

VIRTUAL PUBLIC HEALTH CAMPUS:

EDUCATIONAL APPROACH

Conceptual Aspects

Pan American Health Organization

September 2009

TABLE OF CONTENTS

- 1. Introduction**
- 2. Educational approaches in the context of the information and knowledge society**
- 3. Permanent, networked education in the information and knowledge society**
- 4. Criteria for teaching activities and virtual learning environment in the Virtual Public Health Campus (VPHC)**
- 5. Types of educational offerings**
- 6. Regarding evaluation**

EDUCATIONAL APPROACH OF THE VIRTUAL PUBLIC HEALTH CAMPUS

1. INTRODUCTION

The Virtual Public Health Campus (VPHC), as a tool for the technical cooperation of the Pan American Health Organization (PAHO), is a forum for making a strategic contribution to the dissemination and management of public health knowledge and for building professional capacity in the Region, through specific educational opportunities. The dynamic production and circulation of information in society, along with technological advances, are constantly offering new prospects for supporting these objectives.

The VPHC is designed as a Network of Nodes, with a Regional Integration Node administered by PAHO/WHO and Country or Institutional Nodes, for sharing, collaborating on, and creating educational processes in public health. Through this network, up-to-date, relevant information and news, research, papers and documents, debate forums, educational materials, and courses for the ongoing advancement of public health education are made available to all.

This paper offers input into the development of an overall educational framework that will provide coherence and consistency to the different educational offerings in the VPHC's virtual learning environment, and in particular, explains the approach and the central pedagogical criteria for the design and development of courses.

2. EDUCATIONAL APPROACHES IN THE CONTEXT OF THE INFORMATION AND KNOWLEDGE SOCIETY

Educational approaches not only constitute a general and abstract body of ideas, rather they are fundamental links among educational intentions, systematic knowledge, and concrete practices. As such, educational approaches form a

framework of concepts and “master” criteria that enable us not only to explain (and to foresee) educational processes and outcomes, but also to guide our proposals and interventions.

Furthermore, and as occurs with other disciplines, educational approaches are not static. They are transformed and renewed over time in response to changes in society, advances in expertise, and experience. Put another way, they are systematic and well-grounded products produced within a framework of concrete historical conditions.

Some of these transformations represent cumulative changes, as specific knowledge advances. Other times, they involve substantive changes in practices, producing new models and new processes. In any case, previous history needs to be considered critically, distinguishing what is “outdated” from what it is still “valid,” in a way that integrates (and does not segregate) its principal contributions.

It is well known that at present our societies and their practices are undergoing a process of structural transformation as a consequence of the combined impact of the technological revolution (based on information and communication technology), growing globalization of economic and political relations, and a process of cultural change.

The result of this structural transformation can be called the “information society.” Avoiding any reductionism of this transformation, its attributes and effects go beyond the scope of the technologies themselves, encompassing all spheres of human activity, as occurred with the effects of the “industrial society.”¹

As in all revolutions, the information society is focused on processes, with constant innovation of its products. Its fundamental raw material is information, just as

¹ Castells, Manuel. “Flujos, redes e identidades: una teoría crítica de la sociedad informacional”. En: Castells y otros, *Nuevas perspectivas críticas en educación*. Barcelona, Paidós, 1994.

energy was the raw material of the industrial revolution. Control of knowledge and information is primary and defines who has power in society. Pressure to gain power generates flows of information exchange and networks among institutions, organizations, and groups. The relevance or irrelevance of any group or social actor is determined by the presence or absence of specific networks. The absence of a dominant network leads to an irrelevant structure.²

In this context, educational approaches have undergone a true cognitive and cultural revolution. On the one hand, the new social and economic conditions require that in-person formal education processes be complemented in order to train the workforce that today's organizations require. We are referring not only to the necessary, ongoing updating of knowledge, but also to the development of new cognitive and social competencies for interacting in networks and participating in the development of knowledge. On the other hand, this revolution has occurred because of the decisive and unprecedented role of the autonomy of new generations of professionals who (together with the role of the media and technology) are focusing on new venues for knowledge and on the construction of multiple cultural identities, not limited to the social and physical environment in which they live and work.³

Thus, formal education and continuing in-service education demand that information and communication technology be incorporated into their programs. Furthermore, these new educational developments have progressed to the construction of virtual learning environments, facilitating permanent, networked learning that complements and reinforces the activities of the in-person and partially in-person learning in workplace contexts.

² Benveniste, Guy. *Twenty First Century Organizations*, San Francisco, Jossey-Bass, 1995.

³ Giroux, Henry. Jóvenes, diferencia educación postmoderna. En: Castells y otros, *Nuevas perspectivas críticas en educación*, Barcelona, Piados, 1994. Aranowitz, Stanley - Giroux, Henry. *Education Still Under Siege*, Westport, Bergin & Garvey, 1993.

However, educational approaches require a conceptual framework of critical, relevant education that, as “master programs,” enable preserving the intentions of education during the transformation in the practices themselves. In other words, it is not enough to have technological developments or more active and individually up-to-date professionals. We must also effectively improve social and health practices. This implies revisiting the foundational ideas of a pedagogy committed to the values of social and organizational change.

3. PERMANENT, NETWORKED EDUCATION IN THE INFORMATION AND KNOWLEDGE SOCIETY

History is a constant process of construction and educational approaches are produced and transformed over time, with new challenges, old problems, and new practices.

In the field of the education and training of health workers in Latin America, the 1980s left as a contribution an in-depth debate on approaches and strategies and significant renovation on this topic. Particularly, these approaches retrieved the historical contributions of critical-social pedagogy, committed to the dialectics of institutional and organizational change. The new approach was aimed at expanding awareness, based on problem-posing about practices, and at the development of collective agents (teams of workers) around social and health commitments.

Classical training that centered on the transmission of content, aimed at individuals and with little integration with the practices in place (then called continuing education), was the object of critical analyses. This questioning led to the development of the educational approach and pedagogical methodologies we call Permanent Health Education (PHE), which takes elements from critical adult

education,⁴ education in the workplace,⁵ developments in cognitive science⁶, and studies on institutional change,⁷ among others.

In accordance with modern historical times (in the sense of the modernism project) and the development of the workforce (as also occurred in factories and productive communities), the educational approach of PHE is based on the following “master” ideas⁸:

- The educational potential in workplace practices and situations, incorporating teaching and learning into contextualized reflection, as “leverage” for learning, identifying the problems in current health services practices and community health needs, recognizing that change only happens (learning/unlearning) when a problem or need is perceived.
- The group as the active developer of new knowledge and new practice: Active construction includes identification of the problems, access to and analysis of significant and relevant data, definition of new types of action (new practices), and experiencing and evaluating them.

⁴ Le Boterf, Guy. La investigación participativa como proceso de educación crítica, UNESCO, 1979; Freire, Paulo. Acción cultural para la libertad, Tierra Nueva, 1975; Fals Borda, Orlando. La investigación- acción participativa: política y epistemología, Bogotá, CEREC, 1986; Bourdieu, Pierre. Rapport pédagogique et communication, París, Mouton, 1965.

⁵ Nosella, Paolo. Trabalho e Educação, Conferencia Brasileira de Educación, 1986; Frigotto, Gaudêncio: Fazendo pelas mos a cabeça do trabalhador, Cadernos de Pesquisa Carlos Chagas, N° 47, 1983; Díaz Bordenave, Juan: La transferencia de tecnología apropiada al pequeño agricultor, OEA, Revista Interamericana de Educación de Adultos, n° 1, 1980; Argyris, C. Conocimiento para la acción, 1990, entre otros.

⁶ Chosson, Jean. L'Entrainement Mental, París, Peuple et culture au Seuil, 1975 ; Piaget, Jean. Génesis de las estructuras de pensamiento, Paidós, 1974.

⁷ Ardoino, A. El grupo de diagnóstico, Madrid, Rialp, 1978; Bauleo, A. Ideología, grupo y familia, Kagieman, 1974; Lappassade, G. Pedagogía Institucional, 1982; Senge, P. La quinta disciplina, 1990, entre otros.

⁸ Entre otras numerosas contribuciones, consultar Haddad- Roschke – Davini, Educación Permanente en Salud, Serie Desarrollo de Recursos Humanos N° 100, OPS-OMS, WDC, 1994. Davini, M.C. Educación Permanente en Salud. OPS- OMS, WDC, Serie Paltex, N° 38, 1995.

- Interaction in networks, providing the dissemination of initiatives at the local, operative, specific level. The permanent linkage among knowledge, experiences, and the attainment of organizational learning constitutes one of the most important contributions.
- The production of collaborative knowledge and the transfer of good educational practices to different contexts.

A wealth of theoretical and methodological documentation supported the development of the educational approach and of the diverse experiences. The work team in the health field, as a collective agent, came to include the participation of all members of the group (directors or managers, physicians, nurses, administrators, educators, social workers, and the entire gamut of actors that make up the work group). As a comprehensive process, PHE involved not only the collective process but also specific trainings for particular groups (courses, seminars, workshops, meetings).

However, the new century is bringing us face to face with new realities and problems, putting limits on the development of PHE or posing the challenge of its renewal. On the one hand, the political processes and health systems reform processes of the 1990s, the instability of countries' health systems, and the influence of and dependence on external financing all led to debilitating the Permanent Education projects in several countries⁹ and the work teams, which were often affected by outsourcing of services, the introduction of flexibility into the labor market, and more recently by migration. On the other hand, although not separate from those problems, the structural transformation of the information society is posing new challenges for access to and management of knowledge. The relevance of institutions, organizations, and groups today is contingent upon

⁹ Davini, M.C.- Nervi, L.- Roschke, M.A. La Capacitación del personal de los servicios de salud. OPS-OMS, Washington, 2002.

the presence of specific networks and flows of information back and forth among the actors.

Therefore, there is a need to renew educational experiences and processes in line with the changes in society and the new opportunities they present. This does not imply replacing in-person and context-specific in-service educational programs and opportunities, but rather complementing them and supporting them with the new tools available today.¹⁰

Information and communication technology (ICT) enables strengthening the global dissemination and democratization of knowledge, providing open, flexible access to information, immediate and timely exchange with the rest of the world that overcomes problems of distance, and the creation of virtual communities for sharing experiences and holding discussions. In other words, ICT facilitates the development of networks and networked learning. This new technology poses the challenge of integrating it into previous advances at all levels of formal or permanent education to enrich educational opportunities.

The VPHC is part of this renovation, as an open, decentralized, networked campus. The different resources (materials, publications, experiences, information, etc.) and educational programs produced and posted on the platforms belonging to the Campus's different Nodes constitute strategic collaborative contributions for the entire Region, for the purpose of strengthening the development of public health and benefiting permanent, networked learning.

The educational approach to networked learning supports and provides continuity to the “master” ideas that fuel changes in institutions, health systems, and practices. This involves understanding that:

¹⁰ Struchiner, M. & Giannella, T. Aprendizaje y práctica docente en el área de salud. OPS/OMS, WDC, 2005.

- High quality information is a *strategic tool* for learning and a *mediating force* in reflective analysis, promoting change in different contexts.¹¹
- *Learning* is the heart of the matter, achieved through the development of active knowledge, and making use of the interactivity that the environment provides and strengthening the sharing of experiences/knowledge and collective collaborative learning.¹²
- *Reflection* and *problem-posing* is the driving force for the comprehension of that which is learned and for favoring the *transfer* of learning into practice.¹³
- It is strategic to aim for changes in *labor and organizational practices*¹⁴ through proposals from the participants for interventions or improvements in specific work contexts.

Thus, the “master” ideas of PHE and networked learning interact synergistically in developing the global and local knowledge of public health groups and in the critical transformation of practices.

Based on this perspective, it is important to point out the need for exchanges about diverse realities, systematization, and formulation of evidence, taking into account national contexts.

4. CRITERIA FOR TEACHING ACTIVITIES AND THE VIRTUAL LEARNING ENVIRONMENT IN THE VIRTUAL PUBLIC HEALTH CAMPUS (VPHC)

The criteria for pedagogical activities for the implementation of networked learning in the VPHC’s virtual environment can be derived from the framework of the

¹¹ Packer, A. A Biblioteca Virtual em Saúde como espaço público de gestão em rede e acesso equitativo às fontes de informação e conhecimento científico, técnico e factual. Belo Horizonte, VI Congresso Nacional de la Red Unida, 2005.

¹² Onrubia, Javier. Aprender y enseñar en entornos virtuales: actividad conjunta, ayuda pedagógica y construcción del conocimiento. RED, Revista de Educación a Distancia, <http://www.um.es/ead/red/M2/>

¹³ Schön, Donald. La formación de profesionales reflexivos, Barcelona, Paidós, 1992; Davini, M.C. Enfoques, problemas y perspectivas en la capacitación y desarrollo permanente de los recursos humanos de salud. OPS-OMS, 2001.

¹⁴ Argyris, Chris. Conocimiento para la acción. Barcelona, Granica, 1999.

educational approach's "master" ideas. The educational process involves the orientation toward learning, the interactive work and active communication of the group in the development of learning, and access to different knowledge resources.

The utilization of the Internet and ICTs in educational programs have contributed significantly to this construction, enabling the development of Virtual Learning Environments (VLE) that make high interactivity possible, and, at the same time, personalized, dynamic and timely monitoring of participants' learning. Knowledge in this case becomes more transparent, since it is available to whoever seeks it and is not the exclusive property of the instructor, leading to greater autonomy for ongoing learning. Although a course provides the materials for doing the work, participants have the opportunity to access much more information and products through searching, browsing, and accessing links.

The Virtual Public Health Campus provides an environment that contains different resources for sharing and collaborative networked learning, to support the Region's professionals in promoting changes in public health. It provides:

- Implementation of educational processes using different modalities and formats, including learning objects, self-guided courses, interactive online courses and tutorials, educational materials, etc.
- Interaction between groups and individuals from different contexts, regardless of distance, who share and discuss experiences.
- Access to sources of networked knowledge and browsing using the links.
- Use of various communication and learning resources.
- Creation of virtual communities for research and updating of knowledge, stimulating permanent learning.

The notion of learning as active construction enables the understanding that learning is a process that receives input and is done through exchanges with

others: the instructor, the group, knowledge tools. In this process, explicit knowledge (information, texts, databases, etc.) and tacit knowledge (that which is in people's "minds," as a result of their experience)¹⁵ are integrated, producing individual and collective learning. Furthermore, this learning structure gives participants autonomy and gives workers the flexibility to adapt their studies and participation to their individual circumstances.

In this approach, pedagogical mediation processes stand out: between tutors and the group, in the interchange among the participants themselves, between the group and the information and knowledge tools, and between general and local experiences, producing alternatives for intervention in social and institutional practice.

The VPHC classroom environment permits the inclusion of a considerable variety of **resources** in the educational programs:

- ✓ **Information sources:** electronic texts; reference documents; links to libraries, databanks, mailing lists for special interests, databases, etc.
- ✓ **Learning objects:** educational materials and activities or exercises produced to support the process of learning construction, glossaries, tools kits to support the activities, videos, audio files, videoconferences, hypertexts, simulations, etc.
- ✓ **Communication and exchange tools:** asynchronous, such as messaging, forums, and discussion groups, and synchronous activities in meeting rooms with transmission of text, audio, and video, such as the use of Elluminate in the VPHC; instant messaging.
- ✓ **Monitoring and evaluation resources:** questionnaires for self-evaluating processes, participation logs, periodic polling, built-in formative and summative evaluation tools, etc.

¹⁵ Packer, Abel. A Biblioteca Virtual em Saúde como espaço público de gestão em rede e acesso equitativo às fontes de informação e conhecimento científico, técnico e factual. Belo Horizonte, VI Congresso Nacional da Rede Unida, 2005.

Depending on the competencies, objectives, and subject matter to be learned, there are a variety of alternatives when deciding on the pedagogical design. Thus, teaching programs may emphasize:

- a) learning about systematic knowledge, methodologies, processes, technical tools, etc., to develop specific capabilities for intervening in health practices;
- b) analysis of approaches, conceptual frameworks, issues, or integrated fields of intervention, recognizing the complexity of the challenges in the practices of public health work.

Whatever the emphasis of the educational program, it is always important to remember that the intention of this education is to support the transformation of health practices and not to be merely an academic or technical exercise. It is expected that participants can make decisions and formulate projects and intervention alternatives potentially usable in local work contexts. To this end, it is important to facilitate activities involving reflective reading, situation analysis, experiences, case studies, problem solving, and problem-posing for complex practices.

Monitoring and guidance of learning is done throughout the process, in constant *personalized* (individual) reflective activity and collaborative group exchange, as a *social networked-learning process*.

In short, the results of learning must be oriented toward *proposals for action transferable to the context of health practices*, avoiding the mere passive acquisition of information.

5. TYPES OF EDUCATIONAL OFFERINGS

The educational offerings of the Campus Network enable supporting different implementation modalities, based on the potential of the virtual environment, and fitted to the different educational proposals and needs of countries and institutions. These include:

- In-person training courses or programs that include systematic learning and monitoring activities through the virtual environment and its different networked knowledge and communication resources.
- Courses held entirely in the virtual environment, with guidance and tutoring, and defined groups of participants.
- Self-guided courses, with free and individual access, making use of different available materials and the personal search for information sources.
- Virtual courses that include different phases or segments of in-person work.

6. REGARDING EVALUATION

The VPHC's educational approach includes evaluation as an important component that accompanies the entire process of developing the offerings, covering:

- Assessment or initial evaluation, to help define the educational needs to be covered, guiding preparation of the learning program. This includes an initial assessment of incoming participants' characteristics.
- Process evaluation, with a comprehensive approach that encompasses assessment of the learning occurring in the framework of the educational program as well as the relevance and quality of the program itself.
- Integrated or summary evaluation, which includes the learning process phase and the development of the intervention proposals or on-the-ground activities.

In this regard, "evaluation is not an addendum to teaching or learning, it is part of teaching and learning. As we learn, we are simultaneously evaluating,

differentiating, appraising, critiquing, judging, choosing. This evaluative attitude, which is learned, *is part of the educational process, which, as such, is continually formative.*"¹⁶

Evaluation should always be aimed at a process of improvement and enhancement, both of the learning achieved, and of the purpose and organization of the educational program itself.

A basic scheme for evaluation in virtual environments includes four basic questions:

- What should we/do we want to evaluate?
- Why do we evaluate?
- Who evaluates?
- How do we evaluate?

These questions makes it possible for us to create a matrix for making decisions concerning monitoring and evaluation of the educational offering, including the educational objectives, strategies, and indicators for participation and learning.

No type of evaluation is absolutely better than any other. Its quality depends on how well adapted it is to the type of learning we wish to evaluate, to the people involved, and to their situation. However, it can include periodic evaluations of feedback or satisfaction, performance analysis in the virtual environment, quality of the participants' intervention proposals, questionnaires, exercises, and other methods that enable assessing intermediate and final results.

With regard to the actors participating in the evaluation, the instructors are not the only ones involved. It also involves the offering institution, considering its purposes

¹⁶ Álvarez Méndez, 1996. Citado por Celman Susana en ¿Es Posible Mejorar la Evaluación y Transformarla en Herramienta de Conocimiento? En Camilloni, Litwin, Celman, "Evaluación de los Aprendizajes en el Debate" Paidós. 1998.

and needs, the instructors and tutors, the program's designers, and the participants themselves. Regarding this last aspect, mention should be made of the value of participants' self-evaluation of their participation and performance, as a way of strengthening their reflective learning. Furthermore, participants are also involved in assessing the educational program's aim, its materials and resources, as well as their appraisal of the guidance and support given by the teacher-tutors. Thus, participants contribute actively to reviewing and revising the program.

Within the framework of this conceptual educational approach, this document aspires to define the pivotal axes and general framework of networked learning. The specifics of putting this into practice are detailed in another document about the VPHC's educational environment, to provide support, guidance, and coordination for the development of specific educational offerings.