Memo

To: Baylor University Administration
From: STUDENTS
Subject: Recommendation Report for Technology Training at Baylor University
Date: March 4, 2016

Attached is our team's recommendation report, "A Proposed Solution to Train Baylor Students in Emerging Technologies." Our team successfully researched the four options outlined in the proposal given on February 15th. To do so, each team member took responsibility for researching one of the four subjects and conducted said research both online and in print through Baylor's library, as well as conducting personal interviews.

Our research suggests that, of the four options, holding voluntary extracurricular workshops is the best option in terms of cost, ease of implementation, and overall effectiveness. Costs will mainly take the form of payment to instructors; fortuitously, Baylor already has access to a great many potential low-cost instructors in the form of upper-level students and a draw for less-expensive speakers from outside the campus in the form of recruitment opportunities. Infrastructure for holding workshops at Baylor already exists, as does a structure to pay upper-level students for teaching; implementation requires only expansion and re-allotment of existing structures, rather than creating new ones, an option which creates greater logistical issues. Although attendance is voluntary, this weakness is lessened by methods such as gamification to encourage attendance and low-effort methods such posting flyers on doors of relevant classrooms to advertise the existence of workshops.

On this basis, we recommend that Baylor introduce technological training workshops to address the issue of Baylor students graduating without adequate preparation for technology in the workplace.

We appreciate your time and consideration, and hope that this recommendation proves useful to you. We look forward to addressing this problem. If you have questions or comments, please contact any team member at

A Proposed Solution to Train Baylor Students in Emerging Technologies

Group 3
March 4, 2016

Abstract

Students are vastly underprepared for the technology that they will use once they enter the workforce. Students spend years in college studying the basic ideas of their future careers but never really get a first-hand look at what they will actually be doing while they work. This is an easy problem to fix, and we believe that the best way to fix it is to hold on-campus workshops to better introduce students to the hardware and software that they will soon be using. These workshops can be held quite easily and rather inexpensively. Baylor already has the main infrastructure including the classrooms, staff, technology, and even experience to host the workshops. These workshops will provide the students with training and experience with most of the technology that they will use once they enter the workforce.

Executive Summary

Technology continues to advance through the years but we have not seen a significant adjustment in universities to keep up with the advancements. We see college graduates move into the workforce ill-prepared for the work that they will be doing, and it is an easy problem to fix. There are many ways to prepare students for their future careers. Some options that we considered were adding technology courses, changing courses to include the technology, requiring internships for students, and holding workshops to teach the technology to the students.

There are many advantages and disadvantages to each of these options. The criteria, decided upon early in the research process, that we used to decide the final recommendation on are cost-effectiveness, ease of implementation, and overall effectiveness. Adding courses would give students great amounts of time working with the technology that they will be using and would result in significant amounts of experience, but adding courses would be somewhat of an expenditure as paying for new teachers and technology could get expensive. Changing courses would be effective, as immersing students into the technology that they need would be greatly beneficial, but adding this technology to every course may be too complicated to be practical. Making internships mandatory in every major would be very effective, as getting students into the businesses would be great hands-on work, but the building and maintaining of relationships with Baylor and the businesses may be complicated, among other logistical issues for students. Holding workshops would be cost-effective, as Baylor already has the infrastructure to hold them, as well as easily implemented. It could also be very effective as the workshops would provide more applicable ways for the students to learn the technology.

Among these options we believe that workshops will provide the most effective way to prepare students for the technology they will use once they move into their careers. This option provides the best solution according to the criteria

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Introduction

The Problem:
The 21st century introduced an array of emerging technologies that are revolutionizing industries around the world. As computers become cheap, the Internet expands, and smart phones and the Cloud accumulate the foundation of modern day businesses, new technologies approach the horizon of students' futures. Through the rise of crowdfunding, social media marketing, and "Influencer-based" advertising, businesses are transitioning into an age of entrepreneurship where the successful are those who rely on anticipating and leveraging future markets and services. For Baylor University to adequately prepare students for strong careers in today's industries, students need to receive training in emerging technologies and the standards of today's global and online marketplace.

Why It's Necessary For Students:
One major void in Baylor's current training is in helping students establish an online professional presence. At minimum, students are encouraged to create a LinkedIn profile to assist in employer's attempts to learn professional details about them. Thankfully, most Baylor faculty also encourage students to make contacts with people in their respective industries. However, students could stand to be even better if taught how to develop their own personal brand. This includes the nature of how to use social media as a means of associating their identity with products and services through blogs, micro-blogs, portfolios, YouTube channels, etc.

Another critical need is a deep awareness of what technologies are on the horizon that will likely influence their industries: 3D printing, drones, virtual and augmented reality, genetic engineering, self-driving cars, and precise gesture controls, to name a few. These are each revolutionizing numerous fields, including but not limited to manufacturing, business, marketing, biology, film and digital media, computer science, engineering, art, and design. What students need is education in what these technologies are, how they could potentially influence their professional lives, and what they can do to be prepared for those changes.

Why It's Necessary For Baylor:
Many juniors and seniors, who at this point in their academic career have an idea of what field of study they would like to pursue, lack an understanding of how these radical technologies will affect their target industry. Youths are valued at companies for their adaptability, fresh ideas, and existing comfort with "new" concepts; companies are therefore more likely to hire students that understand newer technologies and the role those technologies will play in shaping the future. Universities that fail to prepare now for incoming technology changes will find themselves "behind the times" in a matter of years, not decades. As such, it is imperative that Baylor stay ahead of the game and adequately train students not just in theory, but in practice.

Option 1: Adding Courses

Summary:
Students exit college with very little professional experience in the field that they wish to move into. Technology has been advancing at an incredible rate and we can see that every day; with all of these advancements students have a very steep learning curve when moving into the workforce. "Technologies developed in the fields of nanotechnology, biotechnology, imaging, and information technology are advancing at unprecedented rates, impacting manufacturing, electronics, transportation, military defense, communication, healthcare, the food industry, and the list goes on" (Daggett). This is a big problem for Baylor because sending students on to the next level underprepared does not look good for either the student or the university.

Explanation:
Adding courses that give students a basic understanding of the technology that they will use in their future careers would be extremely beneficial, as most students are underprepared for what they will be doing. Adding a basic course that would give students some training would decrease the learning curve that the graduates will face. This course would either be at a freshman or senior level. The benefit of the course being offered to seniors would be that the course would prepare the students right before they moved into the workforce and therefore be the most effective; students would be trained with current technology rather than entering the workforce trained to use technology possibly several years out of date.

The process to change a given curriculum to add a course would first start with a faculty member. The change would first be discussed with a department chair and the faculty member. Then the change would be submitted through the Baylor ECAS (Electronic Course Action System) to be reviewed by the appropriate curriculum committee. Once approved by the department chair, the change would be reviewed by the department-level curriculum committee, and, if it got approved, would then head to the next level committee. If approved again, it would move up to the University Graduate/Undergraduate Curriculum Committee. After approval from that committee, it would be reviewed by the Vice Provost for Undergraduate or Graduate Education and then entered into the university's academic records system to be offered for the next semester (Baylor). The process is fairly straightforward but there is no time table for how long it would actually take.

Concerns:
If the course were offered at freshman level, the course would by necessity have to be more generalized than a senior level course, because many students would not have chosen their future profession goal yet. However, a single campus-wide generalized course would be less effective than multiple departmental-specific courses, as specific courses can tailor the technology they teach. For example, teaching students going into business about the same technology as students going into medicine would be inefficient, as most business students would have no practical use for knowing how to correctly operate an MRI machine.

Examples:
A possible example of how to prepare students for their future careers lies in current institutions. Technical schools are smaller colleges that prepare students for trained labor professions such as

mechanics, chefs, and many more. Although these schools prepare people primarily for the profession they want to enter, we can still take cues from them as they do a good job on preparing students for the career they will be taking on. The courses would differ from technical school courses as they would be more focused on the technology that the career would be involved with rather than the profession's overall career.

However, while technical schools have been productive, available statistics do not tell the whole truth. We can see how many people graduate but there are no real statistics on how well they do getting into their actual chosen profession. The problem lies with the recruiters of these schools who do not tell how active the job market actually is. "If there's no good data on where people end up after graduation, officials need to quit talking about their employment rate without explanation or caveat ... Anything less leads to false expectations and disappointment on the part of students and their families. … It boils down to integrity." (Michels)

Conclusion:
Adding courses to teach students the technology that they will use once they move into their respective careers would have many advantages and disadvantages. The costs of adding courses would mainly fall into the categories of the salaries for the teachers and the costs of the technology itself. At Baylor, a full time professor earns roughly $100,000 (Pere), which is a significant cost. The ease of implementation would be relatively simple as the process would require the changes to go through all of the respective channels of Baylor's academic boards. After that, implementation on the students' part would be as simple as taking any other new course. Effectiveness would be limited although fairly possible; the students would have designated times to learn this technology, but unless class sizes were kept small students may receive less attention from teachers than would be. Adding courses may be a plausible solution to the overall problem but there would be a few drawbacks such as how long it would take to fully implement.

Option 2: Changing Courses

Summary:
The Secretary's Commission on Achieving Necessary Skills (SCANS) lists skills that employers look for when making hiring decisions. Five competencies are listed as required for workforce readiness, and among these five is technological proficiency ("What Work Requires of Schools: A SCANS Report for America 2000"). The need for more technologically proficient graduates in the workforce is greater than what universities are currently outputting. As such, Baylor University has many possible opportunities for addressing this need.

Explanation:
One possible choice for better expanding upon the technology-based skills of current Baylor students would be to give a heavier exposure to workforce technologies in the classroom in order to develop these skills. In 2010, the United States Secretary of Education published *Transforming American Education: Learning Powered by Technology*, and made the claim that "just as leveraging technology can help us improve learning and assessment, technology can help us better prepare effective educators and increase their competencies throughout their careers while building the capacity of our education system to deliver effective teaching" (39). Not only would the students gain helpful skills that they need, but the professors who incorporate these technologies into their curricula would also become better skilled in their classroom.

There are many different options for modifying the currently existing courses offered by Baylor University in order to better equip students with technological skills. For the most part, in order to tailor the specific technologies that the students are exposed to, it would be best to enhance the highest level courses students will take within their specific majors. At the junior and senior level, students will be taking major-specific courses that most apply to their future careers, as opposed to general introductory courses to expose them to the major. These courses are also taught by experienced faculty members who most likely have ties with industry close to their field of study, who would be able to be knowledgeable about industry technology requirements. The best way to implement technological exposure would be to integrate the technology into existing group projects or assignments that are already required of the courses in order for the professors to be more likely to adopt such practices. If there isn't a burden placed upon the professors, they would be more willing to include the new technologies into their courses. Some simple technologies that would be easy to implement into a course curriculum would be those dealing with project planning (such as Trello) and communication (such as various professional social networking utilities). These could likely benefit students of any major, and might even be useful to expose students to in general required courses of every major in addition to, or instead of, major-specific upper level coursework. In the Forbes article *How Technology Has Changed Workplace Communication*, Rick Puskar, SVP of Customer Experience & Services for Unify, states that "seventy-nine percent of people work on virtual teams" (Burg), so it may be a useful practice to implement collaborative and communication technologies in as many courses as possible.

Concerns:
Because it might not be feasible to modify every junior or senior level course to place a heavier emphasis on technology, professors within each major would have to decide amongst themselves

whose courses would be best suited to the change. Aside from monitoring the syllabus and trusting a professor's word, there would be no way to enforce that technological exposure would be increasing within a major.

Conclusion:
One of the possible ways to increase technological exposure to undergraduates at Baylor University would be to modify currently existing courses to enhance the amount of technology being used by the students in their coursework. Career-specific technologies would probably have to be implemented within the uppermost level courses within a major; however, communication and planning technologies could likely be used even in courses required of every major.

Option 3: Mandatory Internships

Summary:
Internships in general are a highly effective means of additional training for students preparing themselves to enter careers. They require minimal administrative and logistical effort, safely avoiding significant changes in course curriculums, degree audits, and department organization. In addition, they provide students with long-term training surrounding the tasks, environments, and personnel critical for adjustment to professional careers. The challenges associated with internships include identifying professional entities to partner with and host these opportunities and the advanced skill-set the hosts desire.

Explanation:
The primary asset of internships is a student's exposure to the professional environment and work ethic. Students acquire healthy insight into the requirements of the occupations or industries they will be applying for after graduation. The persistent involvement in industry projects and working with real professionals together ensure that an individual's preparedness for their career duties is suitably enhanced. Few other learning-based activities can grant these intense benefits.

A key advantage of internships is their ability to help solve the "inert knowledge" problem. This is a scenario in which people who have been given the training for a given kind of work find themselves unable to apply it to concrete tasks. By connecting the theory and knowledge students have learned with the practical skills and tasks they must complete within their chosen field, internships help students formulate the actual usage of those skills in action, without which students would have trouble understanding the possible circumstances in which their knowledge can be applied. (Eyler 26).

Research has shown that students who participate in cooperative learning opportunities and internships, due to the multifaceted nature of the work environment, "learn to adapt to change…build a set of marketable skills, and develop the self-confidence they need to manage their own careers" (Linn, Howard, and Miller 4-5). These are exactly the needs that we initially sought: students gaining an adaptability and self-confidence for technologies they have yet to master, technologies that, if they were mastered, would endow them with marketable skills and knowledge in the workplace. In fact, according to Callanan and Benzing, "the completion of an internship assignment during the undergraduate years [helps secure] a career-oriented position after graduation" (Gerard Callanan and Cynthia Benzing 86).

Aside from internships' practical utility, they also entail a minimal amount of effort in changing the existing structure of degree programs. Logistically there would be virtually no problems in finding space, staff, or curriculum availability to include mandatory internships. They already have a high-level existing interface for being registered as course credit towards virtually any degree at Baylor University. As such, no major would be required to invent a whole new system to include internships as mandatory elements of degrees.

Because internships are normally associated with organizations not directly linked with Baylor University, they also are not bound by campus space, time, or personnel requirements. Students

would be able to receive advanced training without requiring a room inside a building, a time slot, or faculty that are currently dedicated to non-internship learning activities. To use an internship would therefore save on the allocation of these types of valuable resources.

Concerns:
Internships involve working with professionals who require advanced skill sets for students' work. In addition, some degree programs already include mandatory internships while others don't. These issues make recognizing the value of internships slightly more difficult.

Companies that make use of emerging technologies are critical to students' professional development; however, the Waco community is small and lacking in resources in comparison to the rest of the country. Local businesses may not even have access to the resources students would need experience with. Even in that case though, it is not uncommon for people to receive training through means of virtual conferences held regularly between students and mentors.

For example, in Baylor's Computer Science department, the majority of students undergo training with a digital consulting firm called Credera. Students complete a large-scale, service-oriented project to serve customers' needs while meeting on a biweekly basis with Credera employees who offer advice and guidance on the progress and direction of the project. This sort of on-hands training with people outside of the Waco area is possible in the modern age, and as such limits the damage of this particular disadvantage.

Internships, by their nature, often require students to have a set amount of experience in the field before they can even provide value to the companies they intern for. As such, it is difficult to introduce these sorts of opportunities to students early on in their academic life. What would be needed to account for this is a variety of internships that can be suggested for different skill levels of students.

Ultimately, early internships are of less value to students at Baylor who are still Undecided or otherwise meandering their way towards their desired field of study; but for those that have a clear idea of what they want to do early on, early internships would be an excellent way for them to gain invaluable industry experience as quickly as possible.

For when degree programs already have mandatory internships, it may be unreasonable to expect students to secure the funding or time to participate in both the old and the new internship. In that case, it would be more reasonable for students to be required only to complete one of the internships. Students should also be encouraged to involve themselves with as many internship opportunities as possible though, and the more relationships Baylor can provide to students, the better students will be prepared for their careers upon graduating.

Conclusion:
Internships have the potential to revolutionize students' capacity for learning, granting them direct insight into how their learned skills can be applied in the work place. The existing structure of internships also allows new internship opportunities to be easily integrating into existing degree programs. They provide training without the need to allocate many of the resources other solutions may require such as campus space or faculty.

The rarity, skilled requirements, and pre-existing nature of mandatory internships at Baylor University each pose problems to seeing the value of a new set of internships catering to emerging technologies in major fields of study; however, each of these elements have practical solutions that would be relatively inexpensive for Baylor to implement and nonetheless provide huge value to students, regardless of the form they would take in students' academic careers.

Option 4: Workshops

Summary:
Workshops would be held at the library by either existing library staff, professors, or upper-level students. These workshops would teach students how to use a variety of hardware and software that will be integral to future workplaces. Due to an existing infrastructure for holding workshops, their implementation would entail a minimal use of resources. Baylor already has some programs that this option can either expand upon or be modeled after in implementation.

Explanation:
Baylor University would host a series of workshops, with each focusing on a single program such as Zotero, Microsoft Excel, Photoshop, etc. Workshops could also be held on making blogs, the use of Twitter and Facebook in business, how to operate career-specific machines, etc. These workshops would be open to all majors and student levels. Workshop size would be kept small so that each attendee could receive attention from a workshop leader. Moody Library already has rooms that can be and currently are used for workshops, along with other rooms that can be reserved.

There shouldn't be a need to hire professional speakers to teach workshops, as professional speakers are generally more expensive than other speakers (Lorette 89). "Speakers who do not speak to earn income but to promote their business expertise speak at events on a no- or low-cost basis. These speakers are just as professional and knowledgeable as speakers that speak as their sole source of income" (Lorette 89). The location, Baylor, and the subject, common computer programs in the workplace, allow for easier options.

Baylor already has a wealth of talent in the form of librarians, upper-level students, and professors. Baylor has entire majors for technology, graphic design, and more. The only reason that Baylor would have to look off-campus for speakers to teach the use of a program would be if no one on-campus were able or willing to teach the workshop.

In addition, if a workshop would benefit from being lead by someone in the current business world, speakers could be attracted and costs could be reduced by presenting the workshop as a recruitment opportunity for their company. Many companies already recruit at Baylor and other universities because the students are about to enter the workforce, and schools with good reputations make students more desirable to companies that are recruiting.

"Most workshops last longer than classes or lectures" (Reinders 184); therefore, workshops should be held in the evenings or on weekends to avoid interfering with class times, as students are the target audience. Another alternative would be to have workshops on each program frequently enough and at times that vary enough that students are unlikely to have classes at every session offering. The latter option may be preferable to students who are currently working.

The crucial element of this option would be proper advertising. Because the workshops would not be mandatory, some students might never hear about the workshops, which would be detrimental to the goal. The marketing director of the library and The Baylor Lariat staff could

assist. Individual professors could be of the most assistance by simply mentioning the workshop to classes that could benefit, posting an announcement on CANVAS, or posting a flyer on the classroom door. This would ensure that a larger number of students would hear about the workshop, as all students attend classes, and would serve to somewhat tailor the audience of each workshop; students who would benefit the most from each topic would hear about it more.

In order to encourage attendance, individual professors could offer extra credit for a summary write-up of the workshop or a small project based on the focus of the workshop.

Concerns:
Keeping workshop sizes small for maximum effectiveness could necessitate repeating individual workshops multiple times in order to accommodate large numbers of students. This would increase costs due to having to find more teachers.

As workshops would be voluntary, some students might choose not to attend. In addition, because workshops would be voluntary, working students might have a harder time attending than if the technology training were part of mandatory courses.

Another concern would be the possible costs of more computers, as workshops would greatly benefit from students being able to work with the programs. However, the library already contains a large number of computers, as do some classrooms. If the current layout of computers were unworkable for the workshop and computers could not be moved, as a last resort the workshop description could include a notice for students to bring their own laptops. This wouldn't work for programs such as Photoshop that require a disk, but it would for others such as Zotero.

The idea of workshops could be done in other ways as well, but each would raise its own concerns. Rather than a series of workshops each focused on a particular program, each workshop could instead focus on a particular major and introduce programs specific to that major's field. However, since many programs would overlap between majors -- any field conducting research and group projects can make use of Zotero, for example -- this alternative would be less efficient as several programs would be taught a disproportionate number of times.

In addition, major is not necessarily indicative of an individual student's particular career. By focusing workshops on the workplaces of given careers, students would be being prepared only for a small subset of their chosen field, should it remain the same after graduation. In addition, it would be highly impractical to host a workshop for each and every potential career a student could choose, as there are simply too many. This is why the proposed plan focuses on a few programs that are applicable in many workplaces rather than specifically tailoring the content to each major.

Another method would be to make workshops mandatory in order to make sure that every student would be exposed to every program. However, this runs the risk of some participants lacking motivation to participate (Reinders162) and dragging down the group. In addition, mandatory workshops for no course credit could create resentment. If course credit was offered, the workshop would essentially be a new course.

Examples:
Moody Library already hosts workshops on a variety of subjects, including Science Research, Digital Scholarship, Zotero, and several workshops that are mandatory for Honors courses ("List of All Workshops"). According to Ashley Crane, who works at the Jones Information Desk, they are mostly taught by library staff, and are conducted at Moody Library. Most are conducted in Jones 105 or G42 downstairs, but larger workshops can be held in the Jones 200 flexible learning space (Crane).

Director of Marketing Carl Flynn organizes publicity for "bigger events" that take place at Moody, but the smaller workshops, including the workshop on Zotero, are not particularly advertised beyond the library web site (Crane). A simple method to increase the effect of workshops would be to post flyers for each workshop where students are likely to see them, such as the Carroll Science Building, the Baylor Sciences Building, the Hankamer School of Business, inside freshman residence halls, etc.

The Writing Center on the ground floor of the Carroll Science Building is sponsored by the English Department and staffed by graduate students ("What We Do"). This could provide a model for the implementation of the proposed plan.

Conclusion:
Workshops are sometimes mistakenly believed to be expensive endeavors, but Baylor is in a rare situation and can use the workshop format to a great extent without too much cost. As this option expands upon an existing infrastructure, it would be relatively easy to implement. Publicity for the workshops to raise attendance would be one of the major concerns in order to be effective.

Recommendation

We believe that workshops are the best option because extracurricular, voluntary workshops are the most cost-effective option, provide the most flexibility to students, have existing infrastructure at Baylor, and give students intrinsically motivated hands-on experience with a range of technology commonly used in various career fields.

Adding new courses would be the most costly of the options. While mandatory senior-level courses in each major teaching students how to use technologies in fields that students in that particular major are likely to go into would prepare students for future jobs, adding new courses would require hiring more teachers, which costs a lot of money. "At Baylor, the average annual salary for full professors is $97,241, with $74,681 for associate professors and $69,536 for assistant professors" (Pere). Students would also either have to pay for an additional course, increasing tuition, which is currently estimated to be $35,000 for two semesters of courses according to Baylor's Students Financial Services ("Undergraduate Full-Time Budgets"), or each major would have to choose a major requirement to sacrifice in order to make room for the new course. In addition, depending on the kind of technology expected in each field, Baylor might need to either purchase costly machines or teach mostly theory. While still more helpful than not teaching about the expected technology at all, theory-only teaching may be less effective than other, more hands-on options.

Changing courses already present within the major, while being an inexpensive method, would be the least likely to make an impact on the preparedness of students entering the workforce. Professors may not feasibly be able to modify their courses to add additional material, depending on the workload of the course already. Because this might not be possible for every course within a major, professors would have to decide who among them would be modifying their courses. Additionally, there would be no possible method for the enforcement of the course changes. There would also be no way to track the benefit gained from requiring professors to increase the technological exposure of their students.

Mandatory internships in each major would provide the highest quality of job preparation possible, in that students would effectively be working in their field before leaving school, but logistically mandatory technology internships would cause many problems. While the structure for mandatory internships within majors already exists, this means that for those majors currently requiring internships the new system would require two internships, possibly putting an undue burden on students, although some internships could fulfill a dual purpose. Many students at Baylor work in addition to taking courses and lack time. Waco is a somewhat small community, creating the logistical issue of how to get internships for every student; while Skype internships could ease the burden, in-person internships would be more effective for learning. Finding internships and creating relationships with businesses for regular internships for Baylor students would cost Baylor resources.

Costs for workshops needn't necessarily be high, making workshops a cost-effective option. Expensive professional speakers don't need to be hired; teaching staff for the workshops can include upper-level students who have knowledge of the individual workshop subject and/or experts from local businesses whose compensation, aside from an honorarium fee smaller than

that required for a professional speaker, can include the opportunity to recruit students and advertise their company.

Workshops are the easiest option to implement. Baylor has an existing infrastructure for workshops; Moody Library often hosts a number of them. Baylor also has precedent for upper-level students teaching other students in the form of the Writing Center (which is staffed by graduate students) and paid TA sessions. Implementation of this option, therefore, would mostly involve organizing existing resources rather than creating entirely new infrastructures. This option is also easy to implement from the students' perspective, as individual students can choose to attend only those workshops that are relevant to them and that fit into their existing schedules; this will avoid burdening working students with mandatory time requirements and cut down on the logistics required for Baylor administration to fit time for mandatory training into course schedules, unlike the option to add courses. Students will also not have to sit through technology training that they will never use, unlike in generalized mandatory courses, as each workshop is specific in content and students are not obligated to attend workshops that don't relate to their field if they don't wish to.

In order to be effective, one of the first requirements is for students to actually receive the technical training; that is, students must attend the workshops in order to receive benefit. One method of potentially increasing the effectiveness of the workshop option in this capacity is gamification. Gamification is defined as "the concept of applying game mechanics and game design techniques to engage and motivate people to achieve their goals. [It] taps into the basic desires and needs of the users impulses which revolve around the idea of status and achievement" ("Gamification"). This concept is seen in many video games; frequent rewards such as leveling up, watching an increasing score counter, and competition with other players encourage players to continue playing in order to get more rewards.

By using gamification in workshops, some of the drawbacks of making workshops voluntary are negated or lessened. Making something voluntary typically means that attendance would drop compared to making something mandatory; however, attendance at workshops can be encouraged by using principles of gamification. By giving each student a score relating to their progress in technical training, students are encouraged to attend more workshops for the psychological reward of watching their individual score increase and engaging in social competition with peers for the satisfaction of "winning".

Students can also be motivated to attend workshops by individual professors offering extra credit for attendance; the workshops could either provide a proof-of-attendance certificate or students could be required to show a product of the workshop, such as a sample project. Some professors currently require students to attend a certain number of events outside of class within a certain time frame, such as a Public Communications professor requiring students to attend three outside lectures and write summaries before the end of the semester; this model could also be used by individual professors to motivate workshop attendance. Even simply advertising the workshop's existence through a flyer on the door of a related class can increase attendance.

In order to be most effective and benefit the greatest number of students, workshops will be open to all years so that students have the greatest possibility of being able to fit a given workshop into their schedule at least once over the course of their college career.

Workshops will be organized into two broad categories. Larger, more generalized workshops that can benefit any potential career will be hosted in Moody and Jones libraries. Smaller workshops that train more career-specific technology will be hosted by individual departments in locations of greatest convenience to them.

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