

E-learning voor docenten: samen online leren over online samenwerken

Daniëlle Verstegen (d.verstegen@maastrichtuniversity.nl), Gaby Lutgens (g.lutgens@maastrichtuniversity.nl) en Katerina Bohle Carbonell (k.bohlecarbonell@maastrichtuniversity.nl)

Contact

Dr. D.M.L. (Daniëlle) Verstegen
Vakgroep Onderwijsontwikkeling en - onderzoek
Faculty of Health, Medicine and Life Sciences, Maastricht University
Postbus 616, 6200 MD Maastricht
d.verstegen@maastrichtuniversity.nl

ORD Samenvatting

Het project 'UM E-teacher program' maakte gebruik van ervaringen binnen het SURF-project MARCH-ET¹, en zocht daarnaast naar aansluiting op de lokale context. Een van de modules betrof het inzetten van online tools voor samenwerkend leren. De opzet van de module sluit aan bij het proces van onderwijs(her)ontwerp en de leerprincipes van PGO. Uit de evaluatie blijkt dat de opzet van de module geschikt is. De directe aansluiting bij de eigen onderwijspraktijk en de concrete ondersteuning van de moderatoren werden gewaardeerd. Tijdsinzet van docenten bleek een van de grootste problemen. In de toekomst wordt gewerkt aan verankering in de organisatie en ontwikkeling van docentprofessionalisering op het grensvlak van training en consultancy.

Toelichting

Hieronder vindt u de Engelstalige projectrapportage. De bijlages waarnaar wordt verwezen zijn niet opgenomen. Desgewenst zijn deze beschikbaar via de eerste auteur.

Content

Executive summary'..... **Error! Bookmark not defined.**

Content 1

Introduction..... 3

Design of the module Collaborative Knowledge Building 3

 Input from the project proposal 3

 Evaluation of the March-ET module 4

 Design decisions and assignments 4

Evaluation 6

 Data..... 6

 Results: participants 7

 Results: execution of the module 7

 Results: experiences of the moderators 9

 Results: experiences of the participants.....10

Conclusions and suggestions for improvement12

 General set-up12

 Improvements to the design of the module13

 Workload13

Introduction

The project 'UM E-teacher program' was proposed as a reaction to a number of developments, such as:

- Internationalization;
- Life-long learning;
- New ICT tools in learning environments, and
- The idea that teachers need to be prepared to face these developments.

More and more Maastricht University targets different groups of learners such as part-time (working) students, alumni or post-academic students. New ICT tools, such as wikis, blogs, videoconferencing and virtual classrooms offer possibilities to support online learning activities for distance students as well as learning activities for on-campus students. The use of such tools requires new competencies of teachers, though. The project 'UM E-teacher program' concerns the design and evaluation of structural solutions for teacher training in the domain of e-learning.

The project 'UM E-teacher program' has been commissioned by the executive board within the program of the task force e-learning. The project aims at the design and evaluation of three modules to train teachers and raise awareness amongst managers:

1. Module on distance education for teachers;
2. Module on (designing for) collaborative knowledge building for teachers; and a
3. Module on implementing and facilitating e-learning for managers

The project 'UM E-teacher program' is executed by SBE (project management, lead in module 1 and 3), FHML (lead in module 2) and UB (support). It is designed to make use of experiences from the national SURF-project March-ET¹, transferring these to the local setting at Maastricht University.

This report concerns the second module on (designing for) Collaborative Knowledge Building. The project team for this module consisted of Daniëlle Versteegen, Gaby Lutgens² and Katerina Bohle Carbonell.

Design of the module Collaborative Knowledge Building

The design of the module is based on two sources of input: the description of the goal of the module and some requirements in the project proposal, and the evaluation of the already existing March-ET module about collaborative knowledge building by the project team. Based on this input design decisions were taken and the content of the (March-ET) module was adapted.

Input from the project proposal

In the project proposal the goal of the module *Collaborative Knowledge Building* is described as follows (translated from Dutch):

- Teachers learn and experience the different possibilities of ICT tools for collaborative knowledge building (such as mobile learning, wiki, web lecture, blog, podcast, vodcast, discussion forum, MyDelicious, twitter, RSS, etc.).
- They get more insight by reading literature, discussing advantages and disadvantages of the different tools and describing their didactical value.
- Teachers develop skills by applying tools of their choice and learn to make a didactically sound choice of tools using a checklist.

According to the project proposal expected results are:

¹ March-ET / *make relevant choices in educational technology*, is a national project about professionalizing teachers in higher education in the domain of e-learning tools financed by SURF. Maastricht University participates in March-ET.

² The involvement of Gaby Lutgens in this project is part of the e-learning DVO with FHML.

- Technical knowledge about tools;
- Didactical knowledge about using tools in education;
- New instructional designs in which tools are used;
- Reflection on and evaluation of the new instructional designs; and
- Good practices: experiences of different teachers regarding tools for collaborative knowledge building.

The project proposal also poses some additional requirements:

- The work load for participants should not be more than 25 hours;
- The pilot of the module should take place in the second half of 2010; and
- In the future the module should be, in some way, related to other teacher training efforts of Maastricht University.

Evaluation of the March-ET module

The project team inspected the already existing March-ET module on Collaborative Knowledge Building and identified the following points. Seen as very positive were:

- The fact that a personal teaching/educational problem of the participants was taken as the starting point for learning; and
- The limitation of the number of tools included.

For the implementation of the UM module 'Collaborative Knowledge Building' the following recommendations were made:

- To clearly link the module to the situation at Maastricht University, for instance with literature related to PBL and active learning, by a dedicated discussion about the role of PBL learning principles in the context of this module or by introducing those tools that are or –in the near future- will be available in the local learning environment EleUM;
- To describe (more) explicitly the goals of the module, the focus on the role of the teacher in the role of instructional designer and the reasons for the chosen tools and the set-up of the module;
- To make sure that the participants work with all the selected tools during the module since learning-by-doing is the best way for them to experience the added value and the consequences of using them;
- To ask participants to introduce themselves and the teaching/educational situation they want to work on (in order to give more context) and to try to make teams or pairs of participants who are facing similar problems or situations;
- To limit the theoretical background to a minimum (given the limited workload) while providing some additional relevant literature for those who are interested.

The project team further stressed the importance of the role of the moderator. If the workload for participants needs be limited to 25 hours the moderator will have to guide the participants in their instructional design process, e.g. by asking questions which stimulate the way of thinking from the perspective of an instructional designer. This means that the moderator needs to be active, intervening frequently, and must be an experienced instructional designer. An additional suggestion was to consider adding a video lecture about instructional design.

Design decisions and assignments

Based on the input described above the team decided to select tools that are or will be available in the UM learning environment, to focus on ICT tools to stimulate collaborative learning (because this is an important aspect of PBL), and to limit the number of tools to four: blog, wiki, virtual classroom, and discussion forum (with the option for participants to suggest other tools to be included). Given the limited workload for participants the amount of literature was limited and focused on one of the assignments (concerning the changing role of the teacher).

Within the larger scope of the project 'UM E-teacher program' the distinction between the two modules for UM teachers was made more explicit as follows: the first module (Distance Education) was targeted at teachers who would like to have a first experience with online courses and how to behave as a teacher in them, and the second module (described in this report) would be targeted at teachers that have concrete plans to use such tools in their own courses. The assumptions were that participating teachers would have little to moderate experience with these tools and would be teaching in regular or distance-based bachelor/master programs.

Following similar learning principles to PBL the module is designed in such a way that participating teachers actively use all the selected ICT tools (constructive learning) taking a personal teaching/educational problem as the starting point (contextual learning). The assignments enforce collaboration between participating teachers in the form of peer feedback, while giving them as much freedom as possible to learn about and work with tools that are relevant for them. The assignments are based on standard instructional design models which means, amongst others, that participants are asked to first analyze their educational setting, to describe their goals and to think about suitable learning activities before they select which ICT tools are most suitable. Given the limited time available the module does not include the implementation and the evaluation of the new instructional design.

The screenshot shows the Blackboard 9.1 interface for a course titled 'Collaborative Knowledge Building'. The main navigation bar includes 'My Learn Plus', 'Courses', 'Organizations', 'Content', and 'Services'. The current page is 'Content > 1. Kick off: getting to know each other'. The left sidebar contains a navigation menu with 'Collaborative Knowledge Building' expanded, showing 'Home Page', 'Introduction', 'Contact information', 'Help Files', 'Content', 'Assignment 1-7', 'Literature', 'Assignment 6-7', 'Discussions', 'Groups', 'Blog', and 'Wiki'. The main content area displays the following information:

1. Kick off: getting to know each other

Kick-off: getting to know each other

Period: week 1 (1-4 november)
 Estimated time: 2 hours (1 hour preparation, 1 hour videoconferencing)
 Tools: videoconferencing (set date on Thursday 4 November: 10.30-12.00)

Goal:
 The participants and the moderators will introduce themselves during a videoconferencing session.

Tasks:

- Prepare and upload a short Powerpoint presentation (max. 5 minutes/5 slides); and
- Present during videoconferencing session on November 4.

Prepare a presentation

1. Make a Powerpoint presentation (max 5 minutes / 5 slides) in which you pay attention to:
 - Who are you and what is your educational role / task?
 - Why did you register for this module?
 - Is there a specific problem / situation you want to change?
 - Do you think using interactive ICT tools can add value or contribute to further improvement in your work?

Figure 1: The module implemented on the test server with Blackboard 9.1.

The learning goals for the module were formulated as follows:

At the end of this module, you will be able to:

- *make an informed decision regarding the use of interactive ICT tools*
- *redesign your course using one or more interactive ICT tools*

- *take into consideration the (changing) roles of teaching staff when interactive ICT tools are used*

The assignments, the background material and the selected ICT tools were all available in a course in Blackboard 9.1, running at a test server at UM at the time (see Figure 1). One of the moderators conducted a brief intake interview with each participant before the start of the module in Elluminate. The goal of the intake interview was twofold:

- An inventory of the participant's background and involvement in education, and
- To test and practice with Elluminate.

The pilot module consisted of seven assignments (appendix with full text of the assignments not included):

1. Kick-off: getting to know each other (estimated work load 2 hrs)
The participants and the moderators will introduce themselves with a short PowerPoint presentation during a synchronous session in Elluminate (virtual classroom).
2. Elaborate your plans: towards an instructional design (estimated work load 5 hrs)
The participants use a blog to start the development of a new educational scenario. They are asked to analyze further what their problems or areas for improvement are, to think about limitations, resources, risks and assumptions, to choose suitable learning activities, and describe briefly how they would like to execute them.
3. First peer review (estimated work load 1,5 hrs)
The participants read each other's blogs and give comments and/or suggestions. The moderators also give feedback and comments.
4. Exploring tools and their applicability in a context (estimated work load 6 hrs)
The participants explore the selected tools and reflect on their advantages and disadvantages in a wiki. Subsequently they describe in their own blog which one(s) would best suit their own needs.
5. Discussion: the (changing) role of teachers (estimated work load 5 hrs)
The participants and the moderators use a discussion forum to discuss about the changing role of the teacher when interactive ICT tools are used. A short annotated reference list is provided and participants are asked to search one additional resource.
6. Elaborate on the instructional design (estimated work load 4 hrs)
Participants elaborate their plans further into an educational scenario that can be the basis for implementation. A checklist with points to consider is provided.
7. Second peer review (estimated work load 1,5 hrs)
The participants read each other's blogs and give comments and/or suggestions. The moderators also give feedback and comments.

Evaluation

The module Collaborative Knowledge Building was evaluated in a pilot study. The project team acted as moderators. The pilot module was announced through digital channels and additionally potential participants were invited personally. For this purpose an introduction text was used (appendix not included). The target number of participants for the pilot study was 6 to 8.

Data

The following evaluation data were collected:

- Execution of the module: problems, remarks, and (reasons for) drop-out;
- Experiences of the moderators noted down during and after the module;
- Questionnaire to the participants after the module (based on the March-ET project); and
- Focus group/individual interviews with the participants

Results: participants

Nine teachers subscribed to the module. Two of them did not actually participate, because –according to them- they did not have enough time (one stopped after the intake interview, the other one just after the kick off session). The remaining seven participants were five female and two male UM teachers. Two of them work at the university’s language centre which provides language courses for staff and students. Two of them are teachers who are also involved in e-learning projects at UM.

One of the participants dropped out half way the module (during Assignment 4) and mentioned two reasons: time pressure and the fact that she had expected more technical information about (selecting and implementing) the tools. Another participant dropped out a week later (during Assignment 5) and she mentioned as reasons: time pressure and the fact that she had discovered that she would not be able to implement her new design because of faculty regulations. The remaining five participants finished the module.

Results: execution of the module

The module was scheduled to run from November 1 to December 16 (six weeks). There were no major problems concerning the execution of the module. Inspection of the interaction in the learning environment shows that participants were far more active during the first four weeks, even when the deadline for the last two assignments was extended (N.B. this was done because participants mentioned high workload before Christmas holidays).

The first assignment was a kick-off meeting in the virtual classroom Elluminate (see Figure 2). The short PowerPoint presentations of the participants were uploaded beforehand by one of the moderators. The participants each gave a short presentation and answered questions. During the session the moderators had different roles: one chaired the session, one took care of organizational issues and watched the chat window, and one helped one of the participants to solve technical problems and join in.

Figure 2: screen shot of the kick-off meeting in the virtual classroom Elluminate.

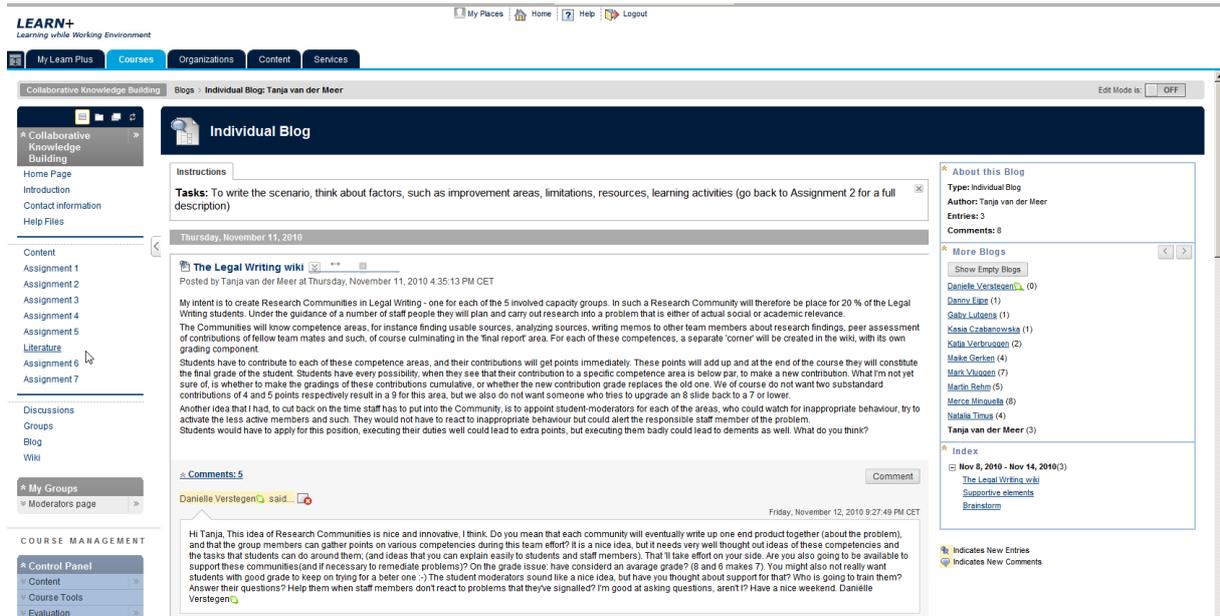


Figure 3: Screenshot of the blog of one of the participants and a comment from one of the moderators (other reactions from fellow participants followed).

After the kick-off meeting reminders were sent on the start of each new assignment. Half way the time period of the second assignment the moderators started to react to blog entries of participants (see Figure 3). To stimulate participants to first focus on didactical issues (such as designing suitable learning activities) the moderator did not address technical issues, but took the role of an instructional designer. This was explained to participants in an e-mail. Two questions of two participants indicate that they were looking for more lay-out options in the blogs (i.e. to reorder contributions and use styles).

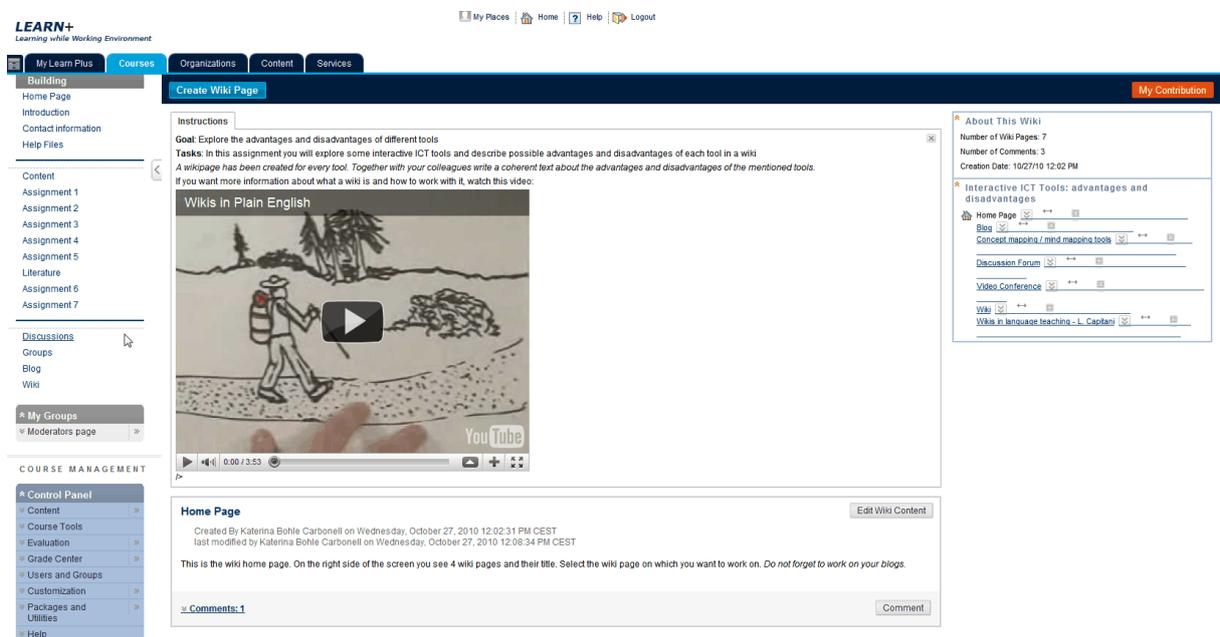


Figure 4: screenshot of the first wiki page about wikis

For the fourth assignment a wiki page was set up for each collaborative ICT tool to be discussed, i.e. discussion forum, blog, wiki, Elluminate (see Figure 4). A request from one of the participants led to a fifth page on concept mapping tools. The pages were structured with the headings 'general advantages/disadvantages' and 'applicability to my set-up'. The moderators reacted to the contributions of the participants in the wiki-pages and shared their knowledge and experiences. In order to provide an overview of

information from all the contributors the moderators prepared a summary at the end of the module (appendix not included).

Figure 5: The discussion forum as used in Assignment 5.

The discussion forum about the role of the teacher in Assignment 5 (see Figure 5) did not show much activity by the participants, but it is not clear whether this was caused by the assignment or by the general lack of time of participants (and moderators) in December.

Results: experiences of the moderators

The moderators had not much prior experience with Blackboard 9.1, nor with the specific blog, wiki and virtual classroom. This did not seem to cause major problems, though.

The scheduling of the pilot study was prescribed by the project plan. All three moderators were limited in their time in this period because of other work obligations. In practice, this meant that tasks were divided: two moderators alternated in coaching participants through the assignments and the third was responsible for the intake interviews and the more technical aspects (such as constructing the module in Blackboard 9.1 and answering technical questions). The first two moderators felt that time limitations had somewhat hindered their optimal contribution in those assignment that they were not the main responsible for.

Joining and participating in the kick-off session caused no problems except for the one participant that had not practiced with Elluminate during the intake interview. The role division between moderators worked well. It is easy to get distracted by what happens in the chat window and it would be impossible to listen, watch the chat window and solve problems at the same time. Other experiences were that 1.5 hours is quite long for a

videoconferencing session and that a session with this number of participants (12) needs strict management of turns. It is a limitation that only six participants can be visible in the videoconferencing window. During the session it seemed advisable to make sure that at least the presenter and the session chair were visible. For the two participants that were not using a headset the sound quality was disappointing; this made strict management of the microphone necessary.

During Assignments 2 and 3 there was a lot of activity and interaction in the blogs, also between participants (although some were more active than others). It seemed to be quite difficult for participants to get very concrete about the kind of learning activities they were envisioning. They were inclined to focus on more technical issues immediately (N.B. this was not unexpected but similar to previous experiences of the moderators). A few participants were worried that they could not finish assignments in the scheduled time. It might be helpful to inform participants more explicitly that the blogs and wiki are going to stay open during the whole module.

There are some technical issues related to the blogs in Blackboard 9.1: editing facilities are limited, it is difficult to see whether an existing entry has been edited because its status does not change to 'new', the status 'new' of entries and comments seems not to work consistently, and a blog that was intended for moderators only appeared visible to all participants anyway.

During Assignment 4 it became clear quickly that participants did not like the fact that they could not see who had written which contribution on the wiki pages. This was solved by proposing to add a name to each contribution. The moderators, felt, however that a wiki may not be the most suitable medium for this assignment.

Results: experiences of the participants

Three participants participated in a focus group interview two weeks after the end of the module. Those who could not be present were approached for an individual interview. This resulted in experiences of six participants in total. One participant was not available within the scheduled time period (N.B. this was one of the drop-outs). The questions that were used to guide the interviews (appendix not included).

Five of the seven participants filled out the questionnaire that was sent out after the module (four participants that finished the module and one of the drop-outs). These data are not presented separately, because the number of respondents is low and their answers show high variability on many questions. Questionnaire results are only used as an illustration where relevant (appendix not included).

In general, participants stated that they had enjoyed participating in the CKB module. Most participants liked the flexibility and the combination of synchronous (also online) and asynchronous collaboration. They particularly enjoyed the focus on their own teaching needs or problems and working on a design that they can directly use in their own teaching practice. The comments of the moderators were motivating and stimulated participants to rethink and make their course design more concrete. The support of the moderators also scored high in the questionnaire. Participants were positive about the prompt and critical reactions on their blogs, but a few of them were concerned that this would be threatening to other UM teachers (not themselves). A solution would be to give moderator feedback privately and give participants the chance to improve their blog contributions before opening them up for comments from other participants. Other participants, however, did not think this would be necessary. One participant felt that comments of the moderators were not evenly spread and that some received better feedback than others.

Some participants had expected more focus on practical tips and technical or implementation issues. This is possibly the cause for the low scores on questions about meeting expectations in the questionnaire. The name Collaborative Knowledge Building is not very suitable, and could be changed into something like "building a course with ICT",

“using blogs and wikis for education”, “designing online courses”, how to build a course that uses ICT, or “e-teacher something”.

The background and prior experience of participants differed quite a lot. One participant felt that she was more experienced in the field of interactive ICT tools, and could therefore not benefit as much as the others. One teacher struggled with language problems (this showed up in the questionnaire). In general, the participants noted that they were not representative for the target group of UM teachers since two of them were involved in e-learning projects already and two of them were not teaching in regular bachelor or master courses but at the university’s language centre (which also means that they have more background in education and didactics than most other UM teachers). One participant suggested a more explicit check of ‘do I fit in the target group for this course’. Participants also suggested to link the module to the BKO³.

Inspection of the learning environment shows that not all participants were equally active: some hardly gave feedback and never answered questions posted on the blog, others were very active. During the interviews participants confirmed that they would have expected and liked more interaction (and this was visible in the questionnaire results as well). The participants were positive about the peer feedback assignments, but added that it was sometimes quite hard to comment on the blogs of others because of the differences in domain and setting. Maybe more information about the background of participants would help to understand their situation. Participants suggested to offer the course separately for each faculty or to group participants in another way so that they can understand each other’s course designs. One participant suggested that there should be a required minimum of comments in peer review assignments.

During the interviews all participants agreed that the work load of the module was more than 25 hours; estimates ranged from around 30 hours in total to 40 hours for the first three assignments alone. This is in contrast with questionnaire results where participants estimated to have spent 15-20 hours. The interviews and the dropping levels of activity during the module make clear, however, that the work load was too high alongside their regular teaching activities. The experienced lack of time probably explains why participants were not satisfied with their own contributions (questionnaire results). Participants suggested that either spring or before November (just before or after the summer holidays) might be a more suitable period.

The time span between assignments may also have been a bit tight. It takes time to think and reflect and then write, to comment on the blogs of other participants and to respond to their comments. Sometimes you are too late or too early for the discussion.

As described in the previous paragraph the use of literature was focused on one assignment, i.e. a discussion about the (changing) roles of the teacher when interactive ICT tools are used. Participants were asked to pick at least one of the resources provided in an annotated list of suggested readings and to find and add one resource themselves. During the interviews participants stated that they appreciated this list of suggested readings, but that there were far too many resources on it. It took them too long to scan the abstracts and see which article was helpful/relevant. Maybe it would help to group or categorize articles or to have one mandatory reading and the rest optional. Inspection of the discussion forum also shows that the contributions of the participants to this discussion were minimal, probably because of time limitations (see above). Together this explains the low scores on the quality of the learning material in the questionnaire.

³ Basis Kwalificatie Onderwijs, the standard teacher training trajectory at UM

The participants experienced no or only minor technical problems. Some clarification of the technical requirements would be beneficial. Participants also mentioned that notifications upon others having contributed were and would be helpful. In the comments on blogs and on the discussion board it would help if colours had been used to make visible who contributed what (e.g. different colours for different moderators). One participant remarked that using the new ICT tools was not easy at first. For novices, she said, it would be helpful to have best practices or “mother examples” and tips on how to start with ICT in education.

Other comments regarding specific assignments:

- Assignment 1: the videoconferencing session was regarded long, maybe shorter or twice; participants liked Elluminate.
- Assignment 2: the blog is a nice tool to do something like this, but the blog in Blackboard 9.1 has limited facilities compared to others that are available (and already used by some participants).
- Assignment 4: opinions vary; according to some it was very productive and nice to analyze advantages and disadvantages of tools; one participant suggested to replace it with just information about the tools, however; different levels of prior knowledge are very clear in this assignment.
- Assignments 5, 6 and 7: most participants were too pressed for time to spend enough attention to these assignments.

One participant commented that it was not clear to her what exactly she was supposed to discuss in her blog for Assignment 2 and what could be postponed to Assignment 6. It would also be nice if it was more explicit which of the moderators is an expert in which field, so that you know whom to approach.

Conclusions and suggestions for improvement

General set-up

The evaluation of the pilot module Collaborative Knowledge Building shows that the general set-up of the module is suitable for its purpose. Participants really enjoyed working on a solution for their own problems and they were happy with the concrete support, in the form of feedback and suggestions, from the moderators. The set-up of this module is on the border of training and consultancy, and this can be seen as a positive point. A further improvement could be to explicitly discuss follow-up with each participant at the end of the module to make sure that participants know where to go for further support.

Cost efficiency might be an argument to look for opportunities to professionalize teachers in the domain of e-learning at a national level or on the internet. The model of combining teacher training and consultancy would be an argument, however, to provide a module like this locally at the UM. Another argument for this is that many other educational institutes employ very different educational concepts. Their information and examples might be less suitable for and possibly in conflict with principles underlying Problem-Based Learning. A third argument would be the experience of participants in this pilot module, who already found it hard to understand what fellow UM teachers working in another domain were doing. They argued for even more targeted training, for example per faculty. The project team is not sure that the target group at any given moment would be large enough to make this possible and would like to try first in how far a larger set of examples from different domains could help to overcome this problem. It might also help to pair up participants working on similar designs.

Improvements to the design of the module

The project team's efforts to be very explicit about the goals of the module and the focus on the role of the teacher in the role of instructional designer were not yet sufficient. Further suggestions for improvement are to add an explanation or short video-lecture about instructional design in order to explain and underpin the chosen sequence of assignments and to build in an explicit moment at the start to check with each participant whether this module will satisfy his or her expectations.

The fifth assignment (a discussion about the role of the teacher based on literature) did not run as expected. One reason was that participants did not have time to read or scan any literature. Another reason may be, however, that this assignment is of a different nature than the other assignments which are all closely related to the participants' own redesigns. Suggestions include to manage literature differently (one obligatory article or each participant reads a different article) or to base the discussion on the participants' experiences and opinions and let the moderators contribute findings from literature. It might also help to change the format into a synchronous session, for instance using Elluminate.

An improvement that participants asked for is to link more practical and technical information about the tools to the module. The project team would be in favour of a central place to collect practical and technical information, available support (manuals, video clips, etc.), examples and contact information to helpdesks/supporting staff, a kind of community on e-learning for UM teachers accessible at all times.

Another improvement that participants asked for is more interaction. Ideas to improve interaction include pairing up students, more explicit demands on peer review and organizing more synchronous sessions, e.g. a final meeting (online or face-to-face) where participants present their new plans at the end of the module. Possibly, such a meeting could replace the second peer review in order not to increase the workload.

Workload

A serious worry is the fact that the module's minimal work load is still too much for teachers, even for those who are already thinking about innovating or redesigning a part of their teaching. It might help to provide the module on demand and/or to schedule it in an 'easier' period, e.g. in spring when teachers start thinking about their courses in the next academic year. It is also possible that the pilot module did not reach the real target group and that the needs of other teachers will be more urgent. Another measure would be to explicitly attach this module to the BKO (N.B. this suggestion is already taken up by the project team of 'UM e-teacher program'). However, given the fact that participation in teacher professionalization activities is generally low, this remains a serious problem.