The Trends and Problems of Virtual Schools

Glenn Russell
Monash University, Australia

INTRODUCTION: THE EMERGENCE OF THE VIRTUAL SCHOOL

Until recent times, schools have been characterized by the physical presence of teachers and students together. Usually, a building is used for instruction, and teaching materials such as books or blackboards are often in evidence. In the 20th century, alternatives to what may be called "bricks-and-mortar" schools emerged. These were forms of distance education, where children could learn without attending classes on a regular basis. The technologies used included mail, for correspondence schools, and the 20th century technologies of radio and television.

Virtual schools can be seen as a variant of distance education. Russell (2004) argued that they emerged in the closing years of the 20th century and can be understood as a form of schooling that uses online computers to provide some or all of a student's education. Typically, spatial and temporal distancing is employed, and this results in students being able to use their computers at convenient times in their homes or elsewhere, rather than being subject to meeting at an agreed upon time in a school building.

The concept of a virtual school is agreed upon only in broad terms, as there are a number of variants. Some virtual schools insist on an agreed upon minimum of face-to-face contact, while others are so organized that a student might never set foot in a classroom. It is possible for a virtual school to have no physical presence for students to visit, and an office building in one state or country can be used to deliver virtual school services to interstate or international students.

One way of categorizing virtual schools is by imagining where they might be placed on a scale of face-to-face contact between students and teachers. At the conservative end of this scale, there would be conventional schools, where students use online computers in classrooms or labs for some of their lessons. A trained teacher in the same subject area might be available to help students, or other teachers, volunteers, or parents could supervise them.

Toward the middle of such a scale would be mixed-mode examples, where some subjects are offered in virtual mode, but students are asked to visit the school on a regular basis to monitor their progress or to participate in other face-to-face subjects, such as sport, drama, or art. At the other end of the scale are virtual schools, where the student and teacher never meet, and there is no requirement for the student to enter a school building for the duration of the course. One example of such a virtual school is Florida High School, where there is no Florida High School building, and students and teachers can be anywhere in the world (Florida High School Evaluation, 2000, 2002).

FACTORS PROMOTING THE RISE OF VIRTUAL SCHOOLS

Russell (2005) has argued that the principal factors that account for the growth of virtual schools include globalization, technological change, availability of information technology (IT), economic rationalism, the model provided by higher education, perceptions about traditional schools, and the vested interests of those involved in them.

The first of these factors, globalization, refers to a process in which traditional geographic boundaries are bypassed by international businesses that use IT for globally oriented companies. It is now possible for curriculum to be delivered remotely from across state and national borders. Educational administrators can purchase online units of work for their school, and parents in developed countries can sometimes choose between a traditional school and its virtual counterpart.

As IT continues to develop, there is a correspondingly increased capacity to deliver relevant curricula online. As broadband connections become more common, students will be less likely to encounter prolonged delays while Web pages load or other information is downloaded. Advances in computers and software design have led to developments such as full-motion video clips, animations, desktop videoconferencing, and online music. Collectively, what is referred to as the Internet is already very different from the simple slow-loading Web pages of the early 1990s.

Economic rationalism also drives the spread of virtual schools, because the application of economic rationalism is associated with productivity. For education, as Rutherford (1993) suggested, the collective or government provision of goods and services is a disincentive to private provision, and that deregulation and commercialization should be encouraged. Consistent with this understanding is the idea that schools, as we know them, are inefficient and should be radically changed. Perelman (1992) argued that schools are remnants of an earlier industrial era that ought to be replaced with technology.

The ways in which higher education has adopted online teaching provide an example of how online education can be accepted as an alternative. The online courses provided by universities in recent years have proliferated (Russell & Russell, 2001). As increasing numbers of parents complete an online tertiary course, there is a corresponding growth in the conceptual understanding that virtual schooling may also be a viable alternative.

Those convinced that existing schools are unsatisfactory can see virtual schools as one alternative. Criticism of schools for not adequately meeting student needs, for providing inadequate skills required for employment, or not preparing students for examinations and entrance tests, are continuing themes that can be identified in a number of educational systems. Discussions related to school reform can include funding, resourcing, teacher supply, curriculum change, and pedagogy, but they can also include more radical alternatives, such as virtual schooling.

PROBLEMS OF VIRTUAL SCHOOLS AND THEIR SOLUTIONS

Virtual schools face a number of challenges related to the way that teaching and learning are implemented in online environments. While similar problems can also be identified in conventional schools, the different natures of virtual schools serve to highlight these concerns. These problems include authenticity, interactivity, socialization, experiential learning, responsibility and accountability, teacher training, certification, class sizes, accreditation, student suitability, and equity.

The first of these problems, authenticity, relates to the verification of the student as the person who has completed the corresponding assignments and tests from a virtual school. Virtual schools may assign students a secure password to use over the Internet, but this procedure would not preclude students from giving their passwords to a parent or tutor who completed the work on their behalf. A possible solution that may have to be considered is to test students independently to confirm that they have the understanding, knowledge, and skills suggested by their submitted work. Some virtual schools, such as Louisiana Virtual School (2006), ask students and parents to sign an honesty policy in an effort to maintain the authenticity of students' work.

Interactivity describes the relationship between the learner and the educational environment. For virtual school students, there is an interactive relationship involving the multimedia, the online materials used, and the teacher. Students would typically access materials on the World Wide Web, respond to them, and send completed work electronically to their teachers. The preferred way for students to become involved in online learning is to have an active engagement involving a response. If a student is directed to a static Web page containing a teacher's lecture notes, learning may be less effective, unless other teaching methods are used to supplement it. The solution to this problem will be found in both the increased capability of students' online computers to operate in a rich multimedia environment, and the recognition by course designers that virtual schools should take advantage of advances in learning theory and technological capability. In the U.S., the National Education Association's *Guide to Online High School Courses* (NEA, 2006) has maintained that online courses should reflect current research on learning theory and recognize the opportunities provided by online learning environments.

Socialization continues to be a problem with virtual schools, because there is an expectation in conventional schooling that students will learn how to work cooperatively with others and will internalize the norms and values necessary for living in a civilized community. Moll (1998) is concerned with disruption to the tradition of public education as the primary vehicle for the transference of national narratives and humanistic and democratic values. Clearly, socialization will still occur if students use online learning supplemented by some contact with teachers and opportunities for organized sports. However, students' ability to relate to others in society is likely to change. Despite this concern, a type of virtual school that routinely insists on organized face-to-face learning and social situations, with peers, teachers, and other adults, will reduce the problems that otherwise are likely to arise.

A related concern to that of socialization is the belief that Web culture is inherently isolating, and that by encouraging students to pursue their education with a virtual school, an existing trend toward loss of community may be exacerbated. Kraut et al. (1998) originally suggested that Internet use could be associated with declines in participants' communication with family members in the household, declines in the size of their social circles, and increases in depression and loneliness. However, more recent research (Kraut et al., 2002) found that negative effects had largely dissipated.

There are some teaching activities in conventional schools referred to as experiential. These usually involve some form of hands-on activity or physical interaction with others. Typically, a teacher will provide a demonstration, explanation, or modeling of what is to be learned, and activities that follow provide opportunity to correct errors. While virtual schools commonly offer subjects such as mathematics and social studies, the study of physical education, drama, art, and the laboratory component of science is more problematic. Sometimes the problem does not arise, because students will enroll only for subjects that they missed or that they need for credit toward a qualification.

A common solution to these problems is for the virtual school to provide online or print-based teaching materials, as with other subjects in the range to be offered. Students complete the activities and send evidence of the completed