Graduate school can be defined as an enculturation into a community of practice (Lave & Wenger, 1991); it is a process of socialization involving both academic and social integration (Golde, 2000). In theory, graduate students learn the shared knowledge of the field as they participate in activities critical to the community they are entering. However, working with graduate students can be a challenging task. This is due, in large part, to the lack of instruction specifically focused on mentoring during our own graduate study. However, there are a number of other reasons why working within graduate education is a complex and ill-structured domain (Spiro, Feltovich, Jacobson, & Coulson, 1991).

1. Graduate programs attract a diverse set of students. There is diversity in age, gender, familial status (single vs. raising children), and attendance (full-time vs. part-time). Students also vary in country of origin and thus cultural differences can abound.

2. In graduate school, life moves forward. Births, deaths, and taxes still take place. And, due to increased introspection inherent with graduate school, so do marriages, divorces, and break-ups. This further complicates doctoral student life and, thus working with graduate students.

3. Students enter graduate programs with a diverse set of skills, experiences, and goals. Even within a gaming or simulation program students could differ in their graduation expectations, career outcomes, and areas of specialization.

4. Graduate students differ in how motivated they are to complete their graduate education. Some students are intrinsically motivated by graduate study. Graduate school becomes an opportunity to explore their areas of interest, to broaden their horizon, to become engulfed in a community of practice and to soak up the entire experience. Others view graduate education as a series of required classes and challenging (or annoying but necessary) hoops resulting in a requisite piece of paper that leads to a better job and/or bigger paycheck.

5. Finally, graduate education is full of gray areas. Take authoring for instance. There are some guidelines regarding authorship, including ordering and inclusion but most decisions rely on mutual trust between the educator and the student. How does one decide on the origin of an idea? What if
someone collects the data but other members of the team provide valuable input related to what it means, how to present it and how it fits with existing literature?

All of these issues are compounded by the fact that faculty also have to manage their own development.

Annual reviews, tenure, and promotions related to the number or quality of publications (including sole-authored publications) contribute to the stress of working with graduate students.

Even with all these concerns, most faculty would agree that graduate students are the lifeblood of our fields and disciplines. The challenge, therefore, is to develop strategies that help faculty engage students in an apprenticeship model (Brown, Collins, & Duguid, 1989) where legitimate peripheral participation in the community originates from day one in the graduate program.

Listed below are three strategies that I have found to be useful in working with my own graduate students. These strategies are generic in nature and aim to help students establish a support community of more knowledgeable others, set goals for their participation in the community and identify their particular niches within the community.

- **Strategy 1: Developing a story:** George Howard (1996) describes a person standing on a mountain. Looking at the surrounding area, the mountain they are on, and the path they climbed—their autobiography—gives the person a sense of where they have been and what mountain they’re on. Examining their current surroundings on the mountain—their current situation—helps students know where they are at and how their past led into their present. Having students create both autobiographies and ‘current stories’ presents them with an opportunity to see the direct impact they can have on their career.

  However, Howard suggests that in order for the person to climb the mountain, they need to throw a grappling hook and begin to move in that direction. A teleography—or a future fictional autobiography—provides students with a vision of who they want to be in the future; it acts as their grappling hook. This mission statement provides goals and results in the motivation to pursue those goals. A teleography can be as simple as a printout of the ‘dream job’, or it can be as complex as a digital story of the author at age 90, looking back at their academic career. If mentoring means helping students achieve their goals, it is critical that those goals are explicit to all parties involved.

  It seems like one of the things students struggle with most is deciding on their area(s) of research interest. If they can picture what they will be on the cover of *Newsweek* or *Wired* for, students will go a long way in discovering what is important to them. This process can include the autobiography and a write-up of their current situation—all leading into the teleography; or, it can simply involve the teleography. There are obvious benefits but also time and sometimes privacy constraints to providing all three (see Ferdig, 2006; for more narrative-based storying, also see McAdams, 1993; 1995).

  This process seems to work best in the first semester or two of a graduate program. It not only helps students describe their research interests, it also introduces them to each other. It builds the community of practice and they being to scaffold each other’s development. The teleography can also be shared with an advisor or a committee; it acts as a potential plan for the future related to research interests and job placement (e.g., academia vs. industry). Finally, although it should be reviewed frequently by the author, the advisor or committee can also revisit the story periodically to evaluate growth.

- **Strategy 2: Establishing a scholarly identity:** In our enculturation process, it is important to promote the development of a research identity. My graduate advisor told me that I had to develop an *elevator speech* and then be able to more broadly discuss what that meant. The idea is to pretend that you are on an elevator and someone joins you just as the door closes. They are only going up two floors, and so you only have 15 seconds to tell them what you research. Someone might say: “I study educational gaming, and more specifically the impact of avatar use in gaming, and more specifically on self-selection and its impact on learning.”
They are so interested in what you said that they ask you to stop at that floor and tell them more. More importantly, you find out that they research the same general area. Now it is your turn to be more specific and identify exactly what you study in that area.

This little exercise can be nicely summarized in an umbrella chart that I have all of my advisees complete (see Figure 1).

At the very top, they list their name. Under their name, they list “professional” and “personal.” I do not make them complete the personal side (I encourage it), but it is an important reminder that professionals do have personal lives as well! Under professional, they begin at level one to explore what they want to research and what they want to be known for. These are broad level “elevator” speeches of “educational games” or “science education” or “teacher education.” The next level below that details specific examples. This could include, under educational games for example, Games and Avatars. Or, we could begin to see connections; for instance, using games to impact science education. At the third level, they begin to distinguish who they are and what they do. Following the literacy example, a student might write: “self-selection of avatars and its impact on learning.” I help students understand that there is not one study that is going to complete this level—there is still one level below this that includes specific studies that give answers to help understand more about this level.

Levels two or three might be lifelong pursuits. Someone in the elevator who doesn’t know you or what you do would get the level one description. However, if they were also interested in educational gaming, levels two and three would help distinguish a student’s sense of research identity from their new colleague. This activity is impor-
tant because it helps students understand who they are and what they want to accomplish in relation to others doing equivalent work (particularly in gaming and simulations where people come from multiple fields and disciplines). It also helps them understand that their thesis or dissertation will not solve a level 1, 2, or even necessarily level 3 problem. It helps them contextualize their work within a broader set of problems and issues; it helps them grasp the big ideas.

I have also recently added the “community of practice” columns on the far right. If the goal is to help enculturate students into a community of practice, then it is important for students to continuously examine whether they have experience in practicing their interest area in the profession. For instance, experts in educational gaming have a number of professional tasks including writing about the topic, serving on committees, reviewing journal and conference submissions, and applying for grants. Students enculturated into this practice should attempt to get experience in these tasks during their graduate study—the chart can provide a glimpse of the progression for the student and the advisor.

- **Strategy 3: Developing a Composite Mentor:** There are a number of strategies to support one-on-one mentoring relationships. However, Packard (2003) argues for the advantages of multiple role models. She suggests:

  Composite mentoring can be thought of as the strategic selection of a diverse set of mentors, each mentor offering one aspect of the desired mentoring experience. In other words, rather than finding one mentor who can be emulated completely (Ibarra, 1999), female students can use their possible selves to guide the selection of a strategic set of mentors that can support their aspirations. (p. 337)

  I believe that students can be successful when they realize that one person is not going to fulfill all their educational needs. Advanced students work with a committee on their dissertation. However, graduate students need to understand the value of a composite mentor. Potential components in their composite sketch could include faculty and students within their area, from other departments, colleges and universities. It could include industry leaders or community partners. It could be students and faculty of similar or very different backgrounds. Students begin to see that knowledge they gain is not just from the classes they take, but from the relationships they build—both inside and outside of class. We talk about constructivist education, with the teacher moving from the sage on the stage to the guide on the side. In some sense, this is constructivist mentoring. Instead of a faculty member being the sole advisor, he or she becomes a trusted guide who helps students negotiate their composite mentoring relationships.

  In *IJGCMS*, we publish articles that are the result of research studies. They are the final products of our work, and they don’t necessarily always reflect the processes that we go through as researchers and educators. It is my hope that future issues of *IJGCMS* will include authors who share more specific strategies for the various programs within the broader area of games and simulations.

  This is the fourth and final issue for our inaugural year of publication. This issue is another fine example of the important research being completed across multiple disciplines. The first article by Loh strongly articulates a need for game developers to learn from tested procedures to avoid repeating mistakes of past developers. He includes a model that has been successfully tested and used in the production of serious games.

  The second article also addresses game development. Stowell et al. inform readers about how game engines may be generated for educational projects. In the paper, they discuss the “nuances” of mixing core code with third party libraries to create fully functioning development environments. They conclude with a list of suggested practices for the use of open source libraries to develop 3D game engines.

  DiPietro authored the third article in this issue, a study of the creation of avatars. DiPietro’s early work examined what choices people will make when given the opportunity to create an avatar and when given a specific scenario. This new study follows that line of questioning and uses qualitative inquiry to investigate the creation of avatars for interactions in virtual worlds. DiPietro finds that users created avatars that mirrored their physical appearances and felt morally obliged to do so.
The final research article is by Dubbels. Dubbels also used a qualitative approach to understand the experiences of an adolescent female as learned about the video game “Dance Dance Revolution.” His approach was to examine the game as an after school activity for helping teens become more physical active. Implications for his work include the ability for teachers to help engage in identity construction.

In addition to the research articles, this issue includes a book review authored by Antonenko, who examined *Video Game Spaces: Image, Play, and Structure in 3D Worlds*. Video Game Spaces is a 2008 publication from Author Michael Nitsche. It explores the effects of the spatial dimension on 3D games. Antonenko found the book immediately practical to those interested in complex 3D spaces.

*IJGCM* publishes research articles, theoretical critiques, and book reviews related to the development and evaluation of games and computer-mediated simulations. One main goal of this peer-reviewed, international journal is to promote a deep conceptual and empirical understanding of the roles of electronic games and computer-mediated simulations across multiple disciplines. A second goal is to help build a significant bridge between research and practice on electronic gaming and simulations, supporting the work of researchers, practitioners, and policymakers. We appreciate your submissions to *IJGCM* and look forward to reviewing your work in the future. Questions about publishing, reviewing, or proposing a special issue can be directed to the editor at (ijgcm@gmail.com). For a list of representative topics and a call for papers, please visit the Web site at: http://www.igi-global.com/ijgcm.

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**REFERENCES**


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