

Identity Construction in Model Rocketry: How Newcomers Learn and Construct Identity in AIAA's Rocket League

Daniel Robert Dyson | University of Central Florida

Students making the transition from college to the workplace usually find it difficult to fit in with their colleagues; there are underlying social norms and aspects that a newcomer may conflict with when entering a new community. However, joining an academic club while in school may help students learn how to enter a community by constructing a well-aligned identity. An ethnographic study of one particular club was conducted. Multiple textual analyses, analyses of field notes, and analyses of interviews were conducted to examine how a newcomer might construct their identity within a particular academic club. The analysis shows that identity construction occurs as a result of participation, communication, and collaboration within an assigned group project. Furthermore, the analyses show that academic clubs could potentially prepare students to enter new communities, including workplaces, thereby reducing time and energy spent adapting to new or conflicting ways of practice and increasing opportunities for the newcomer to succeed within the community.

The transition from college to the workplace can be a difficult task for graduating students. Forming the right relationships is crucial if a newcomer wants to be accepted by their colleagues. Otherwise, newcomers may conflict with coworkers or be shunned by the workplace community, reducing their opportunities to further succeed in that community. In previous research (Blåka and Filstad; Brown and Duguid; Filliettaz; Gherardi et al.; Holmes; Mak et al.; Moring; Nicolini and Meznar), where studies were conducted primarily in the workplace, researchers have suggested that a newcomer must learn to engage in conversations with experienced coworkers upon

arrival to be accepted into the workplace environment. For a newcomer to fully adapt to their line of work, they must learn the language and norms of the company, aligning themselves in a way that the local community can accept.

Workplace learning is in itself a difficult task for students who have never been exposed to workplace culture before. However, students are given the opportunity during school to learn how to operate within a *community of practice*, or any (informal) group that is defined by its members and its practices (Gherardi et al. 277), by having the option of joining an academic club. Many academic clubs attempt to mimic the work

and culture that might exist in an actual workplace. As more and more students join these clubs, they ultimately form their own unique community, shaped by past experiences and social interactions within the club. Therefore, these clubs provide the opportunity for students to learn how to enter a local community and become accustomed to its practice and its members. There seems to be little or no research, however, on identity construction within these clubs and how well they actually prepare students for a career in the workplace.

In my research, I studied one such club, the American Institute for Aeronautics and Astronautics (AIAA), by joining one of their projects, Rocket League. In this project, members form teams and compete in a model rocketry competition at the end of the semester. In this paper, I explore how newcomers learn and construct identity in AIAA's Rocket League through the use of participation, communication, and group collaboration. If the processes of workplace learning and identity construction in academic clubs seem to resemble findings from previous studies, then such a similarity may hint at a possible benefit found within academic clubs: the strengthening of students' hard and soft skills to make them become more adaptable to the workplace community and open to social cues when they make the transition to the workforce.

Workplace and Organizational Learning

An abundance of prior research has either briefly, or in some cases entirely, described the definition of workplace and/or organizational learning, which is argued to help a newcomer successfully transition into a new workplace (Blåka & Filstad; Brown and

Duguid; Filliettaz; Gherardi et al.; Moring; Nicolini and Mezner). Blåka and Filstad, for example, argue that the emerging paradigm best represents the kind of learning in the workplace, with focuses on “holism, judgement, action and context” (60). When using the term *holism*, Blåka and Filstad describe the many parts of the community and its members as being interdependent. Gherardi et al. agree, claiming that learning is in some way integrated with the activities found in the workplace, and therefore must involve group collaboration (274). Filliettaz continues this notion, stating that because learning in the workplace is a group activity, then it must also depend on the interactions and culture between the newcomer and other experienced individuals (488).

Brown and Duguid argue that at some point, the learner must consult other experienced coworkers to fill in gaps in knowledge; the learner will realize that the information given to them from the corporation is generally ambiguous or lacking in proper information. In their research, the corporation does not take into account the local context of the workplace (42), and generally sees the work as an individual activity (46). They go on to show that the work done in the workplace differs from what the corporation envisions, so what the newcomer actually learns depends on the local setting of the community (47). Gherardi et al. agree with this idea, describing learning as a “socially structured activity” (294) and claiming that an individual can fully understand some workplace activity only if the underlying circumstances of the activity are understood (275). Therefore, a newcomer must factor in the norms, traditions, and accepted methods of doing things that exist in the workplace for a better transition into

it (Holmes 78). This emphasizes that the newcomer cannot simply rely on abstract guidelines to help them learn their work. Instead, the newcomer is forced to consult the resources of the community and its members, leading to social interaction with colleagues in an attempt to learn.

Many authors have attacked the problem of defining learning from different perspectives. For example, Blåka and Filstad used a “socio-cultural” approach, Filliettaz looked into the role of guidance and mentoring for teaching newcomers, Holmes examined the effects of interaction with the workplace environment, Mak et al. perceived humor as a tool for learning more about the local culture, and Moring described the effects of information seeking on the development of a newcomer. Nicolini and Meznar attempted to encompass all prior definitions and models of organizational learning, arguing that a broad definition is required to understand only a part of the learning process (738). It should be noted that they are attempting to define what *organizational* learning is, but it can be argued that many of their findings can be applied to learning for an individual, where the “organization” may refer to the individual or their knowledge and methods for their line of work.

Learning from Nicolini and Meznar’s perspective is, in short, the difference in the organization between two points in time, or how the organization changes its ways when it gains new knowledge (739). This implies that the organization will change its methods in order to adapt to its environment (734), once again reiterating the importance of considering the environment when learning how the work should be performed. Nicolini and Meznar suggest that an organization should continually apply this new

knowledge in their work, thereby having an ongoing learning process with no end goal in mind (738). If this definition is applied to a newcomer, then learning should be a continuous process of observing the workplace and adapting to its conditions in order to best carry out the work with the other coworkers.

Learning, from Nicolini and Meznar’s broad perspective, is understood best when viewed as something the environment acts on (739) and as a social activity (740), as other authors would agree on. However, Nicolini and Meznar notice that the learning done in one particular organization is not easily transferrable to other organizations—even those of the same profession—because the learning builds off of the norms and socialization tactics that exist in an organization (734). If the skills gained in one community cannot be easily transferred to another, then how can newcomers learn to adapt to the workplace if the skills they possess may already conflict with their work? Nicolini and Meznar state that an integral part to their definition of learning is that sometimes an organization must “unlearn,” or let go of previous knowledge (732). Therefore, the individual must be ready to remove their previous knowledge and ways of doing things in turn for the knowledge of the new community. Any individual that can change how they work and how they socialize to reflect the new community will find adjustment to that community less difficult. This idea is crucial to the success of newcomers, especially students entering the workforce for the first time. A newcomer can unlearn previous knowledge while still learning about their community through practice/participation, language/communication, and social interaction/collaboration.

Tools for Learning

It has been established several times that the newcomer will need to depend on their colleagues within the workplace in order to learn more about their line of work (Gherardi et al. 274; Holmes 78; Brown and Duguid 46; Moring par. 19; Filliettaz 488). More importantly, this interaction will help them discover how they will fit into the workplace community. Therefore, newcomers must actively use a variety of tools upon entering the workplace if they are to achieve any understanding of the community. In fact, as the newcomer uses these tools, they will learn to reshape them to better reflect aspects of their work environment. The reshaping of these tools is an important indicator of workplace and organizational learning within the newcomer.

The literature of workplace and organizational learning generally agrees that the three main tools that will aid the newcomer in discovering their role in the community are participation, communication, and collaboration (Blåka and Filstad; Holmes; Gherardi et al.; Brown and Duguid; Moring; Mak et al.; Filliettaz). However, these tools should not be considered alone, for they all have some connectedness to the other tools. For example, language and social interaction can be said to be intertwined, where knowledge of the language is required for proper social interaction. In fact, Gherardi et al. describe language as a medium for interaction to occur (277).

Learning through these tools is undoubtedly one of the best ways to gain hard and soft skills in a given profession, especially when the institution does not realize and acknowledge the complexity of the work (Brown and Duguid 42). Therefore, a newcomer must learn from the community or

coworkers instead of from guidelines (Brown and Duguid; Moring; Filliettaz). For example, Brown and Duguid analyzed a previous study of “reps,” or repairmen, conducted by J. Orr, and they found that when a rep encountered an error they were not familiar with, they collaborated with other reps or specialists to fix the problem. Once the reps were able to solve the problem, they gained useful information for reference in the future because of their participation and collaboration (44). This hands-on experience was then spread to other coworkers in the form of story-telling so that the community could have a better understanding on how to diagnose and repair in the future (44), showing how communication among coworkers further progresses learning for an individual. It could be assumed that for this community of reps, if someone decided to read a guidebook to try and solve the problem, they might have stalled or worsened the problem. It would be in the newcomer’s best interest to abide by the established way of doing the work since it most likely worked for the reps in the past.

Another example of learning through these tools comes from Filliettaz’s research on apprentices in the Swiss VET program. In this case, it became the experienced workers’ duty to directly guide the students through the program, and Filliettaz stresses the importance of helping the students gain work experience through observation of their practice by a coworker (488). But what is not apparent is that practice also gives insight into how the particular community functions socially, as both practice and community are “closely intertwined” and usually build off of each other (Gherardi et al. 278).

It is important for the newcomer to use these tools when engaging in workplace learning, because eventually they will be tested by their colleagues through these same tools. For example, Mak et al. suggest that the newcomer's knowledge on how to socialize in the community acts as a gauge for experienced members to decide whether to accept or marginalize the newcomer (176). If the newcomer wants to continue gaining necessary information to function in the workplace, they must learn what behavior is acceptable (Moring par. 13). As long as the newcomer is appropriately participating, communicating, and collaborating, they will learn how to effectively perform their work as a member of the community. This technical and cultural knowledge that the newcomer eventually gains will then begin to shape their identity, defining their role in the community and how they will fit in with the rest of their colleagues.

Identity Construction and Community Reproduction

The tools for learning in the community (participation, communication, and collaboration) are also what the newcomers must learn about that community to build up a harmonious identity. Understanding the connections among these tools and the community will allow a newcomer to better understand the workplace culture, and in turn know how to connect the context to the activities they take part in (Gherardi et al. 276). This knowledge will lead the newcomer to decide how to align themselves within the community (Nicolini and Meznar 735) in order to gain acceptance from their colleagues. Any individual who does not use these tools or simply refuses to act according to them (usually through

established norms and practices) risks marginalization from the community. However, newcomers find it difficult to immediately negotiate an identity within the community because the learning that happens in the community will always conflict with past knowledge or experience (Gherardi et al. 276). In addition, a tendency to perform according to what is outlined by the institution can further isolate a newcomer from the community (Brown and Duguid 50).

It is at this moment of conflict where a newcomer can either learn to flow gently with the local community or find themselves fighting against it. Depending on the newcomer's choice, the result is either acceptance in or marginalization from the workplace community. This is ultimately determined by the newcomer's colleagues through socialization with the newcomer (Mak et al. 176). Mak et al. suggest that colleagues in the workplace will engage with the newcomer to see if the newcomer is aligned or in the process of aligning themselves with the ways of the community. Mak et al. go on to claim that if those colleagues experience what they interpret as resistance by the newcomer to established norms, then they are less likely to associate with the newcomer during work.

If the newcomer succeeds in building an identity that reflects the values of the community, then the newcomer becomes a full member (Blåka and Filstad 60). Gherardi et al. suggest that more opportunities and tasks will then become available to the newcomer, each displaying increased proficiency and competency by the newcomer (281). Furthermore, the community succeeds by having reproduced its work, language, and culture through the newcomer (Gherardi et al. 276). Brown and Duguid suggest that

the reproduction of the community can encourage its members to become more innovative in the workplace.

Identity construction and community reproduction can only be obtained, however, if the newcomer learns to reflect the community's unique ways of participating, communicating, and collaborating. By using workplace learning, a newcomer will identify what makes the community function as it does. When the newcomer understands the community in this way, they will begin to better understand how to fit into it. In other words, they will begin to construct an identity the community can accept, allowing them to break from their status of "newcomer" and become an accepted member. However, the tasks of workplace learning and identity construction can prove to be tricky, especially for those who are not used to transitioning to workplaces, such as students. Therefore, it might be said that there exists a search for ways to improve or prepare for the transition to new workplaces.

Workplace Learning in AIAA's Rocket League

Blåka and Filstad suggest that how a newcomer learns within the workplace is independent of what profession the newcomer holds (72). Although there is plenty of research on a variety of workplaces that reiterate this notion, there seems to be little or no research on whether that may apply to a community of practice outside of the industry, or in other words, a community that is not some form of workplace. Many academic clubs, for example, have some set goal(s) that their members want to achieve, and because clubs are generally open to new members, the social atmosphere is constantly changing. With members continuously returning or

being recruited to clubs, a dynamic network of social relationships exists within a given club, typically with experienced members teaching or mentoring the newcomers.

Therefore, there exists an opportunity to observe if participation, communication, and collaboration are existing tools within academic clubs that allow a newcomer to learn about, as well as create an identity that is aligned with, the community. Any findings from such research might show whether experiences in certain clubs on a university campus would help in preparing students for transition to industry, and ultimately allow them to succeed in constructing a fitting identity. My study examines one particular club, the American Institute for Aeronautics and Astronautics (AIAA), to see if newcomers must similarly recognize unique aspects of the club and act accordingly to obtain an insider status. AIAA has multiple projects available for members to join and compete in. Rocket League, a project where teams build model rockets for competition, will be the focus of this paper. Questions addressed will include these:

- How do newcomers learn through participation in Rocket League?
- How do newcomers learn through communication with teammates and other members?
- How do newcomers learn through collaboration with their teammates?
- Does the project prepare members for the transition to the workforce?

Methods

The AIAA is an academic club, and their purpose is to prepare students for their future engineering careers—hence their slogan, "turning students into engineers." This club

hosts a variety of projects for members to take part in, including building quadcopters, hovercraft, and model rockets. Rocket League is a project lasting about eleven weeks within a semester, where members form teams and compete against each other by building the best rocket according to the project leads (PLs). My team consisted of three members, including myself. The final competition occurred near the end of the semester.

During the research, I sought to figure out the procedures a newcomer needs to follow in order to properly transition into AIAA's Rocket League. PowerPoints containing introductory material and the rulebook for Rocket League were collected during the beginning of the project. Emails, Facebook posts and direct messages between myself and the members and PLs, and field notes of my own experience as a newcomer, were collected over the eleven-week period. An interview with a PL occurred during the middle of the project, while an interview with one of my team members occurred about two weeks before the end of the project. The PL at the time was generally in charge of communication in Rocket League and mentioned that they were holding a job. When interviewing the PL, I asked for their advice on how newcomers should act when joining the club or project based on what they have observed in the past. The team member had participated in Rocket League at least once before but was still fairly new to the project. I asked the member to share their own experiences and how they felt new members should act when working on a team project within the club. In addition, I also asked each interviewee for their thoughts on whether or not Rocket League prepared members for a future career in engineering.

When analyzing digital communication,

I observed the responsiveness of the PLs over the course of the project. I recorded the length and completeness of each PowerPoint and the rulebook. I recorded Facebook activity over the duration of the project as well, making note of each "post" and how much attention each received from members and PLs. In analyzing the field notes, I highlighted particular events and the reactions of the members of Rocket League to them.

I coded each interview twice. The first coding examined times when the interviewee mentioned aspects they valued or acknowledged in members of the project, and the second coding looked for what the interviewee thought were skills the club enhanced for students when they join the workforce. I placed more emphasis on how many different ways certain skills could manifest themselves in the club. Therefore, unique quotes from the interviews were categorized based on these skills, and the frequencies of each mentioned skill from each interviewee were compared. I assumed that a higher frequency of one skill implied that the interviewee regarded it as very important or valued in the project.

Discussion

After analyzing the collected data from Rocket League, several tools appeared to play a significant role in the learning process and identity construction of a newcomer. In previous research, the communities being studied were said to have unique and prevalent forms of participation, communication, and collaboration. This research found that Rocket League has its own set of corresponding tools, implying that some form of workplace learning occurs in Rocket League, and that Rocket League attempts to reflect

the typical workplace environment. Therefore, the project offers newcomers the experience of constructing an effective identity within a community before they actually enter the industry. It is important to note that the tools mentioned prior were never truly separated or observed on their own, because they are closely tied together and mediate each other within the community, as suggested by Blåka and Filstad.

Participation

By actively participating in the project alongside experienced members, a newcomer became engaged in what was going on and was able to learn quickly and efficiently about their responsibilities, roles, and how to generally perform their work. In fact, as a newcomer continues to participate in the project, they begin to discover knowledge that they did not know existed or was important, making this knowledge tacit to the newcomer. In order to access this tacit knowledge, which is usually cultural knowledge but can include technical knowledge as well, the newcomer must have initiative and actively seek out information from the community.

In my own case, I needed to obtain my team members' contact information to let them know I had been placed on their team. I decided to visit a workshop on the campus to find the PLs or other members of Rocket League; the PLs were for some reason not responsive during the first half of the project via email or Facebook. Eventually, I was able to find another member and use them as a means of communicating with the PLs, while learning about the reason for the PLs' unresponsiveness. These actions can be considered as an example of Moring's definition of active information seeking, or directly

asking questions to others (par. 20). If I had continued to send emails or Facebook posts for answers, it is likely that I would have missed out on major aspects of the project.

In fact, many members did not pursue the PLs as much as I did, and eventually were disqualified from the competition or dropped out of the project altogether. This reiterates Moring's idea that sometimes active information seeking is needed for a member to learn what they must do. It is possible that the members that did drop out were instead using passive information seeking, which can be useful in some situations, but also has the risk of misinterpreting a situation (Moring par. 20). In this case, the members might have misinterpreted the PLs' unresponsiveness as a sign that there was no work to be done, or that the project had become inactive for the semester.

Most of the technical learning in Rocket League occurred through direct participation in the project. In fact, limiting the learning process to reading documentation hindered any significant learning in Rocket League. Although the PLs provided PowerPoints for use during the project, the PowerPoints were at times vague, ambiguous, or missing information completely. The member expressed this during the interview, saying that the PowerPoints did not allow them to visualize the product. The rulebook was lengthy and confusing as well, often needing clarification from a PL. This reflects Brown and Duguid's idea that the information provided by an institution will not help a newcomer completely learn the work in a community.

Learning in Rocket League occurred instead through participation in the project, whether it was designing the rocket or cutting and assembling the components. Any time our team was confused after reading

what was given to us, we made sure to consult a PL or another member to clear up the issue and learn how to deal with it in the future. The PL that was interviewed reiterated this, showing how continually asking others for help leads to significant learning in Rocket League.

This shows that participation is not only doing specific tasks within the project, but also asking questions about the work, all of which enhance learning about the project and the community. The notion that practice fosters learning is reiterated by several authors of workplace learning, including authors such as Blåka and Filstad (60), Gherardi et al. (276), Brown and Duguid (43), and Mak et al. (165). Rocket League enacts this notion by requiring its members to not solely depend on written instructions to learn, but to have the initiative to ask other knowledgeable members and to take part in hands-on learning by designing and building the rocket themselves.

Communication

Communication within Rocket League was integral in keeping the team closely tied together. Therefore, a newcomer must learn how to communicate (either with their team or with the PLs) to stay in touch with the project and to prevent themselves from being left behind. In fact, communication allowed for further individual learning, the spread of new knowledge among team members, further discussion of the progress of the project, and trust among team members.

Rocket League is a hands-off project, meaning that the PLs have little to no direct influence on what goes on within each team. The responsibility of staying in contact with each other, as well as finding out more information, is then placed in the hands of

each team. Therefore, anytime our team had questions or problems, we communicated with other members or the PLs of Rocket League for answers—an example of how Filliettaz believes newcomers will learn (488-89). These answers were then immediately communicated to all other members through digital communication or face-to-face discussions, which also reflects Brown and Duguid's observations of the use of story-telling in the workplace (44). After we became updated with the new knowledge, we used this knowledge to decide what needed to be done next and who would be able to do the tasks. By using communication as a medium for learning, all members in the team became knowledgeable of each component of the project and were able to contribute more relevant decisions or ideas.

Furthermore, communication in Rocket League was a way for members to bond as a team. In my interview with the member, they expressed concern with trusting their teammates, especially those that were not participating enough. However, they suggested that by using communication to express concerns with the team's output, they could motivate other team members to collaborate. They went on to claim that confronting a member about group expectations would encourage that member to participate more in the project, assuming that the member was lacking in participation. This concern aligns with Brown and Duguid's research, showing that members must learn what behavior is acceptable in order to become a part of a community (48). In this case, my team member had expectations for each of the other members, and failure to meet them could have resulted in distrust among the team. Although our team did not have to motivate a member

into collaboration, the member still values communication as a way to build trust, encourage participation, and be inclusive within the team, ultimately promoting group collaboration.

When members in Rocket League learned how to effectively and appropriately convey their thoughts, everyone benefitted by being able to learn as a team while also being more willing to work with each other. Good communication led to the newcomer learning new concepts and how to perform the work (technical knowledge) as well as knowledge pertaining to the social structure, functions, and expectations of the community (cultural knowledge). This knowledge eventually allowed the newcomer to learn how to speak with other members in order to get the work done as a team, ensuring that they would not be left behind in understanding important concepts or the team's overall progress.

Collaboration

Given the complexity and responsibility of the project, Rocket League required sufficient collaboration in order for each team to have a chance at competing. The project consisted of multiple parts, each having equal importance to the performance of the rocket, so it was necessary to divvy up the work among each team member. Which team member would complete each task, however, required further discussion. In Rocket League, having the ability to collaborate with other members solidified a member's presence within the community, and good collaboration required the ability to properly negotiate the work among each member as well as having trust in each team member to do their part in the project.

In the interview, the member stated that having good collaboration within a group

project ensures "you're not doing everything by yourself or alone." The member realized that if they did not effectively sort out the work to be done, then there could be an imbalance in the work, where one or a few members would be performing most of the work. This could potentially lead to the more inactive members being shunned from the community. In order to obtain a well-aligned identity in the community, members must be willing to participate (Blåka and Filstad 60) and interact socially with their peers (Holmes 78). These actions taken together can be seen as group collaboration, but if a member neglects one of these aspects, it is likely that they will not receive acceptance from their peers.

As already mentioned, the member expressed concern for trusting other team members, most notably in terms of their work ethic. They suggested that a member lacking in work ethic should not be trusted with project tasks. It seems that in Rocket League, collaboration depends significantly on the trust built among team members. Having trust in team members can lead to more tasks being distributed equally among members, leading to a better output from the group overall. It seems that once members display their work ethic through their involvement in the project, how the work is distributed among members is then determined. A lack of work ethic among some team members could account for any imbalance in the assignment of tasks. However, in my team's case, there were no members that lacked in work ethic, so the distribution of work could not be analyzed according to relative participation or social interaction. There did appear to be an uneven distribution of work according to each member's relative experience in the club.

Sometimes, the trust from the team to a *newcomer* is not fully received. Gherardi et al. found in their research that a newcomer will usually be assigned tasks that do not have a huge impact on the project (284). This happened to be the case in Rocket League: seeing that I was a newcomer to the club, my team decided it was best to have me deal with smaller, less important tasks, such as drawing lines for cutting or making simple cuts for the rocket. Even though my team members recognized I had good work ethic for the project, other more complicated and important tasks such as drafting designs of the rocket were left in the hands of the more experienced team members. Having a newcomer take on difficult tasks they were not familiar with would have slowed progress in the project. Gherardi et al. suggest that eventually, as the newcomer continues to participate in the community, they will be tasked with more difficult issues, showing the transformation from a newcomer to a trusted member of the community.

If a newcomer wants to learn how to do the work alongside other members, then they must be willing to collaborate. Many of the projects encountered in the workplace are group projects, especially those that pertain to engineering. Rocket League reflects this aspect of the workplace very well by purposely letting members decide how to organize themselves. If a newcomer can then learn to adapt to the way members cooperate (how to negotiate the work and build trust with others), they can improve their impression on the more experienced members. This will in turn craft an acceptable identity while opening the door to better opportunities for themselves within the project or club.

Preparation for the Workforce

Rocket League offered a unique challenge to its members; the project granted members more freedom as to how they wanted to go about completing the project, but this freedom came with responsibility. As soon as a member learns how Rocket League operates, followed by changing their ways to better reflect the community, they became more likely to adapt to it, according to prior research (Blåka & Filstad; Brown and Duguid; Filliettaz; Gherardi et al.; Holmes; Mak et al.; Moring; Nicolini and Meznar). Therefore, Rocket League can be seen as practice for learning about a community and altering oneself to better enter into the work the community performs. The newcomer only needs to learn how to *participate* in the project with members who have their own ways of *communication* and *collaboration*, all of which are unique to the community.

During the interview with the member, they were very focused on learning hard skills in Rocket League. The member explained, “[Rocket League] gives me experience with programs I might use in the future, like OpenRocket and SolidWorks. So, hopefully I can take that experience that I’m getting right now and apply it to ... my future career....” Having these hard skills are important for the member in satisfying entry-level requirements when applying to a job. Rocket League seems to at least introduce members to these skills by having members learn through practice, which is a widely accepted method of learning in the workplace (Blåka and Filstad 60; Gherardi et al. 276; Brown and Duguid 43; Mak et al. 165).

The learning of the newcomer was not limited to model rocketry, however. Joining AIAA can give the newcomer more

information about what to expect in their future career. When asked for their reason for joining the club, the member replied that they wanted to “explore” their major, which was aerospace engineering. AIAA hosts a variety of engineering projects, but the club also grants members the opportunity to network with those in the industry and to learn more about what it takes to be an engineer. For those who are unaware of what their major holds, a club that is geared towards supporting students with similar majors could be the place where all the answers to their questions lie. The newcomer can only learn more about their future careers by having initiative (Moring par. 15), seeking out knowledgeable people (Moring par. 19), and asking them the questions they have in mind (Moring par. 20). If the newcomer can learn to do this now, they will undoubtedly be prepared to ask questions to colleagues in their future workplace.

Members in Rocket League also have the chance to learn and practice soft skills, such as communication and collaboration. During the interview, the member was very aware of the importance of good communication. When given a hypothetical scenario, the member proposed a method of using group communication to establish standards or expectations for each member. In their view, using communication to explicitly show their concerns for the project would motivate other members to collaborate as a team, even if it means confronting a colleague. The PL also expressed significant value in having good communication skills in a team project during the interview, if not more often compared to the member. In response to a similar hypothetical scenario, the PL suggested their own method of using communication to boost group collaboration, though much sub-

bler than the member’s method:

If you’re just trying to send files over, [use] Google Drive, or [OneDrive], or email if you wanted to. But if you [have to] get something done by noon and it’s 11:50AM, I wouldn’t try email, especially if it’s a Saturday.

[Another thing you need to] learn is how to communicate properly. If someone’s blowing up my phone ... I’m not going to respond to [them]. If you want something from someone, start with “hey,” because if they respond, then you got them sucked [in], they know that you know that [they are available to talk] ... if you start with “hey do you have this?” then I’m probably going to pretend I didn’t see it ... Forethought is a very good word [to describe that].

The PL demonstrates more skill and thoughtfulness when communicating, both in Rocket League and in their career. In this case, the PL’s use of language allowed them to persuade their peers to continue working on their own project. Therefore, an understanding of the language may lead to constructing an identity that better reproduces the work and culture of their community (Gherardi et al. 276). This knowledge from the more experienced PL may imply that newcomers are not as experienced or skilled in the art of effective communication, simply because they do not understand the potential it holds and do not have enough professional experience with it. Once members participate more in team projects—or perhaps in more academic clubs and communities—it is likely they will realize that having the ability to communicate ideas, without raising tensions with other group members will be more beneficial to themselves and their work.

Although both the member and PL value efficient collaboration, the PL appeared to be much more concerned with using collaboration in order to become more competitive. At one point, the PL explained the dilemma they faced when collaborating with other colleagues:

We'll catch-22 because you'll think to yourself, "Man, this is my competition in two years, and once we graduate, we're all fighting each other." We do that now; it's not about who gets the best grade, but who's above the average ... you know, you're in competition with everyone, you [have to] understand that, that's kind of the unfortunate thing about this, but we do want students to learn and achieve...

The PL understands that although the club is for fun and members are encouraged to accomplish great things in the project(s), the members that sit beside them will be applying for the job they want. This comprehension will encourage the PL to achieve more while still in school to be, in their words, "above the average." Furthermore, the PL claims that collaboration with other more knowledgeable colleagues can ultimately lead to enhanced learning, which "gives you the greatest ability to succeed." On the other hand, the member thinks very differently from this, stating that Rocket League is "just for fun."

This realization by the PL makes them a more prepared candidate for a successful career. Although collaboration undoubtedly exists in the workplace, if a worker wants to become more successful (by receiving a promotion or leading a project for their company), then they are likely to compete with their fellow colleagues. Gherardi et al.

suggest that a larger responsibility within the workplace signifies an increased social status in the community and a potentially more successful career compared to newcomers (281). Therefore, if the PL can prove themselves to be a responsible and skilled worker compared to their coworkers, then the PL is bound to receive a promotion wherever they work and gain increased benefits because of their new status.

It is interesting that AIAA's Rocket League does not seem to be highlighting the competitiveness of applying for a job in engineering. It could be that this information is just another piece of knowledge that members will have to work toward in order to learn about it. Or perhaps, AIAA's intent is for its members to enjoy working with others in engineering projects and worry less about their future competition. However, Rocket League and several other of AIAA's projects are competition-based, so members participating in these projects are already getting a taste of the competition they will have to deal with. Although the projects may seem like fun for now, newcomers such as myself may feel pressured by the talents of their peers. This pressure may motivate them into going the extra length to make for themselves an identity that not only grants a higher social status within Rocket League and AIAA, but one that can also effectively compete with others when applying for future jobs and promotions.

Nevertheless, Rocket League serves as a starting point for all members to learn the importance of considering their community when performing their work with colleagues. Rocket League provides the chance to practice doing work as a team in the industry by shaping the project to reflect major aspects of the workplace. If members

can take advantage of what Rocket League offers now, they might have less difficulty with transitioning to the industry later.

Conclusion

In AIAA's Rocket League, newcomers will discover that this community is unique, having its own goals and expectations for how members should *participate* in the project, *communicate* with each other, and *collaborate* to promote a cooperative atmosphere. Rocket League requires members to be participating with the project by asking experienced members and the PLs for help while being involved in the designing and building processes of the rocket. This participation will lead to members learning how to properly convey their thoughts about the work as well as understanding new information (technical knowledge and cultural knowledge) from the other members when communicating. The communication among members generally leads to a greater understanding of how to have the best group collaboration, which relies on trust and an ability to negotiate work without raising tensions among members.

Rocket League has its own set of characteristics that distinguish it from other communities, and yet still acts similar to the workplace at its core. Therefore, Rocket League provides an opportunity for members to begin using workplace learning when observing a community's structure and adapting to its culture and ways of doing the work. In the long term, being exposed to workplace learning potentially reduces the difficulty students have with entering new communities and constructing identities in the future. It is likely that these members may never be fully prepared for whatever workplace community they

enter. However, the experience that they gain within projects such as Rocket League will at least show them that changing their usual practices and ignoring previous knowledge is normal. Practicing this skill will allow them to better observe and understand the structure and functions of their workplace and to learn how to reshape themselves to become fully accepted into it.

Rocket League alone may not be the only option that will help students prepare for the industry. In fact, the findings in Rocket League might apply to other clubs on college campuses; if other clubs also attempt to reproduce the work environment of their respective industries through projects, then the findings in this research potentially apply to a multitude of clubs. This implies that workplace learning may already be available for any student to practice—all they have to do is join and become involved in a club's project(s) that are geared towards supporting their career interests.

However, more research is required to further gauge how members within academic clubs learn and construct their identities, as well as how effective this experience is in preparing students for the transition to the workforce. A common problem with students entering their careers is they struggle to become accepted by the community, regardless of their technical skills or expertise. Focusing future research on these academic clubs might help to predict how well students transition to the workplace after being an active member of a club. More research in workplace learning might lead to schools and institutions developing programs geared towards better preparing students before they enter any community of practice.

This research was limited in its ability to

conduct a case study, a more favorable route for exploring a community and its interactions, due to the short duration of the research. Furthermore, member turnout for Rocket League was low during the spring semester. Therefore, if future research is to observe workplace learning and/or identity construction in academic clubs, then the research should occur during the fall, when freshmen are just arriving to college and joining the clubs their campus provides. If the goal of future research is instead to observe if membership in an academic club

generally makes for more successful students in the industry, then the research should be a case study with two groups: one group where students had minimal or no active membership in a club, and another group of students with previous active membership. Whichever route future research decides to take, the goal should be to use whatever data is found to better enhance students' skills not only so that they become experts in their fields, but also learn to become integrated members of their local communities.

Acknowledgments

I would like to thank Dr. Mary Tripp at the University of Central Florida for supporting me and my paper from its early stages of development to the time of submission to the journal, as well as the editors at *Young Scholars in Writing* for their suggestions during the editing process. I would also like to thank those who participated in the research for their insight into group collaboration within a community. Finally, I would like to thank my mom and dad for always encouraging me to do the best work I can do.

Works Cited

- Blåka, Gunnhild, and Cathrine Filstad. "How Does a Newcomer Construct Identity? A Socio-Cultural Approach to Workplace Learning." *International Journal of Lifelong Education*, vol. 26, no. 1, 2007, pp. 59-73.
- Brown, John S., and Paul Duguid. "Organizational Learning and Communities of Practice: Toward a Unified View of Working, Learning, and Innovation." *Organization Science*, vol. 2, no. 1, 1991, pp. 40-57.
- Filliettaz, Laurent. "Collective Guidance at Work: A Resource for Apprentices?" *Journal of Vocational Education & Training*, vol. 63, no. 3, 2011, pp. 485-504.
- Gherardi, Silvia, et al. "Toward a Social Understanding of How People Learn in Organizations." *Management Learning*, vol. 29, no. 3, 1998, pp. 273-97.
- Holmes, Janet. "Making Transitions: The Role of Interaction in Joining a Workplace Community of Practice." *Novitas Royal*, vol. 9, no. 2, 2015, pp. 77-92.
- Mak, Bernie C. N., et al. "Humor in the Workplace: A Regulating and Coping Mechanism in Socialization." *Discourse and Communication*, vol. 6, no. 2, 2012, pp. 163-79.
- Moring, Camilla. "Newcomer Information Seeking: The Role of Information Seeking in Newcomer Socialization and Learning in the Workplace." *Information Research*, vol. 22, no. 1, 2016, informationr.net/ir/22-1/istic/istic1616.html.
- Nicolini, Davide, and Martin B. Mezner. "The Social Construction of Organizational Learning: Conceptual and Practical Issues in the Field." *Human Relations*, vol. 48, no. 7, 1995, pp. 727-46.