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Quest to Learn

Developing the School for Digital Kids

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Quest to Learn: Developing the School for Digital Kids

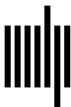
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Mission

Opening with the question, “What makes Quest to Learn unique?” this chapter goes on to describe a set of skills, concepts, literacies, and ways of knowing that shape the school’s situated approach to teaching and learning.

What Makes Quest to Learn Unique?

The learning that takes place at Q2L is situated and gamelike. By “situated,” we mean that students are asked to “take on” the identities and behaviors of designers, inventors, writers, historians, mathematicians, and scientists in contexts that are real or meaningful to them or both. By “gamelike,” we mean an approach to learning that draws on the intrinsic qualities of games and their design to engage students in a deep exploration of subject matter, with twenty-first-century learning at its core. These qualities come from an understanding that

- Games are carefully designed, learner-driven systems.
- Games produce meaning.

- Games are dynamic systems.
- Games are immersive.
- Games are interactive and dynamic, requiring a player's participation.
- Games instantiate worlds in which players grow, receive constant feedback, and develop ways of thinking and seeing the world (Salen 2007b).

The internal architecture of games—rules, components, core mechanics, goals, conflict, choice, and space—guide the design of learning experiences. Thus, throughout the Q2L curriculum, game design is used as a learning strategy for students. Game design requires high levels of complex thinking to ensure that a host of elements interact to offer players meaningful and lasting engagement. Q2L capitalizes on current games, learning, assessment, and game design research; the chapter titled “Game-Based Learning and Knowing” provides further discussion of Q2L's underpinnings in the contemporary learning sciences field.

Q2L aims to create a learning environment for students in which they act within situated learning contexts to solve complex problems in math, science, English language arts (ELA), and social studies in gamelike ways. Integrated learning contexts provide practice space for goal-oriented challenges. Work with models, simulations, and games through an evidence-based inquiry curriculum serves as the foundation for the study of dynamic systems and their effects. The curriculum supports students in developing a way of thinking about global dynamics, for example: how world economic, political, technological, environmental, and social systems work and are interdependent

across nations and regions. High levels of student engagement and ownership in the learning process are valued as students participate in a rigorous process of research, theory building, hypothesis testing, evaluation, and critique, followed by a public defense of results.

Ongoing evaluation and feedback create opportunities for students to plan, iterate, and reflect on their own learning. The overall curriculum is rooted in mathematical practices, with an explicit intent to innovate at the level of how students are assessed in context. Value is placed on work within cross-functional teams where students contribute specialized practices to solve a problem collaboratively. Game design—for either digital or nondigital contexts—provides a platform for students to explore a range of ideas and to build systems to be experienced by others. Most important, the bar to student achievement is set high, with the expectation that students and teachers together will gain the skills necessary to meet these requirements and even surpass them.

Attention to the development of academic and civic practices takes place through an integrated curriculum and situated assessment scheme. In addition to immersion in basic literacy practices—reading, writing, and calculating—the focus at Q2L is on dynamic “ways of knowing and doing,” such as the ability to think, read, and interact critically; to solve complex problems in mathematics and science; and to express oneself persuasively as author, agent, and consumer through language and media. Students learn to reflect on and act within feedback loops connecting the school and life systems found in the social, technological, and natural worlds they inhabit (Schön 1987). An

integrated health and wellness program supplements this globally focused curriculum.

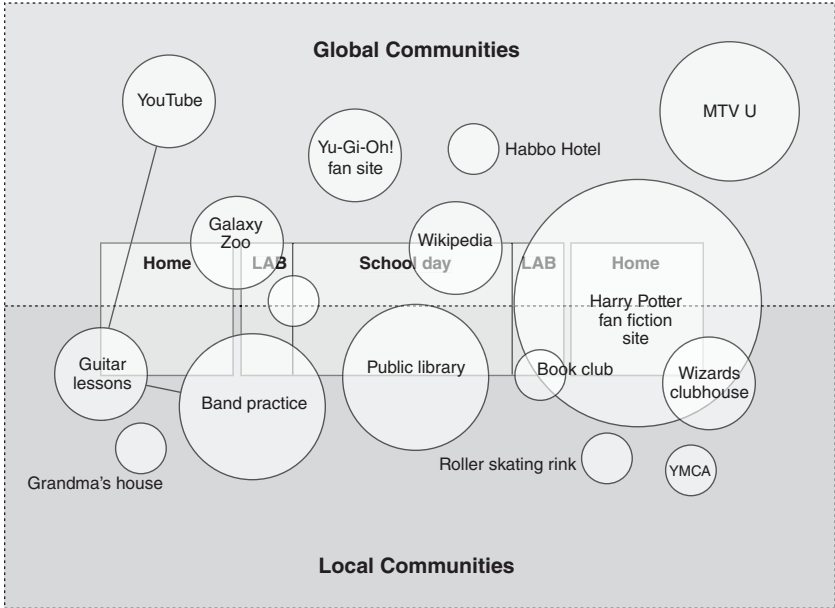
Where Is School?

At Q2L, the design of learning takes into account the creation of pathways between experiences, communities, and contexts, and it reconsiders “school” as just one node within a larger network of learning spaces within and across which students move. Rather than defining school as a separate place in time and space from the concerns and communities of children’s lives, Q2L defines it as a social landscape that reaches into the home as well as into the local and global communities to which students belong. This does not mean that students are expected to be “at school” 24/7; it does mean that all experiences are considered potential contexts for learning.

In the figure “Snapshots of a Student’s Life,” several kinds of learning spaces are identified: home, lab (before- and after-school spaces located in proximity to the school building), school Day (“formal” space of the school), global communities (social networks, virtual worlds, etc.), and local communities (soccer team, neighborhood library, youth club, and so on). Certain experiences might connect across home and lab, for example, as when a student reads anime at home and with friends and is in the Anime Club as part of lab. The network is extended when the student joins an online fan-fiction site around a favorite author.

We see learning as *practice* and Q2L as a *practice space*. The more spaces, communities, and contexts that students gain experience in as practitioners of learning, the stronger they will grow.

Snapshot of a Student's Life



Ways of Knowing

The Q2L pedagogy involves a melding of technological, social, communicational, scientific, and creative concerns, including:

- *Systems-Based Thinking* Students design and analyze dynamic systems, a characteristic activity in both the media and in science today.
- *Design Thinking* Students apply design methods as strategies for innovation to both problem-solving and problem-seeking activities.

- *Interdisciplinary Thinking* Students solve simple and complex problems that require them to seek out and synthesize knowledge from different domains. They become intelligent and resourceful as they learn how to find and use information in meaningful ways.
- *User-Centered Design* Students act as sociotechnical engineers, thinking about how people interact with systems and how systems shape both competitive and collaborative social interaction.
- *Specialist Language* Students learn to use complex technical linguistic and symbolic elements from a variety of domains, at a variety of different levels, and for a variety of different purposes.
- *Metalevel Reflection* Students learn to explicate and defend their ideas, describe issues and interactions at a metalevel, create and test hypotheses, and reflect on the impact of their solutions on others.
- *Network Literacy* Students learn how to integrate knowledge from multiple sources, including music, video, online databases, other media, and other students. In doing so, they participate in the kinds of collaboration that new communication and information technologies enable.
- *Productive/Tool Literacy* Students gain an ability to use digital technologies to produce both meanings and tangible artifacts, including games.

A Gamelike Curriculum

Learning at Q2L takes place within an integrated curriculum that has a foundation in math and science and is designed to align with New York State standards. Discovery Missions—

questlike challenges that require students to plan, collect data, create theories, test their results, and document outcomes—structure student movement within specially designed learning contexts. Discovery Missions require students to analyze, build, and modify many different kinds of dynamic systems—historical, physical, mathematical, technological, scientific, written, and social. Through Missions, students are supported in both thinking and doing, and they develop an orientation toward innovation and creativity as well as a fluency in foundational numeracy and comprehension literacies. Discovery Missions are covered in detail in the chapter titled “Curriculum Structure.”

In addition to supporting learning that is situated (see “Game-Based Learning and Knowing”), the Q2L Mission-Quest curriculum quite naturally integrates learning within a social world. While students develop their own work, engaging in a wide range of gamelike learning experiences, they also connect with other students in the school community, both to share expertise and to play together via the building of solutions. Situating learning within a community of learners is critical because one of our pedagogical goals is that students achieve a degree of mastery in practice; immersion in a community of learners engaged in authentic versions of such mastery-driven practices is therefore required.

Five Conditions for Student Learning

The Q2L curriculum activates five conditions for student learning: a need to know, a need to share and reflect, an occasion to share, a context for ongoing feedback and evaluation, and

channels for distribution across internal and external communities. *A need to know* means creating learning environments that support situated inquiry and discovery so that students have rich contexts within which to practice with concepts and content. *A need to share and reflect* means that opportunities for critical feedback and collaboration are built into the design of any learning experience. *An occasion to share* represents the need for teachers and students alike to create specific contexts for reflective interaction or opportunities for students to share their knowledge and get feedback on their work. The creation of *a context for ongoing feedback and evaluation* refers to the integrated and situated nature of assessment within the Q2L model—all learning experiences provide learners with continual and transparent feedback on achievement toward goals. Last, *channels for distribution across internal and external communities* create infrastructures for students to share their work, skill, and knowledge with others. These channels might take the form of online public portfolios, streamed video or pod casts, student-led parent conferences, or public events where work is critiqued and displayed, to name but a few such infrastructures. Within the curriculum, game design, games, models, and simulations serve not only as potential gateways into certain kinds of technology or design expertise, but also as contexts for mastery of skills such as collaborative learning, conflict resolution, systems-based thinking, planning, and the ethics of fair play.

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