Designing workplace learning

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Introduction

Workplace learning is of immense importance in many current theories about Human Resource Development (HRD) (Bassi, Cheney & Lewis, 1998; Kessels & Poell, 2001; Klarus, 1998; Streumer, 2001; Torraco, 1999; Van der Klink, 2001). The workplace is described as a powerful learning environment on various grounds (see e.g. Poell, 1998). Some learning processes are believed to be more effective at the workplace, because they are difficult to master in more formal learning environments. Another argument is that the more practice-based structure of workplace learning averts transfer problems. The final reason is that a lot of work has become knowledge work. Workplace learning is a natural and integral part of this type of work (Kessels, 2001). Despite the different theoretical perspectives underlying these reasons (Onstenk, 1997), methods of designing, supporting and encouraging workplace learning may be considered a combined issue. How can we derive the greatest possible benefit from this powerful learning environment? From a design perspective, the work setting is an explicit object of design.

Current design theories and methodologies are of only limited use here, as they are often focused on the design of formal learning environments situated outside the work setting. In addition, a technological and systematic perspective usually prevails with the designer as the main actor who sets objectives after analysing the problem and designs products to achieve these objectives according to a specific sequence (Lowyck, 2001; Van der Waals, 2001; Visscher-Voerman, 1999). The role of the other actors in this process (the educator and the learner) is primarily reactive and consists of supplying information to analyse the problem, applying the design products provided and helping gather formative evaluation data as a means toward improving the product. This design methodology (also known as a systematic approach) embodies several assumptions, of which the most significant ones appear to be that: 1) the learning objective may be established unambiguously by designers, 2) the method for achieving these objectives may be determined by designers, 3) designers are responsible for solving the problem, and 4) designing and learning are two separate operations, in which design activities are regarded as prerequisites for learning activities.

These assumptions also reveal why such a design methodology is inadequate for designing the work setting to serve as an instructional environment. In workplace learning, designers are never the main actor, because the context also figures in determining objectives and contents, which necessitates consent and cooperation from many actors in designing learning processes within the work setting.
Moreover, workplace learning is not only about learning processes geared toward solving a problem. It also concerns development-oriented learning processes that facilitate and support achievement of organizational, professional and personal objectives (Kwakman, 2001). Such objectives are far harder for designers to establish unambiguously, because they often involve developing learning ability, independent knowledge acquisition, professional enrichment or career development (Kessels, 2001; Kwakman, 2001; Lowyck, 2001). From this perspective, it would also be illogical for the designer alone to present solutions to problems, as the process of searching for solutions has potentially powerful learning effects.

Which responsibilities remain for designers? Designers might help design the work setting to encourage and support workers in their independent search for solutions, acquisition of their own knowledge and development of their own professionalism. These are the principles underlying what is also known as constructivist design (Lowyck, 2001). In constructivist design, employees design their own curricula as a team and are supervised by a learning coach. As a result, learning is always an interactive process, in which educators and learners are not merely users of predetermined design products but are also co-constructors of the product. Working on this product underlies the curriculum, which involves prototypes subject to continuous refinement and improvement based on user feedback.
The procedure has major consequences for the design process, which becomes far more dynamic: "if designing is cyclical and procedural rather than pre-programmed, where designers generate finished products ready for adoption and application by educators and learners, and is interactive instead, then opportunities for coordinating individual learning processes should be considered from an entirely different perspective" (Lowyck, 2001, p. 169). Lowyck proposes a participatory approach involving as many different actors as possible. This approach closely resembles the relational design approach devised by Kessels, in which designers perform several design steps and operations by working closely with various concerned parties from the work setting (Kessels & Plomp, 1999). Both approaches affect the design process in three ways (see also Van der Waals, 2001):

1. Designers become coaches who help coordinate the many plans, activities and outcomes of learning. In doing so, they are not so much substantive experts as coaches of learning processes. Objectives and design products are therefore far harder to determine unambiguously in advance.
2. Because of the fading distinction between design and instructional curricula, learners help design their own curricula and set the objectives.
3. Careful planning becomes less important in the preliminary stage, as concretization occurs during implementation, and many decisions are deferred until the curriculum is in progress. This means that the plans and ideas formulated during the preliminary stage will change repeatedly during implementation.

Overall, this approach to designing alters the format of both the design product and the design process. The theoretical assumptions suggest that:

1. The product is more often a prototype than a finished product and is therefore not as immediately applicable.
2. Objectives are not formulated clearly in advance.
3. Various actors are involved in the design process.
4. Users have their own input in the process.

5. Changes occur in the course of implementation.
6. Designers serve as coaches.

Moreover, changes concerning the design process are more elaborate than those concerning the product. One major reason might be that the relational design approach has arisen from empirical research (Kessels & Plomp, 1999). This empirical study, however, has focused on educational products. Empirical data are therefore not yet available regarding the application of the relational approach within the design of workplace learning and the features of products to be designed for this purpose.
This observation leads to the following problem formulation:

Which design products support workplace learning, and what are the main features of their design process?

The response to this problem formulation is intended to enhance our insight into the type of products that support workplace learning. An additional objective is to acquire empirical support for the theoretical assumptions concerning the design process by identifying its characteristics. Finally, we hope these results will enable us to derive several hypotheses about possible relations between products and process features.

Method

The study is to be defined as a reconstruction study analysing existing design products and process reports. In the autumn of 2001, 16 third and fourth-year Educational Science and Technology students at the University of Twente were instructed to design a workplace-learning plan. These assignments were carried out at 13 different organizations in various sectors. Each student submitted both a product report and a reflection report following this design assignment. Both reports were analysed for all students to respond to the problem formulation.

Procedure
Altogether, 16 individual commissions were recruited by a team of instructors according to a list of sample products (see Annex 1). This list was compiled by the team of instructors and was intended as a source of inspiration and as a resource for arranging potential design commissions with corporate organizations.
This list was also a preliminary guide for students in starting their design. The procedure for the rest of the assignment was based on the following principles:

- the assignments had rigid deadlines
- in the preliminary stage each student drafted a plan of approach based on specific design criteria
- students were required to apply elements from the relational approach
- university supervision targeted the design process and included explicit guidance with the relational design approach
- the final version of the product depends on the design criteria drafted and the agreements with the organization; this final version is the product for the organization
- afterwards each student drafts a reflection report substantiating the design approach and process.

(N.B.: the authors have a detailed manual about the structure of the discipline, the assignments and the coaching sessions.)

Analysis

The response to the first sub-question about design products to support workplace learning consisted of a description of the type of products designed (based on the finished products that the students generated). Next, the different products were categorized as well. The first step was to assign them to the different categories in the sample list, which are a modified version of Onstenk's categories concerning learning potential at corporate organizations (1997):

1. products designed to establish and develop individual competencies
2. products designed to establish and develop group competencies
3. products concerning educational facilities at the workplace
4. products concerning substantive and organizational learning opportunities at work
5. products for learning about generating and storing information
6. products concerning learning opportunities at social work settings.

Second, the products were subdivided according to whether they were suitable for immediate use.

To answer the second sub-question about design process features, we analysed reflection reports from students based on five analysis questions derived from assumptions in the work of Lowyck and Kessels. The analysis questions are as follows:

1. Have clear objectives been formulated?
2. Which different actors are involved in the design process?
3. What input do users have in the design process?
4. Has the execution stage changed?
5. What role do students play in the design process?

Answers to these five analysis questions have been formulated for each design product. Next, the answers were categorized for each analysis question, and a corresponding matrix of product and process features was generated for all products. The patterns in this matrix were then analysed to trace possible links between product and process features (Miles & Huberman, 1994).

Results

Product descriptions

The following concise description of the different assignments and ultimate design products is the answer to the first sub-question. Every product has been assigned a product designation (in parentheses) to be used throughout the remainder of the analysis.

1) The assignment was to design an instrument to identify competencies of staff at the departments for human resources, educational programmes and organization and automation of a hospital. These departments were combined during a recent merge between several hospitals, which necessitated greater insight into departmental competencies to enable staff members to derive greater benefit from them. The final product is a framework for such an instrument. In addition, the management team has been issued recommendations for staff to elaborate this framework independently (competence mapping).
2) The assignment was to develop a system or procedure for staff at a small agency for corporate education specialized in multimedia educational programmes to enhance their understanding and awareness of each other's respective disciplines

to reduce miscommunications. The underlying reason was the high incidence of communication problems during projects on which educational experts, multimedia developers and designers worked together. The final product is a visual diagram of the procedure for producing multimedia educational programmes (metro line).

3) The assignment was to draft an interview protocol for identifying priorities of supervisors in implementing a development-based staff policy at a polytechnic institute for agricultural science. The immediate cause was the desire to innovate HRM policy and the need to elaborate the highlights of this policy. The final product is a definitive interview protocol for conducting these interviews (interview protocol).

4) The assignment was to compile a competence profile for horticulturists and assistant supervisors at a small horticultural firm. This firm is undergoing an organizational transformation requiring that staff members change their attitude, knowledge and skills. The competence profile was supposed to pinpoint the attitude, knowledge and skills concerned. The final product is a description of how the horticultural firm can develop this competence profile independently, including a prototype of a competence profile as a reference for ongoing development (competence profile description).

5) The assignment was to design a structure for meetings where nurses at a psychiatric hospital could share experiences. The hospital's educational services department is concerned about the measure of communication between these nurses and their counterparts at other departments and the extent to which they keep abreast of changes in their discipline. The final report is an advisory report about the different ways for nursing staff to share experiences (experience-sharing intervention).

6) The assignment was to analyse the discrepancies between the current and required levels of competence among supervisors at a medium-sized town hall as a foundation for designing a curriculum. The municipality is introducing self-steering teams, but the expectations and requirements for this new structure remain unclear. The finished product is an elaborate competence profile for district team managers supervising these self-steering teams (competence profile).

7) The assignment was to organize a workshop for a self-steering team at a working conditions supervision organization with a view toward generating a list of skills necessary to optimize the team's performance and for members to learn from each other. The underlying cause was the introduction of self-steering teams within this organization. The final product is a guideline for a workshop where self-steering teams are encouraged to think about skills needed to optimize their performance (workshop guideline).

8) The assignment was to compile new instructions for participants in a management course at a major international electronics firm to formulate instructional objectives. The experiences with this course revealed that many participants were unable to formulate proper instructional objectives designed to improve daily performance at the workplace. The finished product is an improved set of instructions in English to help future participants chart their personal instructional objectives independently prior to the course. In addition, several recommendations have been provided to make the course more effective, especially with respect to the role of the coach in the preparatory stage (instructional objectives).

9) The assignment was to draft guidelines for coaching interviews between supervisors and their staff at a major service firm providing travel advice over the

phone. The management considered the current instrument inadequate for assessing performance. The finished product offers several recommendations for feedback during coaching interviews (coaching advice).

10) The assignment was to design a procedure for establishing a foundation for introducing result-oriented management (ROM) at a hospital. The reason was the development and introduction of ROM at this hospital. The finished product was a proposal for a procedure (ROM procedure).
11) The assignment was to redesign an existing personal development plan (PDP) to generate a digital version for a major agricultural distribution firm. The reason was the management's need to update the current PDP to reflect the latest theoretical insights. The finished product was a hard copy and digital version suitable for immediate installation and use (PDP).
12) The assignment was to determine what hospital supervisors needed to learn about conducting performance reviews and to propose an appropriate learning project. The underlying cause was the introduction of a new system for performance reviews that would harmonize organizational objectives with those of individual staff members. The administration does not expect supervisors to be sufficiently competent to handle this new system. The final product is a proposal for improving expertise through intervision (intervision proposal).
13) The assignment was to draft non-verbal operating instructions for foreign workers who knew very little Dutch and were employed temporarily at a major agricultural distribution firm. The reason is that the firm has a constantly changing pool of foreign workers participating in the operations for brief periods. Although the labour is unskilled, some operating instructions are essential. The final product is an advisory report about the perception of the problem on the work floor and the solutions presented by the work floor (operating instruction consult).
14) The assignment was to develop a curriculum for R&D technicians at a major technological firm. The reason is the lack of adequate educational opportunities for this category of staff, despite the need for them because of the vast technological progress. The final product is a prototype for a learning project to determine the instructional needs of this group of technicians (educational needs project).
15) The assignment was to redesign (preferably in a digital format) an instrument for determining educational and instructional needs at a major agricultural distributor. The reason is the general dissatisfaction with the current instrument. The final product is an advisory report about the opportunities provided by the instrument (educational needs advisory report).
16) The assignment was to develop an analytical framework for identifying the occupational learning potential at a meteorological organization. The reason was that the head of the educational division felt that a certain position offered insufficient learning opportunities. The final product is a problem analysis of the learning potential of a specific position and an advisory report for identifying the learning potential of other positions (learning potential advisory report).

First sub-question: product features

The 16 products were subsequently categorized according to learning potential and product type (see Table 1).

With respect to learning potential, all products conformed to the predetermined categories. The table reflects products in only three of the six categories: personal competence development (7x), group competence development (6x) and learning opportunities concerning content and organization of the work (3x).

With respect to product type, it was expected that there would be 1) a finished product ready for immediate user implementation or application or 2) a prototype requiring additional user elaboration or development. Although both product types occur (5x finished product, 1x prototype), the analysis revealed a third type consisting of an advisory report (7x). Products assigned to this category contained recommendations or ideas requiring additional discussion and decisions within the organization. The analysis also revealed a few hybrid products comprising both a finished product and an advisory report in one case and a combination of a prototype with an advisory report in two cases.

Table 1
Products categorized according to learning potential and product type

	Learning potential category	Product type
1. competence mapping	Competence: group level	Prototype + advice
2. Metro line	Learning opportunity: substantive/organizational	Finished product
3. Interview protocol		Finished product
4. Competence profile description	Competence: individual Competence: group level	Prototype + advice
5. Experience-sharing intervention	Competence: group level	Advice
6. Competence profile	Competence: individual	Finished product
7. Workshop guideline	Competence: group level	Finished product
8. Instructional objectives	Competence: individual	Finished product + advice
9. Coaching advice	Competence: individual	
10. ROM procedure	Learning opportunity: substantive/organizational	Advice
11. PDP		Finished product
12. Intervision proposal	Competence: individual	Advice
13. Operating instruction consult	Competence: individual Competence: group level	Prototype Advice
14. Educational needs project	Competence: group level	Advice
15. Educational needs advisory report	Competence: individual	Advice
16. Learning potential advisory report	Learning opportunity: substantive/organizational	Advice

Second question: process features
We analysed the design process for each product based on the analysis questions formulated to identify process features. Possible answers to each question and their distribution among the 16 products will be indicated below. Specific product features are listed in Table 2.
Objectives. The analysis question concerning the material is whether clear objectives have been formulated. The answers are either negative or affirmative.
With only two products (i.e. 2 and 8), objectives were formulated explicitly, although the type of objectives varied considerably. The metro line product included improvement objectives that the product was supposed to further, while the 'instructional objectives' product formulates instructional objectives. No objectives were stated for the other 14 products.
Different actors. This question concerned the different actors involved in the design process. The answer to this question included a description of the types of actors who figured in the process for each product.

Altogether, there are eight different types of actors: principal, target group, management, team leadership, project group, steering group, external experts and co-workers. The number of different actors for each product ranges from one to four: two cases involve one type of actor; six cases involve two types of actors; seven cases involve three types of actors, and one type involves four types of actors. The types of actors most frequently involved are the target group (15x) and the principal (13x). The designs in which no principal participated, however, are by part-time students who act as principals in their own work setting or who performed the assignment as part of their professional duties.

User input. This analysis question refers to input from users (frequently the target group) in the design process. Because the target group was involved in designing nearly all products, input from this group was identifiable in nearly all products. The analysis distinguishes three categories of target group input: information, pilot design and design. The information category concerns the opinion or experience of users required for resolving the problem, to generate ideas for solving the problem or to produce the design. The pilot design entails gathering formative evaluation data in which users are asked to evaluate a prototype of the product. This information serves to improve the product. In the design category, the target group input is considered a partial construction of the solution or the product. Users help design the product, which means that they provide substantive input and consequently help the format of the design. The analysis reveals all three types of input: there is information provided by users (8x) and input through a pilot design (2x), and there are joint designs (5x).

Modifications during implementation. To determine whether modifications took place during implementation, each student was asked to indicate in the reflection report whether there had been any deviations from the original approach formulated at the start of the assignment. The answer was either negative or affirmative: with affirmative answers, the type of modification was examined as well.

Eleven products had undergone changes during their implementation. There were three types of modifications, including product type changes (9x), changes concerning the actual product (1x) and procedural changes (2x). Most changes therefore involve product type modifications. All but one concern transformation of a finished product into a prototype or process intervention.

Role of students. Three possible answers emerge from the analysis concerning the question about the role of students in the design process: designer, advisor and process coach. Students are considered designers when they act as substantive specialists or experts and design solutions independently or based on literature or information provided by concerned parties (4x). They are considered advisors when they generate products meeting the criteria for advisory reports, even if combined with a prototype (7x). They are considered process coaches when they supervise a group of people in the design process and devise, develop and carry out interventions for this process (5x).

Table 2

Matrix of product and process features, itemized by product category

Product	3. Interview protocol	6. Competence profile	8. Instructional objectives	9. Coaching advice	11. PDP	12. Intervision proposal	15. Educational needs advisory report	1. Competence mapping
Category	Ind.comp.	Ind.comp.	Ind.comp.	Ind.comp.	Ind.comp.	Ind.comp.	Ind.comp.	Group comp.
Type	Finished product	Finished product	Finished product + Advice	Advice	Finished product	Prototype	Advice	Prototype + Advice
Objectives?	No	No	Yes	No	No	No	No	No

Actors	Principal	Principal Target group Manager	Principal Target group	Principal Target group Team leaders	Principal Target group	Principal Target group Proj.group	Principal Target group Manager	Principal Target group Managers
Target group input	none	Pilot Design	Information	Information	Pilot Design	Design	Information	Information
Changes ?	No	No	No	Yes, from product into process intervention	No	Yes, from product into prototype	Yes, from product into prototype + less linear process	Yes, from product into prototype
Role of students	Designer	Designer	Designer	Advisor	Designer	Process coach	Advisor	Advisor

Product	4. Competence profile description	5. Experience-sharing intervention	7. Workshop guideline	13. Operating instruction consult	14. Educational needs project	2. Metro line	10. ROM procedure	16. Learning potential advisory report
Category	Group comp.	Group comp.	Group comp.	Group comp.	Group comp.	Learning opportunity	Learning opportunity	Learning opportunity
Type	Prototype + Advice	Advice	Finished product	Advice	Advice	Finished product	Finished product	Advice
Objectives?	No	No	No	No	No	Yes	No	No
Actors	Principal Target group Manager	Principal Target group	Principal Target group	Principal Target group Managers Co-workers	Target group Managers	Target group	Proj.group (target group) Steering group External expert	Principal Target group
Input from target group	Information	Information	Design	Information	Design	Design	Design	Information
Changes ?	Yes, from product into prototype + advice	No	Yes, different finished product	Yes, from product into advice	Yes, from product into prototype	Yes, from advice into design	Yes, new actor involved in process	Yes, from product into advice
Role of students	Advisor	Advisor	Process coach	Advisor	Process coach	Process coach	Process coach	Advisor

Relation between product and process features

Table 2 lists the product and process features for each product. The question is whether patterns are identifiable in the combinations of different features.

First we checked whether the product features were related. Neither the category nor the type product features were related, because all product types occurred in the different categories, except for the learning opportunity category, where there was no prototype. Since the learning opportunity category is the smallest one, however, it does not lead to any conclusions.

Next, we examined whether the different process features occurred in certain combinations. The table reveals a link between three of the five process features, namely between 'target group input,' 'changes' and 'role of students.' The results indicate that the student's role in the design process corresponds with the manner of user input in the process and the incidence of changes during the design stage. Only when students acted as designers were there cases where users had no input and did not test designs. In addition, all four students who assumed this role indicated that no modifications occurred during implementation. With all students who acted as advisors, the target group input consisted of dispensing information, whereas the target group input related to the actual design for all students who acted as process coaches. In both capacities, changes occurred during the design process in all but one of the cases.

The next question is whether specific product and process features are related. To this end we have examined whether student roles were related to a specific category or product type. We found that the designer role applied only for products in the individual competence development category. Because other roles occur in this category as well, there is no one-to-one relationship between product category and designer role. Designing a product in this category therefore does not automatically mean that the student acts as the designer. Still, the absence of the designer role from other product categories suggests the following type of cohesion: in acting as the designer, products are often designed for the individual-competence development category. As for the other roles, both the advisor and the designer roles occur in all product categories.
Certain correlations are identifiable between the different roles and product types as well. Designers develop only finished products, of which one coincided with an advisory report. The advisors draft only advisory reports, of which two coincided with a prototype. Process coaches were present for all different product types. A student's role in the design process therefore did not depend on the product type. Rather, the role assumed appeared to determine the product type. The following inference arises: designers are more likely to develop finished products, while advisors are more likely to draft advisory reports.

Conclusions and discussion

We will start this concluding discussion by dealing with the theoretical assumptions arising from the theory about constructivist and relational design. In what measure do the results confirm these assumptions? Next, we consider the problem formulation and answer the question about how the product and process features relate to designing workplace learning. We conclude by indicating the recommendations for workplace learning plans that the research has yielded.

Six theoretical assumptions have been derived with respect to product and process features in designing workplace learning through a relational approach. Because elements of this approach apply in all designs, the assumptions may be verified according to the findings described in Table 2. The only assumption concerning the product features is that the product is more likely to be a prototype. This research does not demonstrate this, because very few prototypes have been designed. Moreover, there was a third product type, namely advisory reports. The share of finished products (31%), however, is far smaller than the share of other products (69%). Because these other products are far less directly applicable than finished products, a more relational design approach clearly involves the design of products that are less immediately applicable.
Five assumptions concerned process features. The first assumption that objectives cannot be formulated clearly is borne out by the results: most designs do not include explicit

formulations of objectives. Although the design process is systematic, these objectives are far less explicit and seem to depend on the designer's intentions rather than on the type of assignment. After all, students were required to apply elements from the relational design approach, which led many to establish explicit interactions with concerned parties within the organization.
The reports also reveal that most students took for granted that the objective was to design the product described in the assignment. The second assumption was that different actors were involved in the design process. Nearly all designs reflect interaction with a principal and the target group, whereas other actors are involved as well in half the designs. Determining whether the results confirm this assumption is complicated, as this depends in part on the number of actors whose involvement is relevant in the design. This varies for each design. The third assumption concerned personal input from users. The results strongly confirm this assumption. All but one of the designs reflect considerable personal input from the users, although this input varies according to the measure of actual user influence on the design. The fourth assumption related to changes during implementation. Once again, this assumption is substantiated by the results, which indicate changes in 61% of the designs. The fifth and final assumption was that designers were mainly coaches. Because students serve as advisors or process coaches with 75% of the designs and as designers with 25%, the results confirm this assumption as well.

Applying the relational design approach thus gives rise to specific product and process features. Still, several designs lack such features, especially the ones where students become designers, and no changes occur during implementation. The relational approach, notwithstanding the intention to apply it, appears less pronounced in these designs. Based on the role assumed, the systematic approach has ultimately prevailed.

How does this conclusion affect the relational approach in our problem formulation? Answering the first sub-question about the design products requires questioning which of the different products designed promote workplace learning. They are definitely the advice and prototype products, since both these products involve additional actions, decisions and development on the part of concerned parties and thus activate learning. In addition, the finished product type supports workplace learning as well, but only when designed specifically with the designer as the process coach. In this case, concerned parties help produce the design and have presumably learned through the design activities. Moreover, such finished products occur only in the group competence development and learning opportunity categories. With finished products designed through different means (i.e. by the designer), the likelihood that learning occurred or will occur is minimal. In cases where the designer has taken all major decisions, the actual application of an immediately usable product becomes questionable. Accordingly, we conclude that finished products designed in this manner do not support workplace learning.

After considering features of the design process of prototypes, advisory reports and finished products where the designer acts as the process coach, we have identified three distinctive features in the design process: 1) the target group provides input by supplying information or participating in the design; 2) changes occur in the implementation stage, and 3) the designer acts as an advisor or process coach.

Which recommendations do these conclusions yield for designing workplace learning? First, the likelihood that workplace learning will occur increases if a certain product type or category is designed. Explicitly aiming for products in the form of a prototype or advisory

report or designed to cultivate group competencies or workplace learning opportunities thus facilitates workplace learning. Second, applying a design approach in which the designer acts more like a coach than a substantive expert may promote workplace learning. As the research reveals, this may be accomplished, also by students, by explicitly encouraging them to involve the target group in the design process and to introduce changes in the course of implementation.

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Annex 1: LIST OF PRODUCTS for students to make in the subject "Designing HRD learning contexts"

1. Products designed to establish and develop competencies

1a) Individual level

- Competence profile
- Self-evaluation instrument
- Individual assessment method
- Analysis of individual work behaviour
- Instrument to determine educational/learning needs
- Development plan
- Framework for personal development plan (PDP)
- PDP-based learning project
- On-the-job learning method dedicated to reflection at work
- Mentoring or coaching guidelines
- Coaching discussion guidelines

1b) Group level

- Knowledge card for identifying team expertise
- Group assessment method
- List of aids and obstacles to facilitating a community-of-practice
- Procedure for identifying themes for setting up a learning network

2. Products geared toward educational opportunities at the workplace

- Workplace training (workplace component)
- Advice on how to acquire competencies other than through current courses or educational programmes

3. Products geared toward instructional opportunities

3a) Work content and organization

- Instrument for analysing and rearranging operating procedures
- Operational and task analysis method
- Environmental scan for identifying influential factors
- Analytical framework for determining workplace learning potential
- Determining project assignment
- Project approach for a joint design

3b) information generation and registration

- Job aid
- Support plan for staff members to develop a job aid
- Job aid with a specific instructional content (e.g. to promote learning at meetings)
- Operating instructions without textual information
- Plan of action for client evaluation
- Information pamphlet for clients or relations

3c) social work setting

- Agenda for team meetings serving an educational purpose

- New structure for progress discussions
- Arrange groupware environment for a collaborative project