Design the ideal organization. Use course concepts to defend your answer.

Introduction: Innovative Education for Emergent Innovators

Following is a thought experiment on designing an education system centered on innovation. Increasingly, the job market requires skills in teamwork and creativity. University education is also shifting to put more of a priority on collaboration and cross-disciplinary thinking in coursework. It only stands to reason then, that the ideal educational organization would prepare students at the high school level to meet the challenges in their immediate future.

We will take a look at what a high school would look like if we were to apply organizational behavior principles to an educational system. This will be approached as a thought experiment, where we can build the educational system anew based on these principles. In the conclusion we will address how the ideas outlined herein might be applied to existing high school education.

In order to avoid “the Folly of Rewarding A while hoping for B,” we must first make visible what might otherwise be implicit aims, or the “philosophy,” of the ideal educational system. In this case, I will make note of aims that can be supported or influenced by the very structure of the system, as opposed to other aims that may pertain only to educational theory.

Our first aim is to arm high school students with the skills they might apply to future knowledge work. The second is to teach appreciation for diversity of thought in knowledge work. The third is to reinforce students’ own intrinsic motivation, and deemphasize external rewards. These aims can be supported by applying research that has been done in the business sector.

We will also look at the teaching staff, and their professional needs should be in order to support these aims. The very same principles can be applied to the environment in which teachers do their work, as they participate in creating and maintaining educational systems.

There are additional stakeholders in educational systems. These include administrators and government officials, curriculum developers and textbook distributors, parents and the greater community. Although they all have impact on the quality of education that a student receives, for the purposes of this exercise we will focus exclusively on the role of teacher and student in the educational system.

For the purposes of discussion, imagine the following scenario about Innovation High School. Demographically, Innovation High may not be so different from a high school in your community – it is an ethnically diverse campus, and serves several hundred students per year. The average class size is about 25-30 students. There is a wide range of experience among the teaching staff, which for the most part chose education as a career because they hoped to make a positive impact on students’ lives.

Principle 1: Teachers & Students as Knowledge Workers

Huckman and Pisano propose that “cardiac surgeons are the archetypical knowledge workers.”\(^1\) High school teachers, however, share many of the same characteristics as the surgeons in this study. They must be highly educated, undergo apprenticeship, and have a fundamental impact on the future well-being of hundreds of individuals throughout their careers. Framing teaching as knowledge work leads to insights regarding how a teacher’s work environment could be architected.

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\(^1\) Huckman & Pisano, “The Effect of Organizational Context on Individual Performance” p 7
In the above study, the researchers concluded that a knowledge worker’s performance is dependent not only on an individual’s skills, but on the environment in which s/he works, which is made up of coworkers, procedures, and equipment. Applying this to a teacher, it is clear that in order to achieve high-performance by any measure; a teacher must be surrounded by support staff, from administrators to teaching assistants. Any administrative procedures must be formulated with the classroom teacher in mind, and supplies and supplemental materials must be up-to-date and easily accessible. The environment in which the teacher works must be finely tuned for the teacher’s needs. An example of a business organization with similar policies is the SAS institute. Like Innovation High, SAS is a business that is “critically dependent on intellectual capital,” thus accommodating the workforce is the number one priority.

Most knowledge workers also become expert collaborators as they work on interdisciplinary teams. Those who do not “play well with others,” so to speak, may also have value, as long as their grumpy demeanor is not allowed to spread to others. Like any career, people choose teaching for a variety of reasons. It is reasonable to conclude however, that a significant percentage pursue this profession because they like working with people. In most current classrooms, however, we find teachers who teach in almost total isolation! At Innovation High, the teacher/knowledge worker is taken out of seclusion and given opportunities to participate in team activities with their colleagues on a daily basis. In this model, team-teaching is the norm, and interdisciplinary classes are taught at every grade level.

Given that we have a) a collection of knowledge workers who are b) working in teams, should we not have c) managers to control all of the messy innovation that this might produce? In business, team-building is typically one of a manager’s multiple duties. In education, could the type of support that teachers need be provided by peers? At Innovation High, teachers will be managed by one of their ranks, a “master teacher,” who can work on managing the teaching-teams and also provide pedagogical and domain guidance. This person would be well equipped to understand the needs of the team, and could be elected by his peers. The Master Teacher at Innovation High, like a high-performance executive, would be expected to choose one goal per term and execute a plan to achieve it.

At Innovation High, students will be framed as knowledge workers as well, as opposed to a product. One can see the humor of the image of children rolling off the assembly line, cut, shaped and polished, and laugh at the notion that we would hope to create such uniformity and precision in our educational system. But yet, somehow this industrial paradigm persists in current schools. In an effort to streamline schools and make them more efficient, the individual student is marginalized. If we see each individual student as a resource, however, new possibilities arise as to how each student can make the entire system more effective. It is far more appropriate at Innovation High to see students as creators of knowledge, and contributors to the school’s collective knowledge.

We can now see how a student’s environment - her classroom, her teachers, her peers - all contribute to the individual’s productivity and effectiveness in learning. In this model, the individual teacher works as manager of student teams that work in collaboration to increase the overall knowledge of the class. But is there such a thing as an interdisciplinary student team? At Innovation High, students will be encouraged to take on a variety of roles in team settings throughout their high school careers, in order to explore different modes of disciplinary thinking and to better understand all domains and explore personal preferences. In

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2 Huckman, R. & Pisano, G. “The Effect of Organizational Context on Individual Performance”
3 Pfeffer, J. “The SAS Institute: Succeeding with Old-Fashioned Values in a New Industry” p 107
4 Sutton, R. Weird Ideas that Work. pp 91-92
5 Drucker, P. “What Makes an Effective Executive” p 2
order to understand how student’s creativity should be managed on the teacher’s part, we will look to the Weird Rules of Creativity and see how they might apply to the student knowledge worker. First, we must reprioritize the place of efficiency in education. In order to educate future innovators, we need the students to get used to the messy process that creativity, and learning itself, often employs. The second is that we need to encourage kids to defy authority. Before anyone gets nervous, let me be more precise in the type of “productive defiance” that we want to instill. It is important that teachers continue to watch out for teenagers, as they are not fully equipped to regulate their own behavior, but students should be encouraged to see teachers as fellow learners. This type of defiance is both productive and rich with learning potential, as students question teacher’s knowledge and authority. They should feel free to go on to do their own research and exploration of topics, rather than relying on the teacher as the only source of knowledge.

Principle 2: Diversity of Ideas & Experiences

Diversity is a hot topic in education today. Innovation High will seek to achieve the diversity of ideas and experiences required to help the system as a whole grow and evolve over time. This includes gender diversity, as well as diversity in disciplinary backgrounds and career experience.

This means that some unusual candidates can be hired as teachers at Innovation High. It is important to hire people who “don’t get” the existing culture of practice in our system in order to add dynamic tension that can lead to timely change in those practices. The current system is so slow to change that it is nearly static, which is a key part of its failure. Why not encourage recent retirees to apply to teach special topic classes that pertain to their personal work experience? In a team-teaching situation, as outlined above, the guest teacher would have a support framework to look out for classroom management issues, etc. Also, why not bring in young blood from the local colleges to practice conveying their knowledge to high-school students? Here again, the team-teaching situation can help make up for lack of expertise in the classroom. In this way, a diversity of approaches can develop, and knowledge brokering can occur.

Knowledge brokering is important to a culture of innovation at our school. In order for the teaching staff to remain innovative, they must get ideas from people outside of their domain. This can lead to connections between practices brought in from outside the school, and situations occurring in these classrooms. Experimentation is critical for innovation, and risk-taking must occur. Failures must be permitted. This seems counter-intuitive, as we are talking about our children here, and we are all very concerned about their well-being. But we know for sure that the current system consistently fails our children. At least one study showed that students made no significant gains in writing skills between 8th and 12th grades. It is better to try something out and fail than to consistently fail because we are afraid of change.

In a risk-taking environment, “Brokers also benefit from failures because, in learning about why an idea failed, they get hints about problems the idea might solve someday.” Knowledge therefore is conserved and not lost in the system, as any experiment that yields non-ideal results may set the stage for solving a problem in the future. This applies to the work that both teachers and students do in the classroom at Innovation High.

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6 Sutton, R. “The Weird Rules of Creativity” p 97
7 Eleanor Duckworth, an educational theorist, emphasizes the importance of “making everybody a learner” in the classroom - the teacher included. See “On Thinking about Teaching: A Conversation with Eleanor Duckworth” by Anne Meek.
8 Sutton, R. “Weird Ideas that Work”
9 [http://www.childtrendsdatabank.org/indicators/64WritingProficiency.cfm](http://www.childtrendsdatabank.org/indicators/64WritingProficiency.cfm)
10 Hargadon, A. & Sutton, R. “Building an Innovation Factory” p 164
How does this knowledge move through the system and through time? The best way for the organization to retain knowledge is by allowing the group to produce artifacts that are embedded with the ideas that students and teachers create.\footnote{Hargadon, A. & Sutton, R. “Building an Innovation Factory” p 161} Currently, these artifacts hang on individual classroom walls, where they have limited reach. In order to maximize the positive impact that this diversity of ideas will bring to the organization; these artifacts must be easily accessible to all teaching teams. This can be achieved by creating a central location where teachers can display their work.

We should also ask ourselves the question “why are men disenfranchised from teaching at the high school level?” In order to make sure that we have a diversity of ideas and experiences, we should make sure that we are looking at any implicit structural prejudice against men in education. According to one news article, the number of male teachers is at a 40-year low nationwide.\footnote{http://www.sptimes.com/2004/11/14/Tampabay/Educators_want_more_M.shtml} There are several forces societal forces at play here, including gender stereotypes and low pay for teachers. This must be addressed on a system-wide level in order to provide the best diversity of thought and experience to the classroom. At our ideal institution, every effort will be made to accommodate, celebrate, and assimilate male teachers into the nurturing culture of the school.\footnote{Meyerson, D. & Fletcher, J. “A Modest Manifesto for Shattering the Glass Ceiling”} These are the first 3 steps, after which we can take a look at any site-specific discrimination that might be happening to men at Innovation High. This could be accomplished by an open dialog among the staff lead by a third-party that looks at stereotypically feminine practices, and calls them into question when it affects the productivity of the entire employee pool.

**Principle 3: Motivation & Rewards**

In order to build a robust organization at Innovation High, we must understand the motivation of our knowledge workers. How can the system itself tap into individuals’ motivation to create knowledge within the organization, and innovate in the practices of acquiring and distributing that knowledge?

Much of the research that we have about knowledge workers in business points to internal, or intrinsic motivation as the key factor in sustaining creativity and productivity within an organization. In fact, external rewards may have the same effect as punishments on knowledge workers.\footnote{Kohn, A. “Why Incentive Plans Cannot Work” p 5} This will quickly become problematic in our innovation organization. Parents and administrators desire that teachers account for their students’ performance, but objective measures often end up measuring the wrong thing. This provides incentives for exactly the wrong types of behavior. We engage in the folly of hoping that students will provide individualized, innovative instruction to our children, when high-stakes testing requires providing incentives for teachers to teach straight from the book and puts such enormous pressure on results that teachers have been known to cheat in order to get the required results.

Reward structures for teachers that reward individual performance are counter-indicated for our model. Although clearly it is a concern that we provide a good education for every student, the idea that we can create equity through performance measures for teachers is illusory at best. We must reject efforts to systematize teacher evaluation in effort to mete out punishments and rewards, because, external motivation does “not create an enduring commitment to any value or action.”\footnote{Kohn, A. “Why Incentive Plans Cannot Work.” p 3} In order for our ideal system to adapt, and thus endure,
the vision and purpose of education must remain clear and consistent – but the practices that achieve this vision must remain malleable.

We must also re-examine our ideas about student performance. In order to train future innovators, we must reward both success and failure. This is certainly a great departure from our own education. We must take a critical look at the grading system, and the message that it sends to students. It is important to know whether one’s work is up to par, and have indications as to how to improve in the future. But when students are consistently tracked in an “ABC player” model, we have to ask ourselves what purpose this serves? Research has shown that much like in the working world, in order to achieve “A player” status, students basically play the system, compromising ethics, engaging in “smart-talk,” and focusing on visibility rather than quality in their work. Although these skills may be useful in some sectors of business, they are far less so in companies where innovation is required. The primary skill to be practiced is a sophisticated version of trial and error, where knowledge brokering (or transfer, in education circles) is employed.

Conclusion: Why Innovation Education?

We have provided an illustration of a new system of education, one that embraces innovation in order to provide instruction for future innovators. In order to imagine such a system, we have to let go of an old industrial model of education that embraces a culture of implementation, and adopt a more current model of education that frames both student and teacher as knowledge worker. In doing so, we bring to light several indicators for our ideal system that support knowledge work, including ways to bring in diversity of ideas and experiences into the classroom, and ways to tap into intrinsic motivation on the part of teacher and student.

And thus we conclude this thought-experiment, and return to the real world. We will never have a chance to knock-down and rebuild the US education system from the ground up. We also cannot so neatly remove the high school experience from the educational continuum as we have done at Innovation High, where we have conveniently ignored the fact that students come in from an elementary school system and sometimes continue on to a post-secondary institution, both of which place constraints on the high school system. Also, school is not the only world in which students and teachers live - their understanding of their own identities is far more complex. They also exist in society, which have certain prejudices for or against education in general and teachers specifically.

Despite all of these harsh realities, can we apply any of the above to the current system and derive incremental changes that might impact the system in a positive way? There are barriers to introducing cross-disciplinary team teaching and learning in the public school system, in part because teaching materials such as textbooks are very domain-specific. Progressive curriculum developers, however, have made efforts to incorporate materials across domains to craft better understanding of a particular problem or topic. This is the closest mapping that students can receive to the skills and habits of mind that are required in innovative professions that they might pursue later in life.

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16 Denise Pope performed a three year study on high-performing high school students and how the stress of grades and high-stakes testing affected their ethical decision-making. See Pope, D. Doing School.