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Integrating Technology to Enhance Teaching and Learning in Physical and Health Education: An ActiveHealth Framework

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Abstract

In an era of limited resources across educational sectors, academics associated with faculties of education are under increasing pressure to find innovative ways to support their teaching and research activities – activities with which collaboration and interaction with pre-service teachers, practicing teachers and fellow academics is crucial. As such, developing a sustained community that involves such representative members is paramount for academics. A team at the University of Wollongong has initiated this concept through research and development of the *ActiveHealth* learning community for physical and health educators.

Whilst it is envisaged that such a project will take time to establish, a number of priority areas have been identified: the development and sharing of physical and health education teaching and learning resources; the professional development of teachers; and the use of information and communication technologies (ICTs) through ActiveHealth to support pre-service teachers involved in the practicum. This paper outlines the development of the *ActiveHealth* community and the support provided for teachers and students through communication within an ActiveHealth framework.

Introduction

The nexus between teaching and research is paramount for academics associated with Faculties of Education who must concurrently be at the forefront of pre-service teacher training, innovation in multiple educational sectors and teacher professional development. It is, therefore, imperative that academics are active and leading members of their community of practice. Within the specialisation of physical and health education, key members of the community are: teacher educators (i.e., university-based academics); practicing teachers; and pre-service teachers (i.e., university students).

This community has traditionally fostered successful processes for the exchange of ideas and mentoring newcomers in such collaborations as: policy and syllabus consultation; curriculum and resource development; and, practice teaching experiences. Unfortunately, these activities are often conducted on an ad hoc and irregular basis where individual members may not have a sustained role or commitment. As such, in an era of limited fiscal and social influences and calls for reform within the teaching profession (see Ministerial Advisory Council on the

Quality of Teaching 1998; Ramsey, 2000) education faculty academics are seeking new approaches to sustaining and invigorating the community.

Developing a technology-facilitated community

The affordances of information and communications technologies (ICTs) to support physical and health education include: time and place independent access to resources, instructors and peer learners; provision of tools and simulators for the construction and presentation of ideas and concepts; and communication vehicles that may allow for in-depth exploration of controversial or difficult to manage issues (Lockyer, Patterson & Harper, 1999).

Recognising such affordances, academics within the Faculty of Education at the University of Wollongong have integrated technology use into aspects of the undergraduate curriculum with research evidence providing positive indications of effectiveness (see Lockyer, Patterson & Harper, 1999; Lockyer & Kerr, 2000). These experiences, coupled with growing accessibility of ICTs, provide academics with the opportunity to explore the extension of technology use from campus-based activities to innovative options for interacting with and supporting the wider community of practice.

This innovation begins with the transformation of previously ad hoc interacting groups of academics, students and teachers into an organised learning community. The benefit of such an organization is best summed up by Schwier (1999 p. 282) who states that the power of learning communities 'resides in their ability to take advantage of, and in some cases invent a process for exchanging ideas and learning collectively'.

There are, however, identified characteristics of such communities. The hallmarks of a learning community that focuses on professional development and exchange include: a clear focus that is driven by members; employment of appropriate technologies and styles of communication; a social network where expertise, leadership, and contributions are valued; and, ongoing, regular discussion, sharing of and collaboration on commonly valued things (Hord, 1997; Stuckey, Hedberg & Lockyer, 2001).

The development of a collaborative rather than an individualistic culture for teachers is widely supported in the literature as necessary for learning to occur. The development of the concept of collaborative teams early in pre-service training of teachers and the opportunity for pre-service teachers to work with practicing teachers and lecturers will ensure "membership" in the physical and health education community.

Designing the *ActiveHealth* framework

The original concept for the *ActiveHealth* learning community was developed from a group of physical and health education undergraduate students at the University of Wollongong who identified a need to access teaching and learning resources that were relevant to Australian teachers. In collaboration with students, teachers and fellow academics, the *ActiveHealth* organising team, including Lori Lockyer, John Patterson, Gregg Rowland and Doug Hearne, have progressed the initial concept to develop innovative ways to support the profession of physical and health education. The expertise of the organising team encompasses school-based physical and health education, community and public health

promotion, pre-service teacher education, teacher professional development and information and communication technology integration.

The initial phase of the project focused on discussions with stakeholder representatives; the design of the Web-based environment which supports the community; the prioritisation for implementation of components, activities or features; and the confirmation of learning contracts with pre-service teachers who contribute to the development of the community.

It was determined that the Web site (see Figure 1: www.activehealth.uow.edu.au): (1) provide access to a database of relevant teaching and learning resources; (2) act as an online gateway to the Physical and Health Education program activities at the University of Wollongong; and (3) support professional development activities and interchanges.
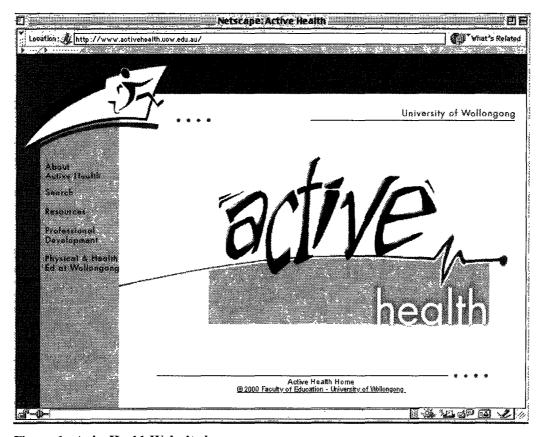

Figure 1: *ActiveHealth* **Web site home page**

The development of teaching and learning resources

Practicing teachers are under continuing pressure to stay in touch with current knowledge in physical and health education, demonstrate the use of information technology in their teaching as well as provide their students with opportunities for the development of information technology skills. A needs analysis conducted with teachers within the local professional organizations indicated the greatest need for resources lay in the identification of

specific physical and health education Web sites, lesson ideas, assessment tasks, online learning activities, and teaching support sites. Providing a framework for the addition of such resources are seven content areas that are applicable both nationally and internationally (Growth and Development, Safe Living, Games and Sports, Psychosocial Wellbeing, Active Lifestyle, Gymnastics and Dance, Promoting Health). An important consideration was that the resources suggested and developed were of high quality and relevance suggesting the need for a peer-review process associated with resource contribution.

Within undergraduate subjects, students have been encouraged through various subject offerings to submit resources, in particular Web sites and lesson activities. Students enrolled in independent projects, honours theses and doctoral studies have also been involved in developing resources, specifically online activities, and conduct research associated with their projects.

Given the underlying philosophy of active involvement of all participants in the learning community, local, state and national physical and health education professional associations have been approached to be involved either by suggesting a resource and/or by becoming a reviewer of material that is submitted to ensure it is of the highest quality for student and teacher use.

The professional development of physical and health education teachers

A common theme arising from the vast amount of professional development literature is the need for teachers to be given the opportunity to work together, sharing and modelling their experiences and expertise rather than having to work alone. The bulk of literature supports the view that for teachers to grow and continue their learning throughout their careers they need to be supported and encouraged with this support and encouragement best provided by teachers working together either in collaborative projects, groups of peers or mentoring relationships (Hargreaves & Fullan, 1992; Butt, Townsend & Raymond, 1990; Little, 1986).

ActiveHealth has the potential to act as a sharing and reinforcing mechanism that extends individual learning and encourages risk taking with new approaches and strategies. In essence, this project has the potential to get physical and health education teachers to put pedagogy back on their agenda.

Initiatives have been instigated to provide practicing teachers with the knowledge and skills to be able to effectively use the ActiveHealth Web site as well as other sites for teaching purposes. These have included professional development opportunities for teachers at the Apple Innovative Technology Conference (2001), the NSW Personal Development and Physical Education Teachers' Conference (2001) and the Australian Council for Health, Physical Education and Recreation (ACHPER) Tertiary Educators Network Conference (2000, 2001). Another initiative was the Crossroads Project, which involved a core group of teachers from four schools in the South Coast Region of NSW in the development of online Personal Development and Health lessons for Year 11 students.

Participants that have attended these programs have taken the information back to their respective schools and have encouraged others to use ActiveHealth. These teachers have indicated that the main advantages of using ActiveHealth are: the provision of up to date information; the demonstration of a web-based environment for teaching programs; and the formation of links between schools/teachers as part of the ActiveHealth community. That all

resources are to be reviewed and evaluated was seen as a significant feature for practicing teachers.

Using online mentoring during the practicum to support physical and health education pre-service teachers

In 1998, the University of Wollongong Physical and Health Education program began to integrate ICT use in discipline and pedagogy-based subjects (see Lockyer & Kerr, 2000; Lockyer, Patterson & Harper, 1999). In 2000, the use of ICT was extended to the practicum experiences of 4th year students. Of particular interest was how the online environment might facilitate the active process of reflection (i.e., reflector and listener) on the experience of professional practice through the interaction among the pre-service teachers and their university-based lecturers.

In 2001, this was extended within the ActiveHealth framework to 4th year Physical and Health Education students acting as online mentors for 2nd year students as they undertook their first secondary school practice teaching experience. The 4th year students were attached to two 2nd year students (in an online learning team) and had the responsibility to provide practical guidance and support during the 2nd year practice teaching period. Initial indications suggest that the innovation is a positive experience for both the 2nd year students as they seek guidance and reflect upon their initial secondary school practicum experience and for the 4th year students as they approach the completion of their undergraduate degree and look to begin their careers as professional educators.

Concluding Remarks

Given the changing teaching environment in schools and universities and the rapid increase in the use of technology by both institutions, this project has the potential to show how a community of physical and health education teachers, pre-service students and lecturers can use the technology-facilitated *ActiveHealth* framework to enhance their teaching, contribute to each others professional development and pre-service practice teaching opportunities. Whilst this project is only in its infancy, the level of support and enthusiasm shown by community members thus far indicates the potential for the project on a large scale. It is envisioned that this online community will evolve to encompass increasing avenues for collaboration among the participants.

As the project gathers momentum research investigations will focus on an ethnographic study of the development of the community and an accompanying study to indicate the translation of teachers' involvement in the online community to changing classroom practices in terms of integration of technology.

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