



6th Framework Programme - Priority 2 "Information Society Technologies"
 "HUMAN centred design for Information Society Technologies"
 Proposal n° 507 420
 Contract n° 507420

Sascha Michael Sommer
 Ardeystr. 67
 D-44139 Dortmund
 GERMANY
 Tel.: +49 231 1084 372
 e-mail : sommer@ifado.de
 http://www.ifado.de

Deliverable 5.4

Bi-annual report of training activities for early-stage researchers (March 2004 – February 2006)

Task Force 5

Reference: 5IFA-060321-T1-A

CONFIDENTIALITY LEVEL : CONSORTIUM + EC

Rev.	Issuing date	Pages	Written by	Visa	Veri-fied by	Visa	Approved by	Visa
A	21 st March 2006	8	Sommer, S. (IfADo)	✓	Executive Committee and TF E	✓	Coordinator Jean-Pierre Médevielle	
Modifications : Creation of the document.								
Modifications :								

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1 Introduction

This report provides an overview on the TF5 training activities for early-stage researchers (ESR) during the first two years of the HUMANIST network. A complimentary report will be available for the parallel training activities for transportation professionals.

The report consists of brief descriptions of the aim and content of training events as well as the preceding training needs analysis. The content of this document is based on relevant milestone reports and deliverables that have been submitted during the first two years of the project. The final section of this document introduces the future training activities for early-stage researchers planned within the 3rd JPA.

1.1 Training Needs Analysis

According to the Marie Curie program an ESR was defined as a person of at least post-graduate or equivalent status who is actively doing research. This definition is independent of chronological age and actual research experience of an ESR.

The actual training activities were preceded by an analysis of the training needs of the ESR associated to the NoE. The group profile was analysed in order to identify those fields in which the ESR need additional training and education (Deliverable 5.1, 2005, TF5 Milestone Report 1, 2004). The analysis was based on a questionnaire survey. The ESR associated to the NoE were asked about their academic background and experience in different ITS-related fields. 38 ESR sent back the questionnaire with their answers. The professional background of the majority of respondents was either engineering or psychology.

The title of the thesis concluding the early-stage researchers' academic education (master thesis etc.) indicate that most, but not all have an academic background directly related to the human-centred design of ITS. When examining the respondents' additional publications it became apparent that most respondents would benefit from group trainings together with other academic disciplines, because only few ESRs had sufficient experience in interdisciplinary projects. This interpretation was confirmed by a question about the ESRs' professional specialization. Few psychologists had before gained experience in engineering fields, and no engineer reported experience in traffic, applied or experimental psychology (Figure 1, taken from Deliverable 5.2). It was hence concluded that there is an urgent need to to prepare the ESRs for the interdisciplinary co-operation with other disciplines.

The interest to participate in ITS-related training events was generally high. The two main professional groups, engineers and psychologists, expressed slightly diverse interests in the different ITS fields. Engineers prefer on average the impact analysis of ITS, assessment methodologies for ITS effects and costs and benefits of ITS, while the psychologists' main

focus is on driver behaviour models, driver information needs and methods to train drivers to use ITS (Figure 2, taken from Deliverable 5.2)

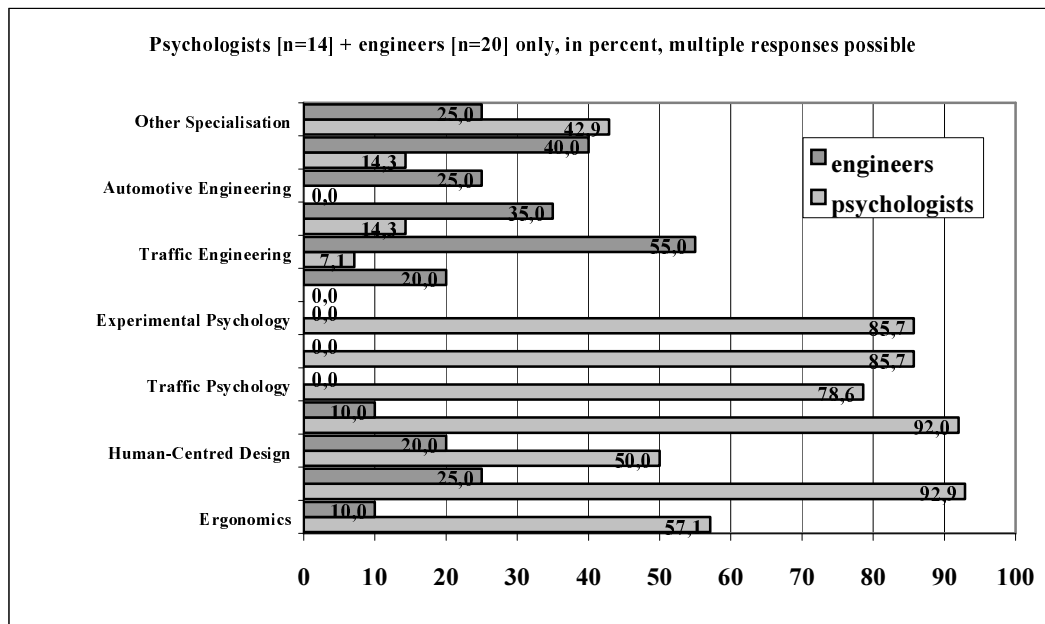


Fig. 1 Areas of specialisation, sorted by profession (Deliverable 5.2)

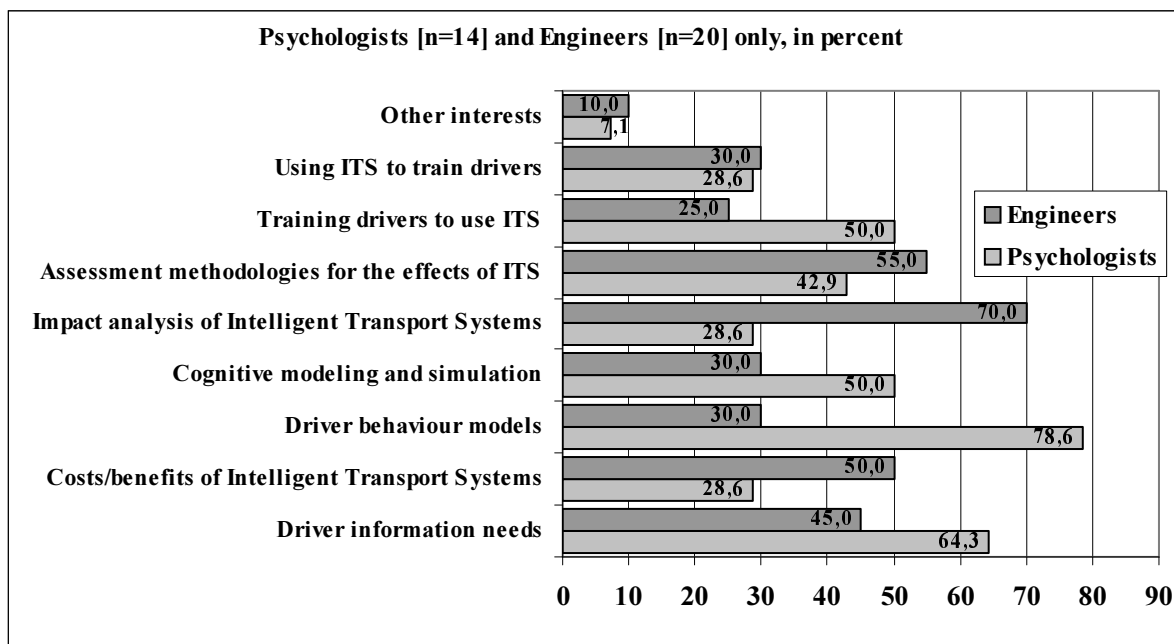


Fig. 2 Interest in HUMANIST topics – Psychologists and Engineers (Deliverable 5.2)

The ESRs were finally asked to indicate their didactic preferences. Most respondents favoured workshops, courses or seminars.

1.2 Conclusions of the training needs analysis

Based on the feedback from the ESR associated to NoE it was decided to

- provide the training mainly in workshops and courses;
- include the training of interdisciplinary skills;
- test the 'tandem learning' approach for interdisciplinary training (see section 4);
- evaluate the training events, based mostly on the feedback by the participants;
- take into account as much as possible the interests of the ESR when selecting topics for training events.

2. 1st training event: Poster presentation during TF C workshop

In May 2005, HUMANIST TF C organized a workshop on *Modelling Driver Behaviour in Automotive Environments*. In the training needs analysis driver modeling has been identified as one of the most interesting topics for the ESR group. The workshop included a number of invited lectures and a poster session for ESR. 14 PhD students and 2 post-docs associated to the NoE presented at the poster session. Six of the presenting PhD students receive HUMANIST PhD grants. The workshop lectures provided the ESR with state-of-the-art scientific knowledge about driver modeling. During the poster session they had the chance to improve their own presentation skills, and to receive feedback about their own work by experienced experts. Posters in relation to computer modeling and computer simulation of driver behaviour as well as studies examining cognitive processes of drivers were accepted. The poster session was evaluated by the presenters. Their feedback to the workshop and, in particular, the poster session was collected with a questionnaire. The questionnaire items assessed issues like the scientific qualities of lectures, the scientific quality of the poster session, the quality of feedback to the posters et cetera.

The result of the evaluation of the poster session was good. Most ESR thought that the workshop would have a positive impact on their personal scientific development, primarily due to the high quality of scientific lectures and the quality of the posters presented in the poster session. The exchange with experienced researchers during the poster session was less good. This was explained mainly with logistic problems, like the problematic position of the poster session at the end of the second day of the workshop, and a lack of information about the aims of the poster session on the side of the experienced researchers.

However, the idea to provide the ESRs with the opportunity to present their work during a workshop with experienced researchers was, on the whole, well received. This type of event will most likely be repeated considering the main recommendations of the evaluation report:

The ESR should be assisted by tutors during the preceding review process and the actual poster presentations should include a short oral introduction to the contents of the poster by the presenters.

3. 2nd training event: Lectures TF E workshop and bonding session

The core of the second training activity was a session with special lectures about integrated assessment methodologies during the combined TF E and TF 2 workshop in June 2005. The lecturers were asked to adapt their presentations to the knowledge level of inexperienced researchers, and also to try to enhance the ESRs understanding of the lecture contents during the discussion. After the lectures the ESRs had the chance to strengthen the communication and co-operation inside the HUMANIST ESR group itself. In a moderated session each ESR presented her/his research plan(s) to the other group members. The audience was instructed to provide constructive criticism, and to think about opportunities for collaboration.

All ESR granted by the NoE attended the lectures and the bonding session. The bonding session started with a short discussion to evaluate the special lectures. The group rated content and quality as very good, mainly because the lecture topics were closely related to their own personal research projects. The following bonding session was not very successful. The discussion among the ESRs were not as lively as expected, probably because the group met for the first time in such a setting. Therefore the ESR were asked to continue the discussion about their research plans afterwards via email. This continuation of the exchange between the ESRs was very successful. Most ESRs indicated that the written feedback by their fellow PhD students was helpful and improved their own experimental designs.

A session with special lectures will be repeated, most likely during the TF A workshop on driver information needs in the second half of 2006. As the email exchange between the partners was also well received it was agreed to facilitate their electronic communication. It was hence decided to implement a common platform for the ESR into the HUMANIST collaborative working environment.

4. Tandem training

Tandem training is a didactic approach originally developed for language acquisition. Experts with different backgrounds work together on a common task. During the process the experts train each other in an interactive goal-open procedure. The co-operative situation is usually very stimulating and increases the motivation of the learners. As the HUMANIST PhD

students are a multidisciplinary group the tandem learning approach was chosen to train interdisciplinary skills required for human-centred design. However, the formation of a complete set of balanced tandems of, on the one hand, psychologists and, on the other hand, engineers was not possible, because most PhD students receiving HUMANIST grants are psychologists.

Together with the ESRs the tandem learning scheme was hence adapted according to the specific training needs of the group. The preparatory steps for the tandem training program were as follows:

- Each ESR suggests a number of topics that he / she could train as expert.
- The tandem training partners are then chosen based on the suggested topics.
- Following a request by the PhD students it was decided to allow learning teams with four partners maximum.

Each learning team is supported by two experienced experts as supervisors. Four teams participate in the tandem training program, three teams with three members and one with four members. Detailed information about the learning groups, the expert topics of each team member, the common learning goal of the team and the team's supervisors are available in TF 5 Milestone Report 'Scheme for Early-Stage-Researchers Tandem Learning Seminar'. The final activity of the relevant period of this report (March 2004 – February 2006) was in February 2006. The team members first studied the articles and then answered in writing the questions formulated by their tandem training partners (deadline February 13th).

5. Future training activities for early stage researchers

The tandem training program is currently (March 2006) entering the final stage. By the 10th of March 2006 the written answers to the questions were evaluated by those tandem partners who are the experts for the topic in question. The learning partners have the opportunity to respond to the evaluation until the 24th of March. Each tandem expert should then prepare a short presentation with the main outcomes of the exchange about his topic for the final tandem training face-to-face workshop, which will be held in April 2006 in Madrid. During the face-to-face workshop each team will be supported by at least one of the supervisors. In the morning session of the workshop each team will prepare a presentation about their common learning goal. In the afternoon session of the workshop each team will present the results of their collaboration to the other teams.

The next session with special lectures for ESR will be in co-operation with the planned TF A workshop on 'Driver Needs' organized by VTT in September 2006 in Finland.

The content structure of a summer school for ESR working in the field of human-centred design of ITS will be elaborated by Month 38. Furthermore, a platform for ESR will be implemented to the HUMANIST collaborative working environment until Month 40.