Complements TENCompetence D4.4
Report on the results of the evaluation of the Cycle 2 pilots

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Cycle 2 ICT Training pilot: results

Description of the pilot available at appendix A.3.1 of D4.4. Available at http://dspace.ou.nl/handle/1820/1719

Participants characteristics
A total of 136 participants, 118 women and 16 men, started with competence development in the ICT Training pilot. Their mean age is 45, with a standard deviation of 8 years; all participants are between 26 and 60 years old. All participants live in Bulgaria.

The educational level of the participants is high. 87 % had a master’s degree (of which one person had a PhD) and the remaining 13 % completed higher vocational education or a bachelor’s degree. 97 % work as a teacher.

The number of years of experience in the teaching profession is very diverse. It ranges from 1 to 38, with a mean of 18 years and a standard deviation of 8 years. Similarly, their proficiency level with respect to teaching is very diverse. 11 % of the participants consider themselves novices, 17 % beginner, 49 % intermediate, 17 % advanced, and 5 % expert.

In general, all goals for competence development investigated are relevant to the participants. Acquiring (1) knowledge, (2) functional skills, and knowing how to (3) behave according to the rules and values of the profession, (4) guide their future use by reflection on current practice and (5) find creative solutions for problems related to this competence, are all deemed important or very important by at least 93 % of the participants.

Experience with web-based learning
To most people, following a course through distance learning is a new experience. The large majority has not followed any course or module through distance learning (79 %), 10 %, and the remaining 11 % followed 2 or more distance courses. The use of search functions such as Google was most familiar to the participants. 75 % used search often or very often, 15 % uses search sometimes, and 10 % occasionally or never. With respect to the sharing of data in online communities, all five options: ‘never occasionally, sometimes, often and very often’ have a share between 13 and 27 %. Ratings are used often or very often by 46 %, and sometimes by 33 %; 21 % use rating occasionally or never. There are large differences in how often people use chat. 43 % use it often or very
often, 40 % never or occasionally, and the remaining 18 % sometimes. The least used option is online discussion forums, which almost all people use never (50 %), occasionally (23 %) or sometimes (22 %).

**Facilities**
A small majority of the participants have a computer which is neither new nor old (57 %). 30 % of the participants have a new computer (less than one year old), and 13 % have an old computer (more than a few years old). Their internet connection is qualified as fast or very fast (45 %), medium (39 %) or slow (16 %).

**Motivation**
By far the most popular reason for following the pilot is that participants wish to keep up to date within their existing function or job (82 %). Around half of the participants have another job-related reason: they wish to improve their proficiency level of a specific competence (52 %) or they wish to study for a new function or job or improve their current job level (49 %). Around one third of the participants wish to define new learning goals for themselves by reflecting on their current competences (34 %) or by exploring the possibilities in a new field (28 %); 35 % look for support on a non-trivial learning problem.

In the majority of the cases, the employer of the participant is involved in their following the ICT Training pilot. 62 % of the participants have been allocated working hours for following the pilot. The employer of 17 % of the participants pays the pilot fee. For some participants, following the pilot is necessary for either keeping their current function (8 %) or acquiring a new function (10 %). In 10 % of the cases had following the pilot been obliged by the employer. 2 participants (1,5 %) follow the course as part of a trajectory for people who are unemployed. With 30 % of the participants there is no employer involvement.

**Learning style**
96 % of the participants have a preference for one learning style. 58 % prefer to be supported with learning resources plus a path that they have to follow, 34 % prefer an outlined path, but also the possibility to follow their own path, and 13 % prefer to learn from learning resources only.

**Post-test**
130 of the 136 participants who started with the ICT Training pilot filled in the post-test.

**General**
All participants spent between 40 and 60 hours, of which 63 % indicated that they spent 40 hours. 97 % completed the course, and 94 % passed the final competence assessment. The learning process of two third (67 %) of the participants was not or not at all hindered by technical problems. 30 % experienced moderate problems, and for 3 % their learning process was hindered by technical problems.

**Competence development**
Table 2 gives an overview of how much participants have learned with respect to the different competence types: knowledge, functional skills, social skills, and reflective skills.

<table>
<thead>
<tr>
<th>How much have you learned with respect to the following types of competences</th>
<th>(almost) nothing</th>
<th>little</th>
<th>not little, not much</th>
<th>much</th>
<th>very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>0</td>
<td>7</td>
<td>17</td>
<td>68</td>
<td>8</td>
</tr>
<tr>
<td>Functional skills, know how to do things</td>
<td>0</td>
<td>5</td>
<td>12</td>
<td>73</td>
<td>10</td>
</tr>
<tr>
<td>Social skills</td>
<td>0</td>
<td>4</td>
<td>11</td>
<td>41</td>
<td>44</td>
</tr>
<tr>
<td>Knowing how to behave according to the rules and values of the profession</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>36</td>
<td>58</td>
</tr>
<tr>
<td>Knowing how to guide my future use by reflection on current practice</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>77</td>
<td>18</td>
</tr>
<tr>
<td>Knowing how to find creative solutions for problems related to this competence</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>75</td>
<td>21</td>
</tr>
</tbody>
</table>

Table 2 Percentage of participants indicating how much they have learned with respect to the different competence types

Almost all participants (94 %) enjoyed this way of learning (very much). 4 % did not enjoy this way of learning and 2 % held a neutral position. A large majority of 95 % want to continue to develop this competence further in the future, 5 % does not want to develop the competence further.

*Appreciation of learning route*

A large majority of the participants (94 %) though their learning route was (very) efficient and the same percentage thought their learning route was (very) exciting. Only 6 % considered the learning route inefficient or boring or held a neutral position.

*Learning style*

Compared to the pre-test, there is a large difference in preferred learning style. In this pilot, participants were supported with an outlined path, but also the possibility to follow their own path, and 59 % indicated that in hindsight they preferred this; before the pilot, this option was preferred by only 34 %. In hindsight, 25 % would have preferred an outlined path that they would have had to follow. Before the pilot, 58 % held this preference. And in hindsight, 16 % preferred to learn from resources only, which was 13 % before the pilot.

*Appreciation of learning resources*

Participants differed widely in how much of the resources they used: 21 % used between 0 and 20 % of the resources, 31 % between 21 and 40 % of the resources, 24 % used between 41 and 60 % of the resources, 20 % between 61 and 80 % of the resources and 4 % used between 81 and 100 % of the resources.
Participants differed largely in how difficult the learning resources were to them. They found them difficult (38 %), neutral (18 %) or easy (44 %).

For the large majority of the participants, the learning resources were (very) interesting (90 %). 9 % held a neutral position, and 1 % found them uninteresting. Similarly, 91 % of the participants considered the learning resources (very) useful, 7 % held a neutral position and 1 % considered them useless.

A majority of the participants thought the learning resources matched their learning needs (60 %). For 12 % of the participants the learning resources matched their learning needs completely, 19 % held a neutral position and for 9 % they did not match their needs.

Control of own learning
We measured six aspects related to control of own learning. These were:
- In the beginning, I quickly got an overview of the competences involved and my current proficiency level
- I had a good overview on what I had done and what I had to do
- I had insight into how my learning progressed
- I had the feeling that I learned exactly what I wanted to learn
- I had the feeling that I could plan my own learning
- I felt in control of my own learning

Answers to these six questions correlated strongly, thus that we can say that together they measured the extent to which participants felt in control of their own learning. When rounded to the most nearby round value, we obtained the following scores: agree (completely) (65 %), neutral (29 %), disagree (5 %).

Collaboration with other participants
We asked the participants whether they had a lively and stimulating (1) discussion and (2) exchange of data and files. We asked this separately for work in small groups and the larger group of all participants. As the answers to these four questions correlated very strongly, we can say that together they measure whether people had a lively and stimulating discussion and exchange of data and files in their small and whole class group. Almost participants agree (completely) with this (93 %), 6 % was neutral and 1 participant (1 %) disagreed.

Appreciation of PCM functionalities
Functionalities include:
- forum
- chat
- rating
- choosing elements and routes
- marking elements as attained or completed
- element descriptions
- hierarchical organisation of elements
Forum
36% of the participants indicated that they didn’t use the forum at all. Almost one quarter of the participants who used the forum did so to seek help on the course content (22%), or to provide help on the course contents to others (22%), for sharing learning resources (23%) or for socializing (23%).

49% of the participants provided reasons for not using the forum. For these participants, most important reasons for not using the forum were lack of time (38% of this group) or that people didn’t have problems with the course content or organisation (36%). Less often, the reasons for not using the forum included the fact that there were no messages to which one could react (17%) or a lack of interest (18%). 5% of this group didn’t see the forum tab (5%). Finally, one participant (2%) didn’t know how to post a message.

The number of messages posted to the forum ranged from 0 to 5. The number of messages posted were: 0 (5%), 1 (25%), 2 (25%), 3 (15%), 4 (27%) and 5 (3%).

47% of the participants read all posts in the forum, 38% only those posts that were relevant to them, and 5% the posts in the forum. 10% that they did not read posts in the forum, because there were (almost) no posts in the forum. The PCM has one separate forum for each resource, action, competence and other elements. 34% of the participants indicated that they found it harder to find discussions because of this attachment to specific elements. 50% liked the fact that discussion on one resource or one action or one other element were concentrated and attached to that specific element. 6% didn’t know there were separate forums, and 18% thought having separate forums didn’t make a difference to having one forum. 5% of the participants used only (almost) one forum exclusively.

41% of the participants preferred having only one forum, 44% preferred having separate forums, attached to specific elements, and 15% had no preference. The forum was considered useful by 79% of the participants. 19% found it very useful, and 2% found it not useful nor useless.

Chat
95% of the participants didn’t use the chat at all. 5 participants (4%) indicated how many times they used the chat, which was either 4 or 5 times. Reasons for not using the chat included not having problems with the course content or organisation (17%) or lack of time (19). There were also usability issues: people who either didn’t see the people tab from which they could start a chat (8%) or who didn’t know how to start a chat (7%). For 4%, lack of interest was a reason for not using the chat. Half of the participants (50%) indicated they had another reason for not using the chat. 14% indicated that they used Skype instead.

Almost all people rated the chat as useful (78%) or very useful (16%). For 6% the chat was neither useful nor useless.

Beside the forum and chat in the PCM, participants used several other means of communication: 69% used email, 65% Skype, 65% face-to-face meetings, 15% telephone, and 3% chat. Only 5% indicated that they did not use other means of communication.
Rating
Half of the participants (51%) indicated that they didn’t look at ratings provided by others. Of the participants who used ratings by others, 13% used the ratings for the purpose of selecting elements.

The most important reason for not using the ratings was that they were not available (33%), followed by lack of time (27%). 9% mentioned lack of interest. 15% of the participants indicated that they didn’t want to base their decision on using a learning element on the rating by others and 20% wanted to pass through all parts of the competence profile anyway, and 2% didn’t find ratings useful in judging the quality of learning elements. Some participants mentioned a reason related to usability: they didn’t notice the rating tab (18%) or they didn’t understand what the ratings meant (5%).

42% of the participants indicated how well the ratings provided by others turned out to match their own judgement. For 66% of this group, the ratings matched their own judgement well, for 33% it matched neither badly nor well, and for 1 participant (2%) there was a bad match.

Half of the participants (50%) did not provide ratings, 33 provided one rating, 12% two ratings, and 5% provided three ratings.

69% of the participants considered the rating system (very) useful, while 31% held a neutral position.

Choosing elements and routes
The PCM offers the possibility for users to make their own selection of elements and to follow their own route. Two third of the participants made use of these options by making their own selection (68%) and/or choosing their own order of elements (67%). In general, both options were appreciated: a large majority of the participants enjoyed making their own choices (73%) or following their own order (87%). Learning was more efficient because of making their own choice (28%) or following their own order (32%). Only 4% (making own choices) respectively 1% (following own order) experienced no effect. Form 13% using all elements instead of their own selection would have in hindsight be better, and for 1% following the prescribed order would have been better.

69% of the participants created their own competence development plan, and 61% of these participants made use of the competence development plans of others in creating their own competence development plan. 90% of these participants marked their competence development plan as shared; 37% knows that someone else has used their plan, 53% doesn’t know if anyone has used their plan.

Marking elements as attained or completed
45% of the participants made use of the option to mark elements as attained or completed. Within this group, 63% used the complete marks to see how many elements they already mastered, 66% to see how many elements they still had to master and 64% to see where exactly they were in the learning process.

Non-use is clearly related to usability issues. 15% of the participants didn’t notice the option was available, whereas 24% indicated they noticed the option was available, but they didn’t know how to use it. Marking elements as completed was considered not useful for profiles by 37%, for plans by 18% and for actions by 15%.
People used marking competences as complete at different points in time, namely when they had performed all actions related to the competence (13%), when they had performed all action that were relevant to them for their mastery of the competence (61%) or when they had the feeling that they mastered the competence, regardless of the use of actions within the competence (26%).

The most cited effect of using marking elements as complete was that participants enjoyed having this type of overview (96% of the group who used this function). Another effect was that the learning progressed more efficiently (31%). Overall, marking elements as complete is considered (very) useful by 65% of the participants, 33% found this option not useful neither useless, and 2% found it useless.

**Element descriptions**

With all learning elements of the PCM, detailed descriptions can be provided. 48% of the participants indicated that they used the descriptions, while 52% indicated that they did not use the descriptions in selecting learning elements that matched their own needs. To the extent that they did not use the descriptions, the mostly cited reasons was that participants wanted to pass through all parts of the competence profile anyway (42%). 28% mentioned lack of time, and 26% didn’t consider descriptions useful in judging the usefulness of the elements. 7% had a lack of interest, while 3% didn’t understand the descriptions.

For a majority of the participants, descriptions were (completely) detailed and accurate (58%), for 38% they were in between, and to 5% they were not detailed and accurate. For a majority of the participants, the descriptions provided matched their own impression well (33%) or completely (24%), for 39% the match was not badly nor well, and for 5% the match was badly. For half of the participants (51%) the time to find resources has fallen, for another 27% time has even faller sharply. For 14% the descriptions did not make a time difference, and for 8% time went up.

**Hierarchical organisation**

The PCM has a hierarchical organisation of resources within actions, actions within competence development plans, and competence development plans within competences. For the participants, this organisation has two main functions. For the majority of the participants, it provides a natural order in which to proceed through the learning resources (64%). For 60%, it makes it easier for them to find their way to the learning resources. 5% felt hindered by the hierarchical organisation in getting an overview of the resources.

**Conclusions**

In general, following the ICT Training pilot was a positive experience. This conclusion discusses the most prominent findings.

- Participants did not differ very much in the hours that they spent on the pilot: all participants spent between 40 and 60 hours. Yet, they differ widely in the percentage of the resources that they used. Also, large differences were found in how difficult resources were for participants.
• Participants appreciated this way of learning. Almost all participants enjoyed this way of learning and wished to develop this competence further. Also, the possibility that was offered to follow an outlined path or their own path was seen as their preferred way of learning by 25% more participants after the pilot than before the pilot.

• Related to this, the possibilities for choosing one’s own learning elements and routes was highly valued by the participants. Furthermore, for around 30% these possibilities made learning more efficient. When comparing choosing one’s own elements and routes, following their own order is still more popular, which is also reflected in the fact that a small minority regretted having used only a selection, and not all elements, while hardly anyone wished they had followed the prescribed order instead of their own order.

• Collaboration with other participants was valued very highly in this pilot. Communication with others not only happened through the PCM but other means, especially email, Skype and face-to-face meetings were also used.