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Introduction

At the QUEST Center, we developed the Fundamentals of Responsible Research (FoRR) course for medical doctoral students, focusing on research integrity (RI) and good scientific practice (GSP). To scale this course, we created a train-the-trainer program. This case study details the design of the train-the-trainer format for postgraduate researchers with diverse natural science backgrounds and limited teaching experience. After training, the new trainers taught the FoRR course. We evaluated their training success and teaching quality. Of the first six postgraduate researchers trained, five became trainers, teached 22 students in total and participated in the evaluation process.



Visit the FoRR course



Design Principles

Malcolm Knowles, an expert in adult learning, identified four principles that help to create an environment where adults learn best. Three of which form the basis of our training concept:

- A Focus on learning subjects, that have immediate relevance and impact on participants work
- Participants involvement in the planning and evaluation of their instruction
- **Direct learning transfer**



Training & Supporting ,Trainers' Learning

Workshop (Theoretical Part)

Format: 2 days in presence, blended learning and flipped classroom

Content: Principles 'A & B' are covered

Additional Toolbox (Moodle)

Guided teaching (Practical part) Format: 2 Interactive tutorials and 1 Colloquium in presence

Content: Principle 'C' is covered

Credits

As part of the 'Qualification Program for Teachers' at the Charité, trainers receive a confirmation of attendance and credits for further didactical education. Teaching hours can be accredited for German habilitation.



Feedback by Instructors

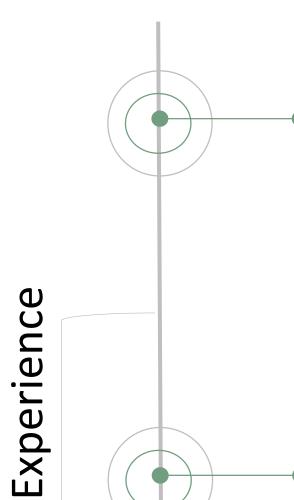
Trainers could discuss their teaching plans with course instructors anytime. In-class visits provided direct feedback without involving active teaching or co-teaching by instructors. Administrative, organizational, and technical support was available during teaching events.



Evaluation and Key Findings

Evaluation strategy to analyze the training satisfaction and effectiveness

Workshop



Teaching

Feedback Session 1

The Trainers Target:

An open oral discussion + An anonymous online survey **Format:** Aim:

1) Reflection on the structure & content of the workshop 2) Clarification of whether expectations have been met

Main Points named to improve were the density of the

workshop days and the resulting overlap of topics.

In Class Visits

The Trainers Target: Observation + Protocol Format: Analysis of training transfer Aim:

Outcome: - Administrative questions occurred in repetitive way.

- Trainers could not always transfer the knowledge in didactics.

Feedback Session 2

Target: The Trainers

An open oral discussion + An anonymous online survey Aim:

Reflection on 1) The transfer of training content 2) The toolbox given in Moodle 3) The guidance by the course instructors

Outcome: - Positive Feedback was given on the toolbox on Moodle and the

intensive guidance and support during the semester by the

course instructors. - Co-teaching experiences was assessed differently.

Qualitative Course Evaluation

Trainees (Doctoral Students) Target:

Questionnairs within the mandatory quallitative course Format:

evaluation*

Aim: Analysis of didactical training transfer

Outcome: All trainers created a pleasant learning environment, used fitting material and exercises and initiated active exchange between the

Revision of the students. The outcome was similar for all teaching groups.

training program

* FoRR course

Train the Trainer courses

Five steps to ensure the quality of teaching RI and GSP, a case study



Training Revision & Conclusion

After the received feedback in the evaluation we will implement the following adjustments:

- Three days workshop, that offers the possibility to:
- separate the different training topics. - invest more time in the didactic part and in demonstration of teaching.
- Shorter administrative part within the workshop, while offering support during the teaching experience.
- Offering both teaching models, co-teaching and teaching alone, for fitting the individual needs.



Visit the TtT course

Our approach is that the teaching of scientific integrity and good scientific practice must not only be imported, but must meet the individual needs of different institutions and target groups. For this purpose, it is important that teaching increasingly concentrates on qualitative rather than quantitative aspects.

Acknowledgements: I would like to thank Maren Hülsemann ¹ and Friederike Kohrs ¹, for the revision of my poster and their moral support. Funding provided by the Foundation Innovation in Higher Education Teaching.

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1. Knowles, M. (1978). The adult learner: A neglected species (2nd ed.). Gulf Publishing.