

eLearning

Interactive Telematics Teaching

taking learner support to another level

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What makes the Interactive Telematics approach to teaching and learning powerful is more than the technology - it is potentially the social dynamics of networking. The revolutionary power of eLearning is not simply having a multimedia depository platform. It is the combined power of a world-wide web connecting the presenters and learners with the immediacy of text, audio and video, as well as interactivity and collaborative sharing.

Technology-based instruction offers leverage to make the planning/development process and the delivery/learning process more efficient. Teachers and curriculum planners can now share resources more easily and together build learning-object repositories. Multimedia and expanded resources from the network can enhance the traditional classroom experience dramatically. Online synchronous tools (Telematics) create a new kind of cyber-classroom, connecting distance learners ("anywhere in the province") in peer-to-peer engagement. Offline web-based tools (asynchronicity), on the other hand, allow for self-paced learning, enabling interactive and exploratory learning experiences that are accessible ("any time") between broadcasts and when a learner is ready.

Clearly, Telematics teaching presents an education and training revolution in terms of technological capability. But more importantly, it facilitates access and availability to quality education as never before, providing teachers and learners with a range of choices and opportunities for learning.

Educational theory divides learners into three types according to their learning styles: visual learners, auditory learners, and kinesthetic learners (Al-Takriti, 1997).

Fortunately, the emergence of the Internet and technology-based instruction, Telematics teaching for example, has provided new tools and channels to respond to these learning needs. We require information-era communication, teaching and learning methods to deal with the demands of the Information Age. This is supported by an article written by Celilia Kang (Cape Argus, 22 January, 2010), in which she claims that "Kids are plugged in more than ever before". The article asserts that young people, on average, spend up to seven-and-a-half hours a day using electronic media or more than 53

hours a week. Education must, therefore exploit this opportunity to meet learners on their turf. Thus, in the post-modern paradigm, meaning is constructed. However, the limited constructivist vision that we have is far exceeded by the possibility of technology and Telematics and a curriculum which creates opportunities.

Interactive Telematics Teaching is a 21st century response to learner/teacher support. In 2009 the Western Cape Education Department trialed Telematic Teaching in 10 identified schools by broadcasting lessons to Grade 12 learners in five subjects. The success of this trial project led to its extension being approved by the Head of Education in 2010.

The trial project, currently being extended to 120 schools in the eight education districts, can potentially reach 14000 learners.

"MEMBERS REFLECT THE DEMOGRAPHICS OF SOUTH AFRICA AND CELEBRATE UNITY WITHIN CULTURAL DIVERSITY."

The principle purpose for this intervention is to create a virtual learning environment to support teaching and learning to Grade 12 learners. This cyber-classroom lie sprawled across diverse geographical areas where lessons are broadcast from the studio at the University of Stellenbosch to learners who have the opportunity to communicate and have immediate access to the presenter.

The uniqueness of this programme is that it creates a platform for dialogue and interaction with the presenters as well as others. This virtual classroom platform makes it possible to reach a large number of learners and provide them with quality individual tutoring. Learners at any one of the 120 schools, are able to, via interactive internet facilities, "interrupt" the presenter to ask questions or request a detailed explanation of the educational material, when necessary.

The subjects being broadcast are; Mathematics, Physical Science, Life Sciences, Accounting, English First Additional Language and Afrikaans First Language.

In addition, six hours will be devoted to Geography lessons in map work and theory.

A professional development programme for teachers will be trialed in Mathematics and Life Sciences. Two hours per subject have been allocated for this purpose.

All lessons will be recorded on DVD and sent to schools at the end of the third term for revision purposes.

Schools will receive lesson plans to assist teachers in preparing learners for the broadcast.

Teachers will support learners before, during and after every broadcast in order to stay focussed and maximise this intervention.

The University of Stellenbosch developed a website where resources would be uploaded. The Senior Curriculum Planners of the six subjects have developed learning support material for learners which is to be used during the lessons. The Life Sciences materials will be uploaded on the website and schools can print this for their learners.

In conclusion, Telematics is a blended approach to teaching and learning i.e. face-to-face (classroom activities - before the broadcast) and the Interactive Telematic Education satellite-based platform. The University places much emphasis on using the advantages of different types of technologies to support learners more effectively and to promote access more successfully. Presenters are encouraged to use a variety of teaching approaches/styles that range from synchronous interaction (satellite-based technology) to asynchronous interaction via the LMS discussion groups. In this way they can effectively reach their learners through the broadcast but at the same time provide continued support and tracking via web-based interaction. In this process, it is the type of access available to the teachers and learners and the available technological infrastructure that determines the blend of activities.

The rationale for Telematics is to add value to lessons taught and not provide more of the same. Consequently, presenters will work towards this approach throughout the period till October when the programme comes to an end. Presenters have selected the challenging aspects of the curriculum and will systematically unpack concepts for learners to engage with.

We look forward to seeing this programme impact on the overall performance of our learners and want to strongly encourage them to embrace this opportunity. We also depend very strongly on the cooperation of principals and their staff for the success of this project.



THE TELEMATIC MAGIC

Mandlenkosi Secondary School in Beaufort-West recorded an 11,2% improvement in their 2009 matric results. School Principal Tamsanqa Pandle said the staff, learners and Beaufort-West community are heavily indebted to the WCED, in collaboration with the Stellenbosch University, for bringing the Telematics Project to their doorstep.

How Mandlenkosi benefited from this project:

- It promoted teambuilding among educators and learners.
- Concepts and approaches that the educators and learners were struggling with, were simplified.
- It augmented contact time and instilled a culture of learning and studying at the school
- Even after contact sessions, educators and learners continued with revision.
- This boosted the confidence of learners and educators.
- It brought a culture of interactive teaching and learning into the classroom.
- It improved the pedagogy in the classroom.
- It dawned on learners that there is a whole community out there to reach and touch and that this could be done effectively using information and communication technology (Telematics).
- The self image of the learners improved. Learners were assisted with examination tips, explanation of difficult concepts etc.

➤ Parent involvement in the school work of the child was improved. Parents wanted proof that their children were attending these classes. Some parents came to school surreptitiously in the evenings to check on their children.

➤ SGB members assisted a teacher in the supervision of classes. The school gained important technological equipment e.g. Data-projectors and connectivity.

➤ There was an **11,2%** improvement of the final 2009 matric results:

1. **100%** improvement in Mathematics
2. **23,4%** in Accounting
3. **14,5%** in Life Science
4. English 1st Additional Language obtained a **98,3%** pass.

Other subjects were also influenced e.g.;

- **5,6%** improvement in Business Studies
- **18,9%** in Geography
- **6,9%** in History
- **11,7%** in Mathematics Literacy
- **38,5%** in Tourism

➤ Learners have experienced enriched learning experiences. Various outcomes were achieved. Learners learned how to write different kinds of texts for different purposes and audience.

VIVA TELEMATICS VIVA!!!!!!