Learning environments and responsibility:
Three types of learning environments

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Abstract: Universities of Higher Professional Education (HBO) are working together intensively with institutions in the field to develop and provide educational programmes which prepare students as fully as possible for the reality and dynamics of professional practice. This article describes the way in which various interested parties (students, tutors and the professional field) can participate in the creation of learning environments which facilitate and promote the development of professional expertise and the competence of all involved. This participation, expressed in terms of responsibility, is presented in a model of 'Learning Environments and Responsibility'. In this model three types of learning environments are distinguished: task-based, problem-based and situation-based.

Key words: learning environment, higher education, information and communication technology (ICT), redesign, real-life learning, assessment, competencies

1. EDUCATIONAL INNOVATION

Primary and secondary education in the Netherlands has been in a state of change for many years and recently there has been a call for re-orientation in higher education as well. A particular need has been expressed for innovation in higher education, and experiments have taken place with new educational concepts and methodologies in many institutions.

1.1 Subjects to learning environments

The impetus for innovation has been the growing demand from the labour market and in society for graduates who can deal effectively with

The original version of this chapter was revised: The copyright line was incorrect. This has been corrected. The Erratum to this chapter is available at DOI: 10.1007/978-0-387-35615-0_52

D. Passey et al. (eds.), *TelE-Learning*

varied and new situations; who possess, as well as a thorough knowledge of their subject, the ability to work together, solve problems and so on (Schlusmans, 1991). The labour market needs people who are already aware of what is happening in the professional field and who are thus able to work effectively right from the start: *starting professionals* as opposed to *subject specialists*.

In this article we present a model which can be used for developing and implementing learning environments which give students the opportunity to develop into starting professionals: students work at their development in the area of professional expertise and competencies in learning environments which vary in complexity. The model also makes clear that the co-operation between the professional field, tutors and students in a learning environment results in competence development not only in students, but also in the programme (tutors) and the field (professionals).

2. THREE TYPES OF LEARNING ENVIRONMENTS

Programmes which contain learning environments created around situations specific to the profession and its related competencies and which thus have a (more or less) direct link to professional practice offer students the opportunity to develop the necessary professional expertise and competencies. This enables students (and later graduates) to function adequately in a fast-changing and complex society. This means that the programme offers students the opportunity to work at assignments in learning environments which vary in complexity and in the degree to which they allow for individual responsibility in relation to the quality of the work process and the product realised within the respective learning environments.

To enable students to develop professionally we distinguish three types of learning environments, which are related to the working methods and results to be found in the related profession:
task-based;
problem-based;
situation-based.

These learning environments differ from each other in complexity and in what is learnt, i.e. the result (of learning). These differences are laid down in the definition of the following four characteristics of learning environments:
- the *starting point*: Is it a task, a problem or a situation?
- the *aim*: What is done and why?
- the *approach*: Is it at an operational, tactical or strategic level?
- the *justification of results*: What must the result achieve and who decides the criteria for this?

These differences are shown as follows in the model of 'Learning Environments and Responsibility' in Table 1.

	task-based	**problem-based**	**situation-based**
starting point:	a **task**;	a **problem**;	a **situation**;
aim:	realisation of organisational policy through carrying out related tasks;	managing on the basis of organisational policy through solving a problem and thus improving procedures;	improving the totality of the current circumstances in a specific area through developing organisational policy;
approach:	**operational**: the result to be obtained is realised in relation to the context and is suitable and can be used to achieve its purpose;	**tactical**: the solution is reached on the basis of the current situation;	**strategic**: the innovation is based on or shows evidence of well-thought out policy;
justification of results:	working model (method) meets established meta-criteria and result meets established criteria.	problem, working model (method) and result (solution/ improved procedures) meet established meta-criteria.	innovation definition, working model (method) and result (policy plan) meet established meta-criteria.

Table 1. Definition of the three types of learning environments

The definition of learning environments according to their starting-point, aim, approach and the justification of results determines the formulation of assignments within the respective learning environment.

The different types of learning environment can be used to build progress into the curriculum. First-year students will more often be involved in task-based rather than situation-based learning environments. However, first year students can still be involved in a situation-based learning environment, for example while working together on an assignment with students in later years who will be working on different competencies: students thus work together on an assignment with different professional roles, for example as 'expert', 'advisor' or 'junior'. The selection of a role depends on the competencies and professional expertise which the students aim to develop in a particular learning environment.

3. THE MODEL 'LEARNING ENVIRONMENTS AND RESPONSIBILITY'

Three parties are involved in the development and realisation of learning environments: the student, the tutor and the professional field. Each of these parties has different qualities, and, based on these differences, these make their own specific contribution to the learning environment, which in turn influences the learning and the achievements of each participant in the learning environment.

The learning environment and responsibility model is based on the three (groups of) participants and three types of learning environments described above. The development and actual implementation of assignments within a learning environment involves three groups of participants, each with their own activities, as individuals (student, tutor and professional) and also as members of a team (student team, tutor team, professional team). This means that they can achieve results together which are aimed at their own development as professionals and the development of others within the learning environment. In other words the focus lies not only on students' competence and professional expertise - that of tutors and professionals is equally relevant!

3.1 Student responsibility

All students are expected to be responsible for their own learning process, to determine for themselves what they want to achieve in the programme and what they will need in order to achieve this.

3.2 Tutor responsibility

In the development and implementation of an educational programme (creating learning environments) the tutor proceeds as far as possible from the way in which a professional is approached in the field: things are not thought out for the student in a school-like fashion; instead the student is approached as an aspiring practitioner in the field.

Tutors are expected to develop their expertise not only in relation to the development and implementation of the programme but also in relation to the professional field at which the programme is directed (Terwindt, 2000).

It can be seen in this model that the tutor is responsible for developing the learning environment. By this we mean that in every type of learning environment the tutor formulates the assignment for the students. To create the optimal learning environment the three participants share responsibility.

3.3 Professional field responsibility

The professional field formulates a professional profile, which consists of a description of tasks, job functions, competencies and future prospects relating to the profession. On the basis of this professional profile an educational profile is developed together with professional universities, in which educational qualifications are established in terms of competencies and professional expertise. The competencies and professional expertise are identified by people in related fields or functions (professionals) and by those involved in the programme (tutors, educationalists) (van Weert, 2001). Professional practice thus plays an important role in defining the content of a programme (or learning environment) by formulating and/or validating the professional and educational profile.

Professionals in the field are expected to keep developing their professional expertise and competence and thus contribute actively to the creation of learning environments, in order to guarantee that these continue to reflect the current state of the profession.

4. AN EXAMPLE

At the Faculty of Economics and Management (FEM) of the *Hogeschool van Utrecht* (HvU) we have experience in using this model for designing the programme and making decisions about the degree to which individual students take responsibility for aspects of the learning process.

A project of educational innovation commissioned by the directors was carried out at the FEM. This innovation involved producing competence-based programme components (modules), which would be suitable for part-time students.

The project produced three modules each intended to provide 280 hours of study. We present here one of the three modules: the e-commerce module.

Participants in the e-commerce module were:
- *students*: third-year part-time students (± 100);
- *tutors*: tutor-developers (5) and tutor-implementers (7);
- *professional field*: Service Line Manager Business Consulting of Oracle Nederland BV and project commissioners.

4.1 Situation-based learning environment: e-commerce

Principles were formulated based on a view of part-time education, which reflected the profile of part-time students, the description of the educational concept of competence-based learning in part-time programmes,

and the advantage to be gained from using ICT by part-time students. The most important principles were:

Professional practice provides the model for designing the learning environment: a practical situation forms the basis for learning assignments or study tasks; and

Use of ICT makes e-learning possible: the application of ICT promotes interaction among students and between students, tutors and the field.

On the basis of the formulated principles it was decided in discussions between tutor-developers and professionals in the field to develop a situation-based learning environment (van Weert, 2002). The learning environment was defined by the tutor-developers (in the model: identifying and defining development, validating in the professional field, developing a learning environment).

E-commerce is defined by the Ministry of Economic Affairs as the sum of business dealings (by businesses, consumers and government) which is carried out electronically to improve the efficiency and effectiveness of market and business processes. It includes both internal business processes as well as those which support interaction with a third party. This means not only pure transactions (buying and selling), but also the business processes which precede this (for example providing information, communication and market research) and the follow-up (such as payment, distribution and after-sales service). On the basis of a business plan, in which attention is paid to the aspects mentioned above, a business or organisation can decide whether the use of e-commerce is efficient, effective and feasible.

The student task is to develop a project assignment: Write a business plan for an e-business or e-commerce activity to be used either within the business/department or externally. Find a party to commission this project and discuss a plan of approach for implementing the project assignment.

Participants (parties involved) are:

- Project team: The project team consists of four or five third-year part-time students.
- Project supervisor: There are seven project supervisors involved in this module. Each project supervisor leads a number of project teams;
- Commissioning party: as a project team you decide which business, (where one of you is employed) is most suitable and prepared to commission the project.

The aim of the project was to improve the efficiency and effectiveness of an organisation or company's market and business processes. The approach was strategic: the innovation depends on or is evidence of well-thought out policy. The innovation definition (selection and definition of e-commerce strategy), working model (method) and result (business plan) all need to meet established meta-criteria.

4.2 Development of professional expertise and competence

Together with the Service Line Manager Business Consulting of Oracle Nederland BV meta-criteria were developed for the justification of the result.

The development of students' competence in this learning environment is linked to work experience which forms part of the part-time programme. As part of the process of work experience students are asked to make a Personal Development Plan. In this learning environment the following relevant competencies were identified by professionals in the field:

1. Business creativity;
2. Co-operation;
3. Sensitivity to the market and the context;
4. Problem analysis and forming a judgement;
5. Oral and written communication.

While working on the project assignment, assessments were carried out within the learning environment by the project supervisor (tutor), the commissioning party (field) and/or team-mates (students) with regard to the competencies mentioned above (Elshout-Mohr and Ootsdam, 2000).

4.3 Final assessment of students

Finally students' development of professional expertise was tested on the basis of the business plan and the criteria which had been established for it. Students' development of competence was assessed on the basis of the evidence provided by the business plan. These assessments did not necessarily have to take place at the same time.

5. CONCLUSION

The model 'Learning Environments and Responsibility' aims to give an overview of the most important principles and choices for creating learning environments: the model makes clear in which way students, tutors and professionals are involved in the design of the learning environment and in which aspects of the learning/working process the student gradually receives and takes more responsibility from both the tutor as well as the professional field (responsibility as a junior professional).

The model is intended as an aid to:

- introduce progress into the curriculum, lines to be followed;
- design learning environments;

- select professional tasks;
- situate learning environments in relation to each other, starting from specific professional situations;
- think through the consequences of choices which are made;
- develop ideas for assignments and designing learning environments.

The model 'Learning Environments and Responsibility' is used in different faculties of the Hogeschool van Utrecht to develop programmes which are competence-based and which are of benefit to all those involved. The example makes clear that the model is workable and not intended to be a straightjacket: the model helps to provide direction and make choices.

REFERENCES

Elshout-Mohr, M. and Oostdam, R. (2000) Assessment in a competence-oriented dynamic curriculum. Paper presented at the ECER Conference, Edinburgh, Scotland, September 2000.

Hezemans, M. (2000) Onderwijsvisie afdeling Bedrijfseconomie en Accountancy. Interne publicatie Faculteit Economie en Management, Hogeschool van Utrecht.

Kösters, J. and Ritzen, M. (2001) Combining Different Aims in a Portfolio System: a Web-based Portfolio and the Various Ways in which it can serve the Student. Paper presented at EDMEDIA conference, Finland.

Schlusmans, K. e.a. (ed.) (1999) Competentiegrichte leeromgevingen. Utrecht: LEMMA

Terwindt, S.S.M. (2000) Constructivistic learning: also for Faculty! Paper presented at the SITE Conference, San Diego, February 2000.

Weert, van T.J. (2001) Ontwerphandboek Taakgericht Teamleren met ICT-ondersteuning. Cetis/Hogeschool van Utrecht, Utrecht.

Weert, van T.J. (2002) Lifelong learning in virtual learning organisations. Paper presented at the IFIP World Computer Congress, Montreal, August 2002.

BIOGRAPHIES

Marijke Hezemans gained a teaching diploma in mathematics and chemistry, a degree in education, and now works as an educational developer. As a project leader she contributes to educational innovation in Dutch Higher Education. **Magda Ritzen** is an educational psychologist and has been working for a number of years on educational innovation and the role played in this by ICT. Both authrors are attached to the Expert Centre for Educational Innovation and Training of the *Hogeschool van Utrecht*, University for Professional Development and Applied Science.