Identity, Digital Learning Environments and Academic Success

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Abstract: A student's identity significantly influences their attitude and behavior towards academics regardless of abilities. This paper proposes a framework for the design and evaluation of digital learning environments (DLEs) that explicitly promote identity construction related to academic success. Subsequent research can address three questions: (1) How does one's identity affect how they interact with DLEs? (2) Which aspects of DLEs best promote identity construction? and (3) How does exploring issues around identity affect learning outcomes?

Problem Statement and Theoretical Background

As many scholars have found, identity is a crucial component of learning. As the use of technology in classrooms grows, it is important for researchers to gain a better understanding of how interacting with digital environments affects learning as it relates to identity construction. Pulling from research on identity and academic success as well as identity and digital learning environments (DLEs), I propose design principles and elements to guide the development of future DLEs that cultivate identity and academic success. Subsequent research related to these DLEs will be able to address three questions: (1) How does a person's identity affect how they interact and learn with digital environments? (2) What aspects of virtual learning environments best promote (and hinder) identity construction? and (3) How does exploring/addressing issues around identity affect learning outcomes? I believe that in answering these questions, educators and design-based researchers will be better able to understand and meet the needs of learners, conceivably allowing for greater learning gains.

Identity and Academic Success

Identity construction is a fluid and ongoing process of exploration (or evaluation) and commitment. Wenger (1998) states that "It is in that formation of an identity that learning can become a source of meaningfulness and of personal and social energy" (p. 215). Therefore, to be most effective, teaching practices need to incorporate instructional elements and activities that make explicit the ways in which academic content is related to students' everyday lives. Specifically, cultural identity, a subcomponent of one's collective identity, is important to consider since it can be in opposition of academic success. For example, conflict between a student's home culture and what is expected of them in the school culture has been identified as part of the reason for school failure (Bransford, Brown & Cocking, 2000). Each subcomponent of a person's identity holds a certain salience in relation to the collective identity. Certain environments and interactions can temporarily change the salience and relevance of an identity so that particular characteristics and commitments are given preference (Spears, 2011). Also, the ideas a person holds about their future possible selves depend on environmental affordances and constraints and, as a result, are constantly revised (Oyserman & James, 2011).

Identity and Digital Environments

There are three ways in which digital environments have been positioned in the research that have implications for use in improving academic success: digital environments as mirrors, digital environments as exploratory tools, and digital environments as construction tools. In *The Second Self*, Turkle challenged the then widespread idea that a computer is "just a tool" by proposing that we view a computer "as an evocative object" (Turkle, 1984, p.19), and asserted that using a computer "changes people's awareness of themselves, of one another, of their relationship with the world" ultimately resulting in viewing the computer as a second self (p. 18). Berman and Bruckman (2001) proved the exploratory capacity of digital environments with their study of an online game where users are assigned a gender and must prove their identity to others and single out the imposters. While some participants used the game to explore their ideas of their ideal self, others explored ideas of their ideal or actual mate. Therefore we can conclude that digital environments hold great potential to help students explore aspects of their identity. Lastly, the three-dimensional environment Zora (Bers, 2006) is a prime example of a construction tool. Zora allows users to design the objects, characters, spaces and values of a virtual city that they then inhabit – activities that the author asserts promote competence, connection, character, confidence, caring, and contribution (Bers, 2006). These components are linked throughout the identity literature as being supportive of identity achievement (e.g., Vignoles, Schwartz & Luyckx, 2011).

Designing for Learning and Becoming in Practice

To promote the development of a constructed identity, and in turn academic success, DLEs need features and activities that integrate the positions of mirror, exploratory tool, and construction tool. Influenced by the design guidelines of Zora (Bers, 2006), I offer possible design principles and particular embodiments of the principles.

Design Principles

I. Promote positive development of identity
   1) Provide dynamic, diverse and flexible computational tools with which users can interact and identify
      a. Encourage users to create complex representations of the self and identity in various ways
      b. Encourage users to explore powerful ideas about the self and identity, highlighting the multiplicity of aspects and changes over time.
      c. Include personally relevant and salient information
      d. Provide a wealth of academic content and activities situated in real-world contexts
   2) Ensure a safe and supportive environment/community
      a. Establish guidelines for respectful communications between users
      b. Celebrate and support diversity among users
      c. Identify and enlist the support of more knowledgeable others in the digital community

Design Elements

1) *An interactive and customizable interface (Design Principle 1a)* – A customizable interface creates a space for the user to explore, create and reflect on identity aspects (Bers, 2006). The persistence of the interaction encourages the user to regularly reevaluate the accuracy of the representation.
2) *A user created avatar and profile (Design Principles 1a & 1b)* – an avatar acts as a mediator between the user and the digital environment by serving as a portrayal of the user stylized in the same manner as the rest of the environment. The profile presents the user's most salient identity aspects in one space. These aspects also prompt the user to reflect on how they understand and choose to represent their actual and ideal selves, which is important for learning (Bransford, Brown & Cocking, 2000).
3) *Portfolio: An indexed artifact reservoir (Design Principles 1a & 1b)* – this feature allows users to collect and store any artifacts from the learning environment (e.g., a completed activity or a forum thread) as well as items from other sources. As it develops, the portfolio will support reflection and help the user create a narrative about their identity (Bers, 2006).
4) *Journal: An active reflection space (Design Principle 1b)* – The journal provides a constructive outlet for the user's innermost thoughts. It also allows the user to review past entries and notice trends or major changes which can lead to improved metacognition and a more integrated identity.
5) *Academic content and activities (Design principles 1c & 1d)* – A student's skills or technical ability is a significant component of how users view themselves in relation to academics (Oyserman & James, 2011).
6) *Social networking tools (Design Principles 2a, 2b & 2c)* – Talking to various, more knowledgeable others can help users to change their beliefs about what is possible, learn best practices and also build a network of support and accountability, all of which are important for learning (Wenger, 1998).

Conclusion

Academic success requires students to possess academic knowledge and skills as well as a constructed identity wherein salient and dominant identity components (e.g., cultural and ethnic identity) align with academic and disciplinary identities. As discussed, the necessary processes for developing a constructed identity can be facilitated by the affordances of digital environments. It falls to design researchers to devote more explicit attention to developing learning environments that incorporate identity constructing elements and activities. The design principles and elements discussed provide direction for future work in this area.

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