when we did it as groups) would be less "intimidating" if they had a student partner to bounce off of.

We got underway, moving through interviews, developing "Point of View Statements," and brainstorming possible solutions . . . but something was wrong. As I circulated amongst the various groups, I saw looks of frustration on the faces of many staff members. One group was having trouble eliciting any responses from their student Users. Another group struggled with coming up with ideas, because the focus for idea generation was on projects, and their User had specifically stated that he would want to be part of the whole project design, preventing a specific "project" from being a possible solution. Question after question came up throughout each phase, even though we had walked through the same process before with little problem.

It wasn't working, and pushing through didn't seem like it was going to accomplish anything, so we brought everyone back together in a circle and called for a status-check - what

questions, concerns, or frustrations was each group having? Where were they getting stuck, and where should we go from here?

And the subsequent one-hour discussion was enlightening. Every staff member in the room got an opportunity to share their anxieties over the process as a whole, and it turned out that the majority of teachers were concerned about how they were going to produce a reasonable project that took students' perspectives into account, and if that was useful or necessary. The focus on just a few individual students' perspectives seemed counterintuitive to designing projects. Many teachers stated that they felt that students didn't know what they needed and didn't know what options were even out there, and so this process would lead to creating 15 projects about "Pokemon." One staff member countered that it was about designing around students' wonderings, and fears, and needs - and not about specific interests. A number of other teachers stated their frustration with thinking that they knew the "Plan" - to come in and re-think the school structure - only to find out, in the workshop, that they were focused elsewhere. And finally, a set of teachers were worried that, without specific constraints (on project length, number of students, number of hours a day), they could not come up with meaningful project ideas.

The most clear and resounding message from this conversation was about transparency - as a committee, we had spoken to every teacher individually, and had many conversations amongst ourselves about "the Plan," but had failed to adequately break it down officially, with the staff as a whole. This had led to many of the frustrations that were brought up - and had we simply been more conscious about detailing the steps being taken and the steps forward with the full staff throughout, we could have avoided that.

Transparency also meant presenting our findings from individual staff interviews in a clear, organized manner. The "traditional" design process seldom entails this kind of "big-picture" summary for Users, but an educational setting is different due to the different levels of Users, and staff deserved a more thorough explanation as to why we had "designed" various structures to fall as they did.

The guided interview process during the workshop - with a group of teachers and one or two individual students - was obviously not the best method of to gain User perspectives, and it would have been helpful to spend more time talking about alternative methods (observation, survey techniques, panel discussions, more personal interviews, etc.) for staff to more realistically use on their own time. On top of that, the concept of getting a single-User perspective and avoiding personal opinions is not intuitive, and it is a difficult skill to master. Therefore, only one real session to practice is not enough to truly grasp the skill, and in future, I would not tackle such a big-picture concept - that is very personal for teachers-as-Users - so early on. Also, with such limited time to teach these concepts, in the future I would focus more on the User-testing, iterating, and prototyping aspect of the Design Process in future workshops, as these are concepts that are much easier to understand, attempt, and apply to personal work with only a basic introduction.

From these learnings, we regrouped and did a few things to smooth out the process going forward. After doing more interviews with students and staff, we followed up on the workshop at our subsequent staff meeting - doing our best to provide the transparency we had lacked previously. In that meeting we shared our findings and focused on points of overlap from all the staff to clarify why we had made certain choices that we did. Using that overlapping data, we provided structural "constraints" on the projects (time and number of students), agreed to prior by the individual staff to allow for development as soon as possible. We also clarified that plan going forward - over the course of the next few months up to the beginning of these projects - to alleviate concerns on that level. Finally, we discussed ways in which staff can go forward and gather User feedback and perspectives on their own to use in building out their project ideas.

The following morning, we facilitated a “project idea sharing” session in which staff were able to connect with their peers about possible ideas to collaborate on, or simply “jump off” to better focus their own thoughts (and also knowing what gaps are not being covered that students may need, topic-wise).

Next week, staff are tasked with conducting student interviews and surveys to gather information on student interests and concerns to be addressed through the prototypes that staff create. Over the course of the next two months, all staff will participate in Project Tunings (protocols involving collective review and critique of project ideas) with student participants to test out their ideas and iterate improved versions to be run in January. For 8 weeks, these projects will be run as test “prototypes” to further examine the question of multi-grade level projects, with regular student feedback sessions and data collection throughout, which will inform design of improved solutions on a school-wide level for the following school year. Student “users” will be interviewed regular throughout the process, to provide them the opportunity to continue to give feedback, as well as to keep them informed on how their comments are being used to improve structures.

**Re-Thinking the “Design Process”**

From this experience, I have a lot of questions around the balance of multiple levels of Users from a design perspective. When teachers are Users designing for students as Users, how can you effectively satisfy both groups? How much work is needed on practicing the “empathy” piece - of truly developing a product from a single-User perspective, and avoiding our own preconceptions - before it can be truly understood as useful and effective?

I think a lot of the solution will revolve around that “transparency” piece of regularly presenting findings to the teacher-Users (which is a slight alteration of the “traditional” Design Process).

On a student level, I wonder how we can better pull out the voices and perspectives of the quieter Users who wouldn’t feel comfortable being interviewed? I believe general surveys can help with this, but are not a satisfying solution. Student participants spoke of training other students to interview their peers, which I think would likely get much better, honest information in a lot of cases. In fact, I think having students being a part of the Design Team side-by-side with teachers would bring out much more creative solutions and get to deeper needs than having teachers serve as sole designers. Of course, that would possibly create some discord with the “teachers-as-Users,” but I think we could create general buy-in to alleviate staff concerns in that regard.

In the future, I would love to see modified versions of the Design Process being implemented throughout educational organizations on a regular basis. To me, though, “modified” is the key word as the education field has its own peculiarities that the “traditional” design process - developed in other fields - cannot fully address. However, I would also like to see conscious work done to determine when and where the Design Process is most effective, and when other tools would do a better job, as there is a tendency for designers (and others excited about the Design Process) to attempt to use it as a tool to solve every problem, in spite of the fact that there are a lot of other tools out there that are also quite effective.

On a personal level, I will continue to consider aspects of other professions (such as design thinking, marketing, branding, etc.) in my development of my own school models, and I foresee the Design Process as a great “in” for creating buy-in around these ideas with other educators.