

## **Team ePortfolios in Management Education: Insights into Students' Skill Development**

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### **Abstract**

*One of the goals of management courses is to help students develop the ability to plan, organize, lead, and control. They also need to develop human and conceptual skills. These skills are reflected in what many higher education institutions refer to as essential learning outcomes or cross-cutting skills (e.g., communication, teamwork, ethical decision-making, critical thinking, and application of knowledge to real-life settings). This qualitative study analyzed students' team ePortfolio reflections to better understand the processes, norms, and behaviors that students engaged in as they developed strategies for effective teamwork. Findings demonstrated students' developing competencies in the managerial functions of planning, organizing, leading, and controlling. The study shows that high impact educational practices such as team ePortfolios, which involve teamwork, intensive writing, and peer review, can help students develop employer-valued skills.*

**Key words:** *Management education, high impact educational practices, ePortfolio, teamwork, planning, organizing, leading, controlling.*

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## Introduction

Managerial functions have traditionally been categorized into four areas—planning, organizing, leading, and controlling, often referred to as POLC (Fayol, 1916). Additionally, the types of skills and abilities needed by managers are thought to progressively evolve, emphasizing human and conceptual skills over technical skills, as one progresses from an entry-level manager to a middle manager to a top-level manager (Katz, 1955, 1974). The goal of management courses in business schools is to help students develop the ability to plan, organize, lead, and control, and to acquire and apply research-based knowledge related to understanding, working with, and leading people and groups to achieve goals (e.g., human skills). Complementary to this is the ability to analyze, create, and innovate and help develop these skills in others for the benefit of an organization (e.g., conceptual skills).

Desired managerial knowledge, skills, and abilities are related to what are termed essential learning outcomes in higher education, which many institutions have adopted and are measuring on both program and institutional levels. While technical skills are required and fundamental for many job roles, beyond these, employers seek college graduates who possess cross-cutting skills such as communication, teamwork, ethical decision-making, critical thinking, and application of knowledge to real-life settings (Association of American Colleges & Universities [AAC&U], 2002; Hart Research Associates, 2006a, 2006b, 2008, 2010, 2013, 2015, 2018). Known as outcomes of a liberal arts education, these abilities are critical to business school graduates as attested to by research across sectors (Hart Research Associates, 2018).

This study examined the processes students used as they completed team ePortfolio assignments in an introduction to organizational behavior course. The goal of the assignment was to help students demonstrate knowledge of various concepts and theories as well as develop managerial and cross-cutting skills. Students worked in teams to create ePortfolio artifacts in which they demonstrated how to apply organizational behavior theories to real-life and reflected on their learning and teamwork. Students shared their artifacts with each other and provided constructive peer review. They responded to peer and instructor feedback to improve subsequent artifacts. The assignment was implemented in multiple sections across different delivery modalities (online, blended, and face-to-face).

The objective of this study was to examine the extent to which team ePortfolios helped students develop skills related to the major managerial functions—planning, organizing, leading, and controlling. While research exists regarding the value of ePortfolios and also the value of teamwork generally, it has not focused on how team ePortfolios involving collaboration on artifact creation and reflection on team processes can help students develop employer-valued skills.

## Literature Review

This review focuses on ePortfolios and teamwork and their relevance to the development of employer-valued skills, and in particular, skills associated with the managerial functions of planning, organizing, leading and controlling (POLC). The ability to work effectively in teams is a desired outcome of higher education and one that can be developed through team ePortfolios, which can be designed to engage students in critical thinking, written and oral communication, interaction with diverse others, application of learning, and demonstration of competence, thereby preparing them with the skills that employers have identified as being critical to career success (Hart Research Associates, 2018).

### **Employer-Valued Skills**

Business executives and hiring managers who participated in a large-scale national study indicated strong support for higher education but viewed graduates' skills as best suited to entry-level positions (Hart Research Associates, 2018). As such, they filled the gap with professional development opportunities to prepare employees for more advanced roles. The most valued skills identified were oral communication, critical thinking, ethical judgment, effective teamwork, independence, self-motivation, written communication, and real-world application of knowledge.

Fewer than half of respondents (40% of executives and 47% of hiring managers) felt that graduates are well prepared in oral communication with 71% and 75% respectively being satisfied in graduates' abilities to apply knowledge and skills to solve complex problems. Participants indicated the value of ePortfolios in addition to transcripts and resumes in the hiring process (78% of executives and 81% of hiring managers felt they were very useful or fairly useful). They also reported regularly partnering with universities to provide applied learning opportunities and were more likely to hire graduates who had had these experiences.

### **High Impact Educational Practices**

Over a period of several years, studies have consistently indicated the importance of teamwork skills in the workplace and the role of higher education in helping students develop these skills (AAC&U, 2002; Hart Research Associates, 2006a, 2006b, 2008, 2010, 2013, 2015, 2018). Additionally, ePortfolios are one of eleven high impact practices (HIPs)—those which reflect active learning and engagement—due to their potential to deepen “learning while making achievement visible—to students themselves, to their peers and faculty, and to external audiences” (Kuh, O'Donnell, & Schneider, 2017, p. 10). Although ePortfolios are typically an individual endeavor in which students demonstrate, synthesize, and reflect on their learning, they can be structured to help students develop teamwork skills. However, this pedagogical practice, specifically the integration of ePortfolios with teamwork, has not been well-documented in the literature.

HIPs foster the essential learning outcomes valued by employers as a result of their underlying characteristics, which have been identified as high performance expectations, an investment of time and effort, meaningful faculty and peer interaction, experiences with diversity, frequent and timely feedback, real-world application, public demonstration of competence, and reflection (Kuh, 2008; Kuh & O'Donnell, 2013). Depending on how they are designed, team ePortfolios can entail all of these features. Students invest considerable time and effort in creating artifacts over an extended period of time, interact with diverse others to negotiate content and present it in a professional way, receive feedback from others through structured reviews based on rubrics, demonstrate learning by sharing their artifacts, and reflect on what they have learned and how it applies.

### **ePortfolios and Teamwork**

ePortfolios have been examined in a number of different contexts with findings demonstrating a variety of positive learning outcomes. As a result, they were fairly recently added to the list of commonly recognized HIPs (Kuh et al., 2017). ePortfolios entail having students create artifacts to demonstrate what they have learned (Grant, Strivens, & Marshall, 2004). They also involve reflection on learning, an element of HIPs (Kuh, 2008; Kuh & O'Donnell, 2013). As students reflect on their learning, they are able to monitor their effectiveness, recognize what they have learned and how they learn, and set goals for improvement. In addition to involving an evaluation of learning strategies, reflections can be designed to help students demonstrate real-life application of concepts, and lead to new insights (Clark & Adamson, 2009). Through these processes, students become more active and autonomous learners (Clark & Adamson, 2009).

Despite the importance of teamwork in the workplace, and evidence in management education research that it motivates students and helps them deepen their learning, develop critical thinking skills, and retain knowledge, (Biggs & Tang, 2011; Ohl & Cates, 2006; Scott-Ladd & Chan, 2008; Volkov & Volkov, 2015; Wageman & Gordon, 2005), the number of AACSB-accredited business schools measuring teamwork skills is decreasing. Forty-two percent of business schools reported measuring teamwork as part of their assessment plans in 2007 (Martell, 2007), 26.5% in 2010 (Kelley, Tong, & Choi, 2010), and none in 2015 (Wheeling, Miller, & Slocombe, 2015). Eighty-three percent of employers across sectors identified teamwork as a top skill, however, second only to oral communication (Hart Research Associates, 2015).

Previous research has typically not examined team ePortfolios as a pedagogical practice. Research has, however, focused on the use of individual ePortfolios as a way for students to share their learning with students in other classes (Zinger & Sinclair, 2014) or to individually reflect on their participation and contributions to team assignments (Housego & Parker, 2009). As with other pedagogical innovations that may be unfamiliar to students, faculty members using ePortfolios need to experiment to identify effective practices for their contexts and disciplines, and help students understand the value of the approach (Johnsen, 2012; Kelnowski, Askew, & Carnell, 2006).

The use of team ePortfolios combines the benefits of ePortfolios with the potential to develop students' teamwork skills and achieve desired learning gains. When designed with the elements of HIPs as a guide, team ePortfolios can be powerful in helping students in management and business courses achieve both managerial skills and associated cross-cutting skills.

### **Managerial Functions**

While employees typically begin their professional lives with appropriate technical skills, in order to advance, they must also have managerial skills (Bigelow, 1991; Katz, 1955; Koen & Crow, 1995; Kotter, 1982; Mintzberg, 1973; Winch & McDonald, 1999). In some cases, employees may avoid advancing to management positions because they feel unprepared; however, management skills are critical to the achievement of organizational goals (Peterson & Van Fleet, 2004). These skills are not inborn and can be taught and learned (Katz, 1995). Organizations that mentor and train employees to develop these skills are not only investing in their employees, but creating a talent pool. Higher education plays a significant role in the development of these skills. Managerial functions consist of planning, organizing, leading, and controlling (POLC) (Fayol, 1916). Some sources include coordinating, which emphasizes communication skills, as a fifth function (Robbins, De Cenzo, & Coulter, 2010). Planning focuses on goal setting, actions to achieve goals, and evaluation of success. It is forward-looking to determine where an organization wants to go and how to get there. Organizing involves determining an appropriate structure with roles and responsibilities to enable goal achievement. It establishes authority lines and the allocation of resources. Leading aims to inspire and motivate those within the organization to perform tasks and achieve organizational goals; this influence may come from those with formal leadership positions or those who with information leadership roles who have social influence and powers of persuasion among their peers. Controlling emphasizes setting standards, reviewing performance to determine achievement of plans and goals, and making corrections as needed.

Of particular importance is preparing students to be virtual managers, which entails the use of technology to establish strong working relationships across company sites in different geographical areas, typically without traditional or frequent meetings (Ayhan & Ozemel, 2014; Introna & Petrakaki, 2007); needed meetings can be accomplished through video conference software. "In virtual management, not only the managers can lead and control the employees virtually, but also the employees

generally called virtual teams can plan, organize, and communicate the required issues to perform the responsible tasks” (Ayhan & Ozemel, 2014, p. 157). Students can develop these skills in online learning context that involve teamwork with established roles and responsibilities.

The managerial skills of planning, organizing, leading, and controlling entail the use of underlying cross-cutting skills such as oral and written communication, understanding and working well with people different from oneself, critical thinking, problem-solving, effective decision-making, and of course, teamwork. As such, team ePortfolios have much potential to prepare students for their future careers by helping them develop these skills.

## Method

Participants in this study were 260 students enrolled in a total of seven sections of an introduction to management course, required for business majors. These students were divided across 43 teams. Three of the sections were online, two were blended, and two were face-to-face. The participants were formed into teams at the beginning of the semester. Throughout the semester they collaborated with each other to create ePortfolio artifacts that represented their learning of organizational behavior concepts and theories, applications of these concepts to past or current work situations, and how the concepts might be applied generally to improve organizational effectiveness. Students also created an artifact about their team consulting projects in which they collaborated with a local organization to identify a problem, collect data, apply theories, and make recommendations. Throughout the semester, students shared their artifacts with other teams in the course learning management system and provided feedback to each other based on a rubric. The instructor also provided detailed rubric-based feedback.

In their ePortfolios, students reflected on their learning about course theories and concepts and on their teamwork, specifically processes, strategies, norms, and problem-solving related to working together. In these reflections, student teams were not asked to indicate what they had learned but rather to reflect on their team processes, what was working, what did not work, what they needed to do differently to achieve better outcomes, how they had responded to feedback, how they had addressed problems, how they may have applied a concept they were learning to their teams, and so forth. The reflections were designed to help students analyze and improve their performance. Students were encouraged to be open rather than to simply report positive outcomes in order to get a good grade. This was reinforced by the assignment rubric where in depth reflection and growth were emphasized.

To gain an understanding of learning outcomes resulting from the team ePortfolios, artifact content was examined, specifically the reflections on learning. A qualitative approach was selected for this study as it sought to explore phenomena rather than test existing theory (Saldana, 2013; Trochim, 2006; Yilmaz, 2013). The goal was to analyze the thick, rich descriptions (Geertz, 1973); in other words, the detailed accounts of learning from student teams, to understand what they learned, how they learned, how they integrated and applied their learning, and how they interacted and collaborated as teams. Because the reflections focused on asking students to analyze the effectiveness of their processes, strategies, and behaviors in order to make sense of what was working and where improvements were needed, it aimed to help them better understand themselves and those with whom they were working. The reflections provided insights into the student teams’ learning journeys.

Content analysis has been described as an “approach used for exploring large amounts of textual information unobtrusively to determine trends and patterns of words used, their frequency, their relationships, and the structures and discourses of

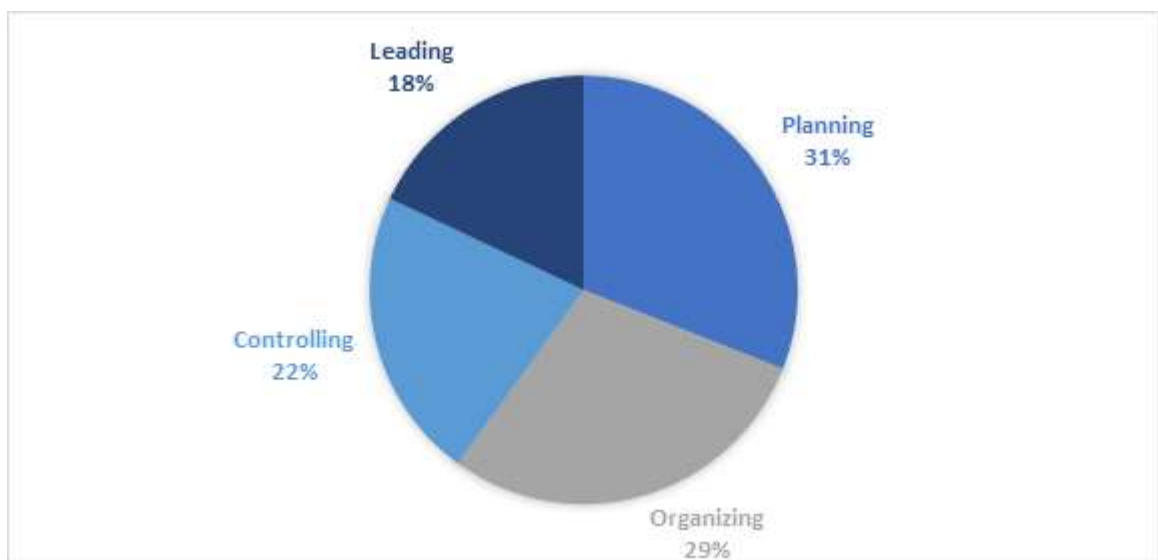
communication” (Vaismoradi, Turunen, & Bondas, 2013, p. 400; see also Gbrich, 2007; Mayring, 2000; Pope, Ziebland, & Mays, 2006). The coding process involves taking textual data, putting sentences or paragraphs from that data into categories, and labeling the categories (Creswell, 2012). Coding involves examining similarities and differences in the data and grouping those that are conceptually similar together. Codes are created for themes or topics.

Coding can be performed manually or with the help of computer software. NVivo software was used for purposes of content analysis in this study. While the software helps to sort and categorize data, the user needs to create the categories, identify patterns and themes, and determine the meaning of the themes. In this study, themes and subthemes related to the managerial functions of planning, organizing, leading, and controlling, which also entail abilities associated with the cross-cutting skills valued by employers, were identified through coding and comparative processes.

#### Findings

Figure 1 indicates the percentage of student teamwork comments by POLC category. The purpose of reporting the category percentages is to provide an understanding of the extent to which students focused on each of the managerial functions. Each category and its themes are explained and illustrated with representative quotations. The quotes illustrate both practices that are working as well as those needing improvement. Several quotes, and at times, longer quotes, are included to provide the thick, rich description characteristic of qualitative research. The quotes are representative of students’ learning experiences as a result of the team ePortfolio assignment. It should be noted that the four managerial functions are and should be integrated for organizations for be effective; thus, some overlap across categories is evident.

**Figure 1:**  
*POLC Comparisons*



#### Planning

Planning can be described as setting goals, determining actions to achieve goals, evaluating success, and deciding on ways to improve. The data indicates that students set clear goals to increase their effectiveness as teams. Examples of this theme involved goals to improve communication, set and meet deadlines, and hold each other accountable. They also took action to achieve desired results—both to achieve goals and

as a result of reflecting on their goal achievement to identify needed improvements. Actions involved strategies for processes and decision-making such as determining artifact topics, setting guidelines, distributing workload, ensuring collaboration, and delegation and planning. Planning also entailed cross-cutting skills such as communication, critical thinking, problem-solving, and understanding diverse approaches to tasks. The quotes in Table 1 illustrate the themes and their characteristics.

**Table 1:**  
*Planning*

<i>Setting Goals</i>	<p>We set Saturday night as the goal for the due date, so that we could finalize and polish anything before the assignment needed to be turned in. This was made clear in our group chat so that we could refer back to it and ask any questions. We kept each other informed on how each of our individual assignments were going. This helped us continue to work toward our goals of effective communication, and team members were more aware of the tasks they needed to complete. We will continue to refine our goals for communication in the upcoming weeks.</p> <p>We'd like to focus on setting and meeting deadlines. Typically, we have been completing our individual assignments by Friday of the week the assignment is due. This means we have Saturday for review, edits, and submission. This procrastination results in work that is less than our capabilities. If we were to move the deadline for completion to Wednesday or Thursday, Friday could be utilized for review and edits, with Saturday reserved for last minute changes and then submission.</p>
<i>Evaluating Effectiveness</i>	<p>We have planned effectively one week out, but do not plan ahead any further than that. We had to quickly complete our project proposal because we didn't plan ahead well enough. We need to go over upcoming assignments (possibly a month ahead) and make assignments and designate time to discuss the assignments. We also need to report a status update as we complete our individually delegated assignments in real time. We need to do a better job providing feedback to individual team members when they complete portions of assignments and also self-evaluating team efforts on every assignment.</p> <p>We need to improve on the skill of constructive feedback, which is where group members are able to give and receive feedback about ideas. We are all so busy sometimes we receive feedback from others but we do not take time to discuss and improve, but rather start the next assignment with the same understanding we had several weeks ago. We could all be more open to change and other ideas. We need to take time to discuss our plans, and what we want to improve each week before we start the new assignment. With this improvement, we will be more successful.</p>
<i>Taking Action</i>	<p>This week our team focused on delegating responsibilities in a more effective way. We wanted to make sure that all team members understood what sections of the artifact they needed to complete by the deadline. . . . We started by deciding which subject we were going to use, and then created a web page template with basic section headings. Each group member was then delegated a section by the group leader and that person's name was placed by that section to show who was responsible.</p> <p>Our team was able to employ strategies to plan, design, and execute our artifact. Being able to communicate via text messaging and Google Hangouts, we planned and delegated assignments to work successfully as a team. While listening to one another's suggestions, we came to an understanding as a team and executed what we had planned. Using technology, we are able to listen to one another and plan accordingly.</p>

**Organizing**

Organizing involves determining structure, roles, and responsibilities to enable goal achievement; establishing reporting lines; and allocating resources. The themes for this component involved selecting, and in some cases, rotating roles, acknowledging and appreciating diversity, utilizing skill sets to capitalize on individual strengths and distribute the workload (e.g., allocating human resources for task achievement), and taking responsibility on both individual and collective levels. The teams also recognized the importance of task variety and job satisfaction. The underlying cross-cutting skills

represented involve communication, appreciation for diverse perspectives, and problem-solving. The quotes in Table 2 illustrate issues related to organizing.

**Table 2:**  
*Issues Related to Organizing*

<p><i>Establishing roles</i></p>	<p>Understanding personality types is essential for working cohesively as a team. Our team has several people from many different backgrounds and lives. We have tried to help match their positions within the team to the position that fits for that individual. . . . In our team, all members follow their team roles. Each member of the team has different skills, so we can break down our work into small parts and let team members choose what they feel the most confident with. This way is very efficient in order to complete any assignment. All of our team members will come with some new ideas or great comments.</p> <p>The strategies used in the creation of this project were in-class collaboration, role assignments, and regular communication via text message. As we have done in past artifacts, we continue to rotate project roles to expand our team's skill range and decrease monotony.</p> <p>Communication is important to the team members to know what is going on and how tasks have been delegated. Every project needs to have effective communication to see the progress of the project. If the role assigned to you needs to change, you can communicate with the team to avoid frustration. If team members communicate with each other, that will help to accomplish the team goals and get things done faster.</p>
<p><i>Distributing work</i></p>	<p>We have spread the tasks equally among team members; each team member was able to select the task most appropriate to his/her capabilities. In doing that, we ensured everyone's happiness and a higher quality of work. . . . We were able to instinctively draw the best qualities of each member and contribute those qualities for the benefit of the team as a whole.</p> <p>Within our team, we assigned roles to group members. The roles are clearly listed in our charter. Roles ensure that the work is equally distributed. We have team members responsible for content ideas, page design, writing, ensuring the cohesiveness of the content, and proofreading. This allows us to create quality assignments in an efficient manner because we know who is responsible for what.</p>
<p><i>Taking individual and collective responsibility</i></p>	<p>With any company or team, having set and concrete roles is crucial. If everyone knows what their task is, then it makes it easier for everyone to work together and not step on each other's toes. Teams can apply this by making sure each role is being fulfilled. Each team member is not necessarily only in charge of one role. If a role isn't being fulfilled it is up to everyone to step in and take on multiple roles to achieve maximum efficiency as a team.</p> <p>This week we had an unexpected situation occur with one of our team members and this caused us to be short a person. We decided to continue splitting up our artifact into sections we can each work on. We decided who would take on the absent team members portion so we could stay on track with our artifact being submitted on time by the due date.</p> <p>We adjusted the ground rules in our team charter to be more specific. We enforced deadlines for having assignments due by Wednesday/Friday each week. Each team member must attend class and if they miss it, they are responsible to get the information missed from class or meetings. They must give notice if they are missing class. Our team decided that if something comes up in our personal lives that hinders us from completing our assigned task, we must ask for help and return the favor in the future to help our team progress.</p>

**Leading**

Leading is defined as determining a vision and directing, influencing, inspiring, and motivating others to perform tasks leading to goal achievement and vision fulfillment. The data from the students' reflections on their teamwork revealed that they influenced and motivated each other, recognized the need for a team culture that involved getting acquainted and being comfortable and open with each other, and understood how recognition can positively impact motivation. Leadership was also



collaborative or shared, rather than the responsibility of only the person formally appointed as the leader. It was common, however, for the appointed leader to set the example, which others followed. Underlying cross-cutting skills, once again, involved the development of communication and teamwork skills as well as openness to diverse perspectives. The quotes in Table 3 illustrate issues related to leading.

**Table 3:**  
*Issues Related to Leading*

<i>Influencing others</i>	<p>The skill of recognizing the power of tolerance, demonstrated by our leader, has helped our group adapt to situations that may otherwise pose difficult for people who have similar backgrounds.</p> <p>During our team meetings, we have complete attendance and a lot of sharing between members. When facilitating group comments, our leader does a great job of this. He will listen to several comments and give his comments to them. He also encourages others to speak. He sets the mood of listening and responding.</p> <p>Our team shows both formal leadership and informal leadership. We have one formal team leader who reminds us about assignments and plans future assignments. The rest of the team has shown leadership characteristics by knowing what is required of them for each assignment and completing their portion. What has been successful is having open-minded team members willing to try new ideas and taking on different assignment responsibilities each week. We use our ideas together to get the job done.</p>
<i>Creating a team culture</i>	<p>We believe each team member has realized the lack of culture within our team and also how important it is to implement it. Our team has had to make changes whether it be with communication, assigned tasks, and being accountable but a change our team is going to work on is implementing a culture. It would be beneficial for our group because it has been proven that individuals work hard and more effectively when a distinct culture is known. It can be challenging to have a culture in school groups, and even more so with online classes because of the short amount of time we spend with one another, but we want to set aside five minutes during our meetings to get to know each team member better.</p> <p>All members have personalities that are respectful and eager to listen to each other. This has made it easy to have a good constructive climate. We have worked through changing ideas (when one wouldn't work), changing assignments (when one dropped the class or when it wasn't feasible for one to do the assigned work). This has worked well for us as we are eager to work together.</p>
<i>Motivating others</i>	<p>Excitement blossomed as we discussed ways to alleviate this weak spot through better motivation. Two ideas really caught hold with us, both of which fall under the concept of positive reinforcement. The first idea dealt with our group text. It is strictly business, without any frills; however, making an extra effort to send texts of recognition for valuable work completed on time would motivate our team to a greater extent. Secondly, we added a talking point to our weekly meeting agenda to compliment high-quality work any team member accomplishes.</p> <p>Each team member has completed his/her task beautifully. By following the team charter, our team has been able to start working immediately on the task at hand. Our team leader brought up the importance of completing the task quickly and every member agreed.</p> <p>We believe that we all have something unique that we can bring to the table in our group. With our different personalities and ideas, we know that we can bring these ideas together to make valid points and educate our fellow students. As a team we believe that we can all improve when it comes to motivation and encouragement. We can do better at completing our blogs at a reasonable time and thinking it out more. With delegation we can each do better at completing individual assignments so that we are all contributing equally as a team. We all have the goal set that we want to complete all of our blog posts on time as well as get a good grade on each of our assignments. We can do better on expressing what individual goals we have for the class and what we can each do to help each other achieve those goals which can make us more effective working together and excelling in the class together.</p>

## Controlling

Controlling involves setting standards, conducting performance reviews to determine the achievement of plans and goals, and making corrections as needed. These abilities were identified in the students' artifact teamwork reflections. Themes included using feedback from team members, the instructor, and other teams as well as recognizing the need to improve, determining corrective actions needed, and noting successes. Of particular note is the specificity with which students identified processes and steps to bring about improvements. They were also able to recognize progress over the semester and that overcoming conflict make them stronger. The findings for this category also show evidence of the cross-cutting skills of oral and written communication, problem-solving, and teamwork. The quotes in Table 4 illustrate issues related to controlling.

**Table 4:**  
*Issues Related to Controlling*

<i>Using feedback</i>	<p>We, as a team, feel that our ability to organize our thoughts in class and communicate effectively outside of class are being well refined. Artifact #4 is founded on group discussion, suggestions from other classmates, and observations of other artifacts.</p> <p>We all felt that we do a good job with our artifact assignments; however, we have had a fair amount of feedback on how we need to improve and implement an introductory paragraph. We will be assigning someone each week to creating an introduction.</p> <p>As a team, each member should participate in giving feedback on each project or assignment. Feedback provides an opportunity to improve the assignments, giving a chance to all the team members to learn something positive from the other person's suggestions. It will be more efficient if the team gives feedback as soon as the task is completed.</p>
<i>Recognizing the need to improve</i>	<p>I think our team's biggest challenge has been procrastinating assigned tasks until the last minute. Not just one team member is guilty of this, but probably the majority of the team. This is something our team will discuss in our weekly meeting and figure out a solution so everyone is on task and doing the work they were assigned. We will also discuss what we can do so each member is contributing equally and is responsible for their task without other team members making sure tasks are getting completed.</p> <p>Accountability needs to be improved. Sometimes we aren't the best at holding each other accountable and by doing so, others have to pick up the slack.</p> <p>We recognize that some members of the team are submitting "rough draft" work rather than "ready-to-submit" work. This is creating additional work for those tasked with reviewing and editing, as they are not tasked with revising and rewriting to solve basic grammatical errors.</p>
<i>Determining corrective action</i>	<p>For this artifact, the team decided to straighten our past mistakes in order to achieve a higher quality of work. The team leader gathered the team and offered suggestions on how to approach this project. The team agreed to split the tasks among members. To avoid making any mistakes, the team spent a longer time communicating back and forth on what is expected for this project. The team is also experimenting with task distribution in order to fit the best possible person to the task. If someone handled application last time, this time he/she is handling reflection.</p> <p>Setting goals is where we feel we need the most improvement. Each week we assign each other tasks with a due date. However, we don't have written goals that we are trying to achieve as a team. This is how we plan to change that: Our main goal is to get full credit on each assignment. This goal is vague and doesn't state how we plan on doing that. To get full points on assignments we will be submitting our work early so that we can receive feedback. Once we receive the feedback the team member responsible for completing final edits will revise the assignment and resubmit it. These new goals will be added to the team charter to help give our group direction and purpose when completing assignments. We feel as a team that using to the opportunity from the feedback is a great way that can help us achieve our goal.</p> <p>Excitement blossomed as we discussed ways to alleviate this weak spot through better motivation. Two ideas really caught hold with us, both of which fall under the concept of positive reinforcement. The first idea dealt with our group text. It is strictly business, without any frills; however, making an extra effort to send texts of recognition for valuable</p>

	work completed on time would motivate our team to a greater extent. Secondly, we added a talking point to our weekly meeting agenda to compliment high-quality work any team member accomplishes.
<i>Noting successes</i>	<p>Overall, we have worked really well as a team and because of conflict we've been able to create better relationships and are more comfortable working on issues that arise.</p> <p>Our team comradery has come a long way since the beginning. Every time we meet as a group, we get more comfortable with each other. This helps with sharing ideas because no one is afraid that if they say something it will get shut down.</p> <p>Collectively as a team, we met and discussed the trainings we've each have done. We decided what our greatest interests were. This is exactly how we decided which topic to do for our last artifact. We then discussed how informative each section has been and how much it's helped us all grow was a team. Each week our team has really made an effort to communicate through text, emails, and face to face. We try to meet when we each can. Our meetings have been productive and very effective. We have learned how each of us work and what we are each good at. This has helped us divide work appropriately.</p> <p>We think we are doing a great job as a team, which means every team member in our team can communicate and agree with each other. We do not disagree on specific points; instead, we help and negotiate to get to the point where we all agree. We are also comfortable with silence. Sometimes we have issues with our assignment, but we let everyone have time and space to think about it and then come up with solutions. Each of us has flexibility to contribute his/her part, so we are very efficient on time. We never miss the due date. We have good time as a team.</p>

These comments first and foremost provide evidence of various aspects of teamwork skills and the managerial skills of planning, organizing, leading, and controlling. They also provide evidence of employer-valued cross-cutting skills such as oral and written communication, problem-solving, critical thinking, and understanding diverse others in terms of differing personalities and behaviors. Taken together, the results illustrate strong evidence that students were developing the types of skills that they will use in the workplace.

## Discussion

It should be noted that students were not asked to report on what they had learned but rather to reflect on their processes, what they were doing well, what they needed to improve, how they could improve, how they could apply feedback, and so forth; these reflections were then analyzed to determine themes. This resulted in an understanding of how students engaged in the functions of planning, organizing, leading, and controlling and in related skill development. Qualitative research seeks to understand participants' experiences rather than prove a theory.

The data from the team ePortfolio assignment generated descriptions showing that students were applying managerial and cross-cutting skills within their teams. The team ePortfolio experience provided students with opportunities to fulfill various roles, take responsibility, be accountable and help others be accountable, review their performance, make improvements, and recognize their achievements. The act of reflecting helped them see what they had accomplished and what they needed to improve.

Specifically, student reflections on team effectiveness and application of course concepts demonstrated developing competence of the managerial functions represented by the POLC framework—planning, organizing, leading, and controlling. Each of the subthemes identified in the analysis illustrates specific aspects of these functions as summarized below:

- **Planning**—setting goals, evaluating the effectiveness of planning processes, and taking action related to needed decision-making and task assignments.

- **Organizing**—establishing roles, distributing tasks, and taking individual and collective responsibility for the work needing to be done.
- **Leading**—influencing team members, creating team norms and a team culture, motivating others.
- **Controlling**—using feedback to improve, recognizing improvement was needed, and determining specific, corrective actions.

Students actively engaged in these functions to complete their assignments and as such began developing the kinds of skills that employers value such as teamwork, the ability to work with people different from themselves, communication, and problem solving.

The planning and organizing functions of the POLC framework were well-represented in the students' comments, most likely because the ePortfolio and consulting project tasks required students to use these abilities to complete the work. Controlling was also important in order to identify and address issues. Leadership was the weakest of the four areas, particularly forming and communicating a vision and motivating others to achieve a vision, possibly due to the artificiality of the setting. In some ways, the instructor set the vision in terms of what needed to be accomplished while individual team leaders contributed on more of a managerial level to accomplish the tasks.

The implications of this study are that learning approaches that require students to practice desired behaviors in a real-life environment and reflect on their learning can have a positive impact. The reflections showed that the teams engaged in a variety of activities related to planning, organizing, leading, and controlling. In particular, the reflection assignment itself helped the teams apply the managerial function of controlling (e.g., setting standards, reviewing performance to determine achievement of plans and goals, and making corrections as needed).

The goal of qualitative research is to provide a contextualized understanding of phenomenon rather than to generalize. Reflections do not provide proof of student learning. All forms of assessments have limitations. While students were not given a test that measured their abilities to work in teams or to plan, organize, lead, or control, the ePortfolio assignment and performance reflections helped the teams identify their strengths and weaknesses. In this process, they applied various skills related to planning, organizing, leading, and controlling as well as cross-cutting skills such as oral and writing communication, appreciation for diverse perspectives and abilities, and problem solving. The self-report aspect of the study and its non-generalizability could be considered limitations. An additional limitation of the study was that it occurred at a single institution and in course sections taught by only one instructor.

Although differences across modalities were not evident in the qualitative analysis, future research might explore creating a quantitative instrument based on the findings of this study, which could be used in a comparative way. The value of ePortfolios and other HIPs in helping students develop the skills and abilities valued by employers is well documented. This study provides support for the effectiveness of such practices as demonstrated by student reflections on their team processes, norms, and behaviors.

## Conclusion

This study indicates that students developed both managerial abilities as well as cross-cutting skills (e.g., communication, critical thinking, teamwork, problem-solving) through the use of team ePortfolios in an educational context. Such development occurred across delivery modalities; in other words, students do not need to be physically together in one location. While employers are seeking conceptual and human skills from recent college graduates (based on years of AAC&U research; e.g., AAC&U, 2002; Hart Research Associates, 2006a, 2006b, 2008, 2010, 2013, 2015, 2018), it

should be recognized that these skills develop over time and with work experience. Thus, employers need to mentor, train, and provide professional development opportunities to continue the trajectory begun in higher education in order to fully prepare their employees to be effective managers, innovators, and leaders.

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