Implementing Telelearning: Decision Support for Instructors, The TeleTOP project

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Summary:

- One of the telelearning initiatives at the University of Twente in the Netherlands is the TeleTOP project at the Faculty of Educational Science and Technology. The overall goal of the project is to stimulate the innovative and appropriate use of telematics for learning purposes within the faculty in order to make the educational delivery more efficient, more enriched, and more flexible. In practice over 30 existing courses will be modified towards WWW-based courses. A decision support tool is developed and used during individual meetings between instructors and the technical team, thereby involving the staff of the faculty. The decision support tool makes it easier for instructors to make decisions with regard to the components that they need in their WWW-based learning environment. In practice, the instructors and the team use the decision support tool and decide what can and will be adapted in the existing courses. The next step is prototyping a first concept of the adapted course. This adapted course will show the possibilities of a WWW-based course and is presented to the instructors. The second prototype will comprise actual course materials and is subject to discussion. This process will go on until the final version of the new adapted course is finished.
Strand 2: Innovative Delivery: Methods and Approaches

Introduction to TeleTOP

- Flexible and enriched education, attracting more and diverse groups of students, using telematics in education, offering high-quality education, keeping contact between instructor and student; these are all major topics in Higher Education today. Universities see the need to adapt their education in order to attract more students and to be in a good position in the educational market. Using telematics seems the major means to facilitate the needed change in education.

The University of Twente in the Netherlands is known for its strong telematics profile and its capacity to offer an extensive telematics-enhanced educational program. Research and practical experience with regard to telelearning is one of the expertise of the university. At the Faculty of Educational Science and Technology (called, in Dutch, by the letters TO) the TeleTOP project is currently showing this expertise by adapting the faculty's courses to a more telematics-enhanced curriculum. TeleTOP, TeleLearning at TO Project, has as overall goal to systematically support the professional development of the faculty in terms of potential telematics-applications in their teaching, and to carry out the re-design of approximately 30 courses so that education becomes more efficient, more enriched, and more flexible.

TeleTOP and staff involvement

- Adapting the curriculum at the Faculty of Educational Science and Technology is not just an imposed management change; all instructors are involved in the process. This started with information and hands-on sessions. During the information sessions the instructors were informed about the goals of the project and about the need for an adaptation of the curriculum. The idea of pedagogical re-engineering (Collis, 1997, Collis & Fisser, 1998), where each course is examined in terms of opportunities to provide more flexibility while retaining its strengths, was discussed. The hands-on sessions were meant for instructors who wanted to become familiar with aspects of using a WWW environment to support new didactics of instruction by actually using such an environment in practice.

During the information and hands-on sessions it became clear that the staff were very interested in changing their course(s). Instead of the intended 15 first-year courses, there are now approximately 30 courses from different study years under adaptation and their number will probably grow even more. Next to the regular study program courses, the courses from the faculty's MSc Programme 'Educational and Training Systems Design' are also under adaptation according to the TeleTOP method. This means a big success for the telelearning pioneers of the faculty.

Although the TeleTOP team consists of professional members, (including a chair who is the Professor of telelearning in the faculty, the director of the faculty's computer laboratory, five educational technologists, a webmaster and a database specialist) adapting 30 courses means much work for the TeleTOP team at supporting the instructors. The instructors need to know what is possible in a WWW-based environment (with respect to communication, course material delivery, student progress administration, etc.) and they need to know what tools will enable the flexibility options for his course. Most instructors probably cannot make decisions of this order without professional assistance. Therefore the TeleTOP team has to assist the instructors and show them good examples of what is possible in a WWW-based environment in order to make good decisions. This is done during individual instructor meetings where a Decision Support Tool is used.

Making aspects of a course more flexible

- As briefly mentioned above, the idea of pedagogical re-engineering is used during the adaptation of the courses. Each course is examined in terms of opportunities to provide more flexibility within the course while retaining its strengths. An important aspect with pedagogical re-engineering is maintaining the 'old value' of good teaching. The instructor
will not be replaced by telematics applications, but
telematics can be used to support the good teach-
ing.

Which parts of a course can be supported by
telematics? We divide a course in 6 different com-
ponents: a) general course organisation, b) commu-
ication, c) lectures/instructor presentations, d) self-study and practice, e) collaborative projects and f) testing. With the help of the Decision Support Tool the current practice and strengths of the differ-
ent course aspects are examined and aspects that
can be made more flexible and extended by telem-
atics are identified.

The Decision Support Tool

- The primary goal of the session in which the
  Decision Support Tool (DST) is used is to interact
  intensively with the instructor whose course is
  being re-designed, trying to identify which ideas
  and approaches are most likely to be acceptable
  and interesting to the particular course of the
  instructor and his/her way of teaching. The second
  goal of the DST session is to respond with ideas
  and suggestions, as well as to skip suggestions
  which do not seem like they will be comfortable
  for the instructor. The tool makes it easier for
  instructors to make decisions with regard to
  making (some of) the course components more
  flexible in the new WWW-based learning environ-
  ment. The instructor needs to decide what he
  thinks is appropriate for his course. But at the same
time, the instructional designer of the TeleTOP
  team responsible for designing and building the
  WWW-based environment needs to be well
  informed about the instructor’s wishes and deci-
  sions.

Therefore, an appointment for one hour was made
with all instructors participating in the TeleTOP
project. Two TeleTOP team members took part in
the interview with the instructor physically present.
Because the DST is available on the Internet (pass-
word protected), a computer with an Internet con-
nexion is used during the interview. First the team
members explain to the instructor what the goal of
the session will be. Secondly the DST is intro-
duced. The DST tool is designed as a tool for
support of a structured interview and will able the
instructor as well as the team members to make
decisions in a structured and organised way. The
six different aspects of telematics course support
can be seen as the components of a course. The
components can be subdivided in smaller and more
specific tools and functionalities.

Taking the first component of a course, ‘Course
overview’, the instructor will be asked for instance
if he prefers a roster in his Web-based supporting
course environment. Some of the instructors do
not have a clear picture of what has been asked and
they might want to see the example which the
DST will provide. After the example the instructor
has a clearer picture of what is meant by a roster
and the functionalities. This will enable the
instructor to make a more considered answer to the
question. Figure 1 shows a part of the DST with
an example window.

![Figure 1. The Decision Support Tool with an "example"
window.](image)

In a similar way all six course components are dis-
cussed by the instructor and the team members.
The questions of the DST are discussed and exam-
les are used as a clarification and a better under-
standing of what is meant by the questions. After
answering all questions of the DST and discussing
the components and examples, the DST automatic-
ally generates a "decisions made" form. This form
is available in the DST environment and is printed
out for the instructor. Figure 2 shows the home-
page of the DST where all instructors can find
their courses and the answers to the questions with
regards to the choices made. The instructor is able
to compare the choices he has made with the
choices of his colleagues. By comparing his course
and the chosen options of the other courses, the
instructor can get more ideas for his own course and he has the possibility to reconsider his own choices. The option of changing the decisions is always there, so that instructors do not need to feel compelled once they have worked with the DST.

Figure 2. The Decision Support Tool home page where the instructors can find the "decisions made" output.

The "decisions made" form, which is unique for every individual instructor, will be the base for the next step. Within a few days after the DST session, the TeleTOP team will make a first prototype of the course, based on the decisions made. After the development of this prototype two members of the TeleTOP team visit the instructor in his office, and conduct a walk-through of the first prototype of the course WWW site, further discussing the ideas and reactions of the instructor. An example of a first prototype is shown in Figure 3. In this case it is a part of the course 'Virtual Reality' with the course component 'Course overview' with the functionality 'newsflash'.

Working with a decision support tool is a convenient way for the instructor to think about the possibilities which correlate with changing his or her course and supporting it via the Web. By structuring the questions all aspects of a course will be treated and this will help both instructors and the team which is responsible for the technical realization of the environment to continue with the next prototype of the course.

Figure 3. An example of a first prototype of a course, based on the decisions made with the DST.

Conclusions

- A Decision Support Tool is a good way to involve instructors in extending the courses of the faculty by adding telematics applications. Reaching more flexibility, efficiency and enrichment in a course are the main goals for using telematics as support for the teacher. Replacing the instructor is not, and will not be, the future. Keeping contact between the instructor and the student and stimulating contact among students is important in the learning process. Giving the possibility to students to discuss the learning material with each other and with experts is of utmost importance for the student to become a professional. The instructor with his expertise has to decide which aspects of the course can and should be supported with telematics. After all, the instructor is the one who coaches the learning process.
References


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