INTEGRATION OF ITCs:
TEACHING AND LEARNING DIFFERENTLY

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While training in nursing in the new DEC-BAC program is attaining its *modus operandi*, an unprecedented technological revolution is having a significant impact in every aspect of our society, forcing the world of education to renew its teaching methods and learning tools.

The emergence and proliferation of new technologies is forcing us to examine how they should be integrated in education. However, we should be realistic in our approach. The use of these new technologies still remains widely untapped in nursing, despite the surge at the international level, despite the recommendations of the Department of Education (*1999-2000 Annual Report on the State and Needs of Education*), and despite the growing emphasis on such strategies in the college environment.

A paradigm shift to consider

The teaching of nursing is demanding because it forces us to operate at many levels simultaneously. In many cases, it remains dominated by the technical aspects of the profession. Because we are facing a paradigm shift, it is essential that our young nurses possess sufficient research and information processing skills. Education through the transmission of the "master's" knowledge is being transformed radically in a context in which *teaching* strategies are being replaced by *learning* strategies.

■ We are now facing a paradigm shift. In the present context, the transfer of knowledge has shifted from the teacher to emphasis on learning strategies.

Added value to be taken into consideration

New technologies are a significant asset because they allow us to learn in a different manner while maintaining our focus on academic and professional achievement. They are at once stimulating and help build motivation. Their use, the multiplicity of sources, and instantaneous access provide further means to develop the students' abilities. ITs provide definite advantages in enhancing intellectual research capabilities, fostering commitment to personal development, and increasing autonomy in the quest for knowledge.

These technologies bring added value to our work as teachers. They allow us to maximize training time while keeping students active and fostering memory retention

(Colette Desgent et Céline Forcier (2004), Jacques Tardif (1992) et Jean Désilets (2001)). Individual work by students also encourages customized guidance. All these factors merge to bring added value to our training.

Facing the music

We must realise that our young nurses will be working in an environment in which computers are playing an ever-increasing role. We must allow them to make a more productive use of computer technology if we are to claim that we are building the leaders of tomorrow. We must remain connected with the labour market, not behind it. This orientation should be implemented at the onset of training and be reinforced throughout the learning process. Many means are available to help us prepare teaching materials that

Advantages of ICTs

- Interesting variation of stimuli
- Increased student motivation
- Development of intellectual abilities
- Increased commitment to personal development
- Autonomy in research
- Perseverence
- Multiple sources of information
- Accessibility of information
- Maximisation of the period of training
- Increased knowledge retention
- Optimisation of time devoted to learning

are adapted to a learning-focused environment. We can get help to prepare tutorials, conceptual maps or exam questions; to develop computerized games, to submit research or readings and references. Despite the newer, more complex and more productive means available, it is vital that computers not allow us to fall into our old habits with different means. The new tools should support the learning objectives in a more efficient and diverse way. They should also boost the teachers' creativity.

The Net: a gold mine or a fool's gold?

The Internet plays a primary role among the new media. This tool makes the world accessible and provides an unparalleled wealth of information in every healthcare branch. It gives us scope on our social problems, on the mysterious workings of psychology and of human thought. A vast universe is at our fingertips. We don't even need a magic wand to uncover this treasure trove. It is available to us with a simple click.

IT paves the way for open education in a way that refers to a notion foreshadowing the complete availability of educational resources for everyone (UNESCO 1995). These technologies allow us to move from a PDE system (planning, delivery, evaluation) to what we will call a DRA system (design and regulation through accompaniment), based on research conducted by Didier Paquelin (Translation: Formatic 2004 study session). Are we not in agreement over the direction of our DEC-BAC training program?

Stakes and illusions

Caution should be exercised when facing these possibilities. We should avoid falling into an isolationist form of education. Instead, we should determine how we can, in a social constructivist perspective, make the best use of these technologies to develop virtual collaborative workspaces. Tools such as the Internet or other technologies should be considered for what they are and what they can provide. They are teaching and learning media whose potential depends on the teachers' and learners' abilities. It is the latter who should use them and exploit them to better attain the training objectives. "Information" and "knowledge" should not be confused. These media provide us with multiple sources of information, but there remains a need for selection, and thoughtful and enlightened use of available data.

The need for teacher input

Balancing technology and education is the real challenge!

Many people of the younger generation "were spoon fed" these new technologies. However, it is still relevant to raise awareness among persons who are less familiar with these technologies and to show them how to use search engines, how to conduct a search, how to avoid getting lost in the flood of information and how to be efficient. Many students still have problems identifying information that is appropriate, reliable, relevant and of good quality. It is difficult to determine within the overflow of information posted on the Web what is relevant or reliable. It is often a strenuous task to determine if the data has been updated, whether the sources are indicated, whether the document posted is in line with the original, whether it is a summary of a longer document or whether the documents can be used freely. The person who is learning how to use the net requires at least minimal guidance.

Changes in education cannot be implemented without the educators' acceptance and commitment. Their input is vital in education and technology. The goal isn't to transform teachers into computer technicians. The answer to the above-mentioned point is to provide students with support and minimal training so that they can navigate efficiently and safely in cyberspace.

In one study, two problems that are equally difficult to handle arose: a) the absence of information, and b) information overload. Online, the greatest and most annoying threat is to be confronted with a bulk of disorganized, irrelevant information.

New sites are posted every day. The student who is facing this information overload must learn to be selective. Gathering, choosing, sifting and processing information for further application are all separate activities. The teacher's role is to make sure that students aren't tricked into believing falsehoods or overwhelmed by the global overload. She must

inform students about rules and protocol to be followed when using IT tools. She must also inform them about their limits, but also focus on efficient research strategies.

Conclusion

IT tools, along with any other education strategies, have the objective of allowing each student to reach his full potential. Their cost and functioning are demanding. However, the return on investment is worthwhile. Everyone reaps benefits from them. Teachers teach differently and students learn in a different manner. That is why we must renew our teaching methods and learning tools. We must dare to be creative and defy the insecurity of "innovation, the path that is redefining us" (Freely translated from José Maria Rilke).

Text translated by: Daniel Huot

REFERENCES

- Desgent, Colette et Céline Forcier (2004) Impact des tics sur la réussite et la persévérance. Rapport de projet PAREA.
- Desilets, Jean (2001) La réussite des études : historique et piste de recherche. Pédagogie Collégiale, Vol. 14, no 4.
- Guay, Pierre Julien (2001) Les tics et l'enseignement : un tour d'Horizon. Clic no 41, octobre.
- Ministère de l'Éducation. Rapport annuel 1999-2000 sur l'état et les besoins de l'éducation, Québec.
- Pascalin, Didier. (2004) Les tics dans la formation des professionnels de santé. Quels enjeux, quelles pratiques. Conférence prononcée dans le cadre de la Journée d'étude Formatic, à Montpellier, le 3 février.
- Tardif, Jacques (1992) Pour un enseignement stratégique : l'apport de la psychologie cognitive. Montréal, Les Éditions Logiques.

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