Chapter 3

# Developing tasks for pupils

*While the previous chapter was focused on gaining some experiences by practicing assignments that, in principle, are doable for pupils at the lower secondary school level, this chapter is devoted to getting oriented on the development of pupil-assignments. The intention of the exercises is to raise awareness of criteria that may play a role in creating assignments and finding appropriate Web resources.*

Although from the previous chapter it may look rather simple to create assignments for pupils that require the use of WWW, experiences show that for many teachers this is a rather difficult task. There are many potential reasons why teachers experience problems in doing this, such as the non-existence (in the national language) of or a lack of knowledge about appropriate Web resources, expected organizational problems, lack of equipment, etc. Before starting as a teacher trainer to prepare (in-service or pre-service) teachers for using the Web in their daily practices it is important to try to imagine what kind of problems teachers may encounter in doing so. In the following section we will first describe a number of problems that teachers who were involved in pilot sessions have encountered. Also some potential solutions will be described, while acknowledging that these solutions will not work in all possible circumstances. Next a sequence of exercises will be introduced that require the development of assignments that are analogous to the ones that were exercised in the previous chapter. An additional component to these exercises is the collection of feedback from colleagues.

## Problems associated with developing WWW-assignments for pupils

This section is (partly) based on experiences from teachers who were asked to develop WWW-assignments for their pupils and to try-out these assignments with different groups of pupils. Below we will first give a description of problems that were frequently encountered and discuss some possible solutions. It goes without saying that these solutions are very tentative and will not be applicable in all kinds of different educational situations. Often a solution needs to be found that is particularly tailored to the idiosyncratic situation of each teacher. At the end of this section a list of criteria will be presented that may be helpful in reflecting about the approach to developing assignments.

**Technical and support problems**

- *Not enough equipment (computers, printers, printing paper)*

Maybe you want to apply the WWW by working with whole classes of pupils. If at the same time you intend to use assignments that can be done individually obviously you need as many good functioning computers as there are pupils in your class. If it is not possible to split up the class or to rotate from computer to non-computer tasks, you may want to consider using a beamer and doing Internet-exercises with the whole class at the same time. If you experience problems with printing (e.g. paper too expensive, printers too slow, etc.) you may want to consider to ask students to give their answers in electronic form (for instance by sending their answers/products via e-mail to you. However be aware of the size of files that students may send to you!!). Of course, you can also ask them to submit their answers in handwritten form on a piece of paper.

- *Slow connections*

Sometimes the Internet connections are so slow that pupils get distracted while waiting for a response. This may be a structural problem due to the bandwidth of the connections from your computers to the Internet. Try with one computer connected to the Internet whether the response times are acceptable. If this is not the case probably the bandwidth of your connection is too low. In certain circumstances a solution may be to download the web sites that are necessary for doing the assignments to you local machines or server. You can learn more on how to do this on the following location: www.tucows.com .This is a website where you can download software. Look in the software library search engine for the words *save* and *website*. You will find free software to download websites. For example: 'Website extractor' and 'Superbot 3.0A'

Also it may be the case that certain web sites have long response times on particular times of the day due to heavy internet-traffic. You can try this out yourself and decide if you can schedule your Internet activities at times that the Internet traffic is not too heavy.

- *Equipment not functioning*

For many teachers who are not so much acquainted with the technicalities of ICT it is a nightmare to think of working with a whole class of pupils and being confronted with technical problems of non-functioning equipment or software. Of course a solution may be to make sure that technical support is available or maybe do your first Internet-lessons together with an experienced colleague. If not a potential solution may be to ask the ICT-whiz kids in the class to assist with solving these problems or maybe pupils from other classes. Some schools have gained positive experiences with this last type of solution. However, always be aware that even experienced persons with much technical support sometimes encounter problems that cannot easily be solved. In these cases just stay calm and always during your lesson preparation create provisions for situations in which the equipment is not functioning.

- *No e-mail addresses for students and/or teacher*

It may be the case that at your school, pupils and/or teachers do not have their own e-mail addresses, while at the same time you want to apply assignments in which e-mail is used. Here a potential solution is to permit students to acquire an e-mail address via a free-provider. Before doing that you need to find out (maybe via the technical support person in your school) what is a safe way to do this. Some free providers require clients to provide all kind of personal information and this may be against the policy of your school or maybe will not be appreciated by parents. You will find links to free e-mailadresses on national portals.
The Netherlands: www.startpagina.nl

**Web resource problems**

- *Lack of knowledge*

Maybe you do not know which educational materials are available on the Web in a language that is suitable for yourself and your pupils. Sites in the English language that may be of potential interest to you are:

www.bbc.co.uk
www.lessonplanspage.com
http://7-12educators.about.com/mbody.htm
www.thinkquest.org

www.eun.org

- *Non-existence or lack of Web resources in own language*

It may occur that in your country there are not yet educational materials available at the Web in your own language. If this is the case and your students do not master the English language you may consider to explore possibilities for: doing e-mail projects, developing Web materials yourself and/or with colleagues, locating web sites that are non-lingual.

**Organization and management problems**

- *Pupils distracted*

When pupils are not used to work with WWW, it will often occur that they are easily distracted by the sheer amount of information and clickable options when they visit particular web sites. Typically what many pupils do is not first carefully reading what is on one screen, but just clicking as many objects as possible. Then is it very likely that after a while they do not know anymore where they are: They are, so to say, lost in the jungle. One way to learn students how to deal with the large amounts and complexity of information on the Web is to develop a number of exercises that start with web sites that hardly contain links and end with sites that have many of these links.

- *Difficult to keep overview (individual/group)*

Some teachers find it problematic that they cannot observe what all pupils have on their screens. This typically is the case in a room where a large number of computers are available in rows. Some schools have solved this by installing software that allow teachers to monitor on his computer what is happening on any of the other computers in the room. However, other teachers have reported that the problems disappeared when assignments were developed and planned in such a way that students couldn't allow themselves too much time for distraction.

- *Noise level too high when cooperating*

Some teachers experienced a high noise level in the classroom especially if students work together on particular assignments. One possibility to consider for solving this problem is to require pupils to cooperate via e-mail.

- *Pupils go to sites with undesirable content*

Many pupils very easily find ways to surf to sites that contain content which parents and/or teachers do not consider appropriate for them. Although this can

be prevented to some extent by applying Web filters, it can never be completely avoided, unless all Web materials that pupils need are placed on the server of the school and when in fact the external Internet connection is closed.

- *Heterogeneity of pupil abilities: some are quick and other very slow*

  In almost every classroom it occurs that some students (sometimes because of earlier experiences) are very quick in doing the assignments, while other may take much more time or do not finish at all. Handling this problem can basically be done in the same way as in non-computer lessons. However, in this case the advice is to consider that if you allow students to work on their own on the computer, this can as experience has shown, seriously distract the other students who are still working on their assignments. Hence, it may be better to have a number of 'enrichment' exercises on stock.

**Entry skills of teachers and pupils**

- *Student and/or teachers do not know how to use Windows and the browser*

  This problem may occur if one starts too quickly with applying Internet assignments. Before providing subject related tasks to pupils, they need ample opportunities to get acquainted with how to operate a computer, the use of the browser, cutting and pasting texts and figures, storage of files, etc. This first and for all also holds for the teacher, who needs to feel very comfortable in doing the types of tasks that are assigned to pupils. Some basis introductory courses for getting acquainted with equipment and software can be found at ********** (*Note for translation: insert here a site that is written in your own language*)

- *Pupils do not know how to further process information*

  This problem is similar to the previous one: it can occur if pupils want to extract information from web pages, but they do not know which operations are required for doing this. Pupils can learn this very quickly, but they need time to exercise these basics.

- *Reading level of students*

  Quite often Web sites contain a lot of text that needs to be read in order to determine how other information that is linked to these sites can be accessed. Especially for poor readers this can be very problematic. An obvious way to avoid this problem is to create sufficient variation in the assignments, so that poor as well as good readers are challenged at a level that is suitable for them.

- *Pupils do not know how to plan their work*

  When tasks are assigned to pupils that require a lot of autonomous work it often occurs that pupils get lost because they lack the basic skills for analyzing problems, plan their work in a sequence of activities that can be realistically done in a given amount of time, discover alternative ways of handling the assignment, etc. As teacher you can help avoid problems by requiring the submission of intermediate products. For instance the assignment may require from pupils that they submit a work plan after a week containing a specification of sequences of activities and a list of half-products that need to be ready at certain points in time. Although such approach may help the student, you should be aware how much time it will take you for coaching this process, especially in the case you work with relatively large groups of students.

- *Pupils do not know how to cooperate in groups*

  One way to reduce the amount of contact time you need for coaching student-directed tasks may be to create groups of students. However, this approach is feasible if students have learned how to cooperate effectively in a group. They need to possess some basic skills that deal with management, distributing of roles and tasks, communication, monitoring progress, etc. Such skills probably can best be exercised before Web based assignments are introduced.

#### Curriculum and didactical problems

- *WWW does not fit in curriculum*

  Sometimes teachers said: 'I can develop hundreds of Web based assignments, but it is difficult and almost impossible to develop something that fits into the official curriculum'. This problem is not uncommon and probably will occur relatively frequently when searching for sources in your own national language. One may expect that in the forthcoming years much suitable WWW sources will be made available. Teachers can, of course, also play a very active role in this by producing, together with colleagues, materials that fit in the existing curriculum. On the other hand, it should be acknowledged that increased use of the Web may result in pressures to change the existing curriculum.

- *Use of WWW takes too much time*

  It is generally acknowledged that, especially when emphasis is put on student directed assignments that require relatively much independent and autonomous work, the efficiency of learning facts is decreasing. This is almost per definition the case, when students have to search for information instead of getting it (via the teacher or the textbook) presented on a tray. It will be to a lesser extent the case when teacher-directed assignments are concerned. However, one should be aware

that in the end pupil-directed assignments (provided that they are well designed, appropriately sequenced and tuned to the abilities of the pupils) contribute to acquiring basic skills that are prerequisite for life long learning.

- *Does not fit in my lessons*

  This problem is probably highly unlikely, because the Web can be used in an almost endless variety of ways.

**Problems of assessment**

- *Assessing group products*

  Quite often, when teachers ask groups of students to create a group product, in the end the question arises how to assign credits to each member individually. It may occur that some group members hardly have contributed while others have done most part of the work. In this case it seems unfair to give the same number of credits to each group member. Some teachers solved this problem by deferring it to the group. For instance, they gave 30 credit points for a product and left it to the decision of the group to distribute these points. Other teachers require a very specific description of who exactly contributed to which parts of the final product and they used this information to assign credits to individuals. Another issue is how to assess the group processes. This may be necessary if one wants to provide feedback and improve social skills, such as communication, planning behaviour, management skills, etc.

- *Assessing authentic products*

  The characteristic of an authentic product is that it is based on creative work and that it is probably unique. When assessing such a product it sometimes difficult to be objective (because there are no reference materials available). To solve this problem it may be helpful to describe as part of the assignment in advance a number of aspects on which the product will be rated. In order to avoid subjectivity one may ask colleagues or even other pupils in the class to co-assess the final result. A particular nasty aspect is how to determine if the product is original. Nowadays at the Web, many ready-made products can be found. This is especially the case when it concerns summaries of literature that pupils are required to read and for which credits are assigned on the basis of a short synthesis. Some tips from teachers on how to handle this problem are: make sure that the assignment is very authentic, check if pupils know the words that are used in the product, organize a group discussion where questions can be asked, etc.

**Aspects for reflecting about before developing pupil-assignments**

In Appendix 6 you will find a template that may help you to develop assignments.

## Develop a few tasks yourself



In the previous chapter you have exercised a number of pupil assignments that were developed by the authors of this manual. In order to experience what it is to develop assignments for pupils, you are now requested to develop a number of assignments yourself. In doing this we will use the types of assignments that were mentioned in the previous chapter. When doing these exercises it is important to try to get feedback from your colleagues as well as keeping track of your experiences.

**Your experience**
While doing the tasks, record which problems you encountered and how you solved them.

Assuming that you as a teacher need to discover how the WWW may add value to your own lessons, it is important (while doing the tasks as listed below) to make notes for your self on a number of aspects like the following: how easy /difficult is it to find appropriate Web sources, can you develop assignments that would easily fit in your lesson approach (didactics, content, etc.), can a colleague perform the exercise easily, etc.

**TIP**: before starting these exercises, please be aware of the following:

*When trying to develop assignments that may be relevant, interesting and meaningful for your pupils, it is often not necessary to start from scratch. Many others may have done this before and they may have stored their materials on the Web. In some countries educational portals exist that contain materials, which potentially are of interest to you as well. A few sites containing interesting educational materials are listed below:*

www.bbc.co.uk
www.lessonplanspage.com
http://7-12educators.about.com/mbody.htm
www.thinkquest.org
www.eun.org

#### Exercise 1: teacher directed and individual

Try to develop an assignment that is comparable to exercise 1 from the previous chapter. Give a print of this assignment (or send it by e-mail) to one of your colleagues and ask him/her to do the assignment and to submit the result to you together with a rating on the basis of the form that is shown in Appendix 4. During the development please keep track of problems you encounter, sites that contain interesting materials for

you (store the in the 'favourites' of your browser), and all other experiences and thoughts that may be discussed with your colleagues upon completion of this exercise.

**Exercise 2: student directed and individual**
Analogous to exercise 1 (see also exercise 2 from the previous chapter).

**Exercise 3: student directed and cooperative at the spot**
Analogous to exercise 1 (see also exercise 3 from the previous chapter).

**Exercise 4: student directed and cooperative at distance**
Analogous to exercise 1 (see also exercise 4 from the previous chapter).

Additional request: as this manual is a first version mainly for review purposes, we request that you send the result of each exercise (irrespective of the language that you used) also to Hans Pelgrum (pelgrum@edte.utwente.nl).



## Reflection

Finalize the exercises above by answering the reflection-questions about 'Developing tasks for pupils' that were given to you by the organizers of this workshop. Important note for organizers of the training session: make sure that each participant receives a (temporary) e-mail address and check before the meeting if the addresses are correct. Make sure that the participants answer questions about the proceeding of each phase in this training session. The information that is collected in this way will be used for the evaluation part of the final report of this project and will be important to develop plans for a continuation of the project in the forthcoming years.