

Tutor Training Using Role-Play and Video Analysis for the LearnING Center, a Study Room at TUHH

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INTRODUCTION

In order to encourage student self-study, many universities have established tutoring centers where students receive help when working on assigned problems or preparing for exams. Usually this is done at the departmental level. Examples that are known to us include the 'Physics Study Center' at the University of Washington [1] and the 'Physics Clinic' at Syracuse University [2]. As the majority of courses at Hamburg University of Technology (TUHH) are being attended by students from a variety of different study programs, the LearnING Center was established to provide help to students visiting introductory courses in all study programs. This requires an innovative approach to tutoring as well as specific preparation of the tutoring staff. To prepare tutors for their work in the LearnING Center, we designed a training program that includes role-play elements and video analysis and emphasizes questioning techniques such as the Socratic dialog. This approach allows the tutors to help students even if they themselves have only limited content knowledge about the subject in question.

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1 THE LEARNING CENTER

1.1 Concept

The LearnING Center aims to support student self-study and to foster continuous learning during the semester as well as learning in groups. Similar facilities exist at many universities and colleges, especially in the US, but are often associated with one department or assign tutors to specific courses as in the case of the tutoring center at Western Washington University [3]. Our goal was to establish a tutoring center where students can drop-in whenever they have time to study and receive help from any tutor present, regardless of the subject matter about which they have questions.

Specifically, the LearnING Center offers room for up to 60 students and is open from 7am to 8pm. Consequently, students can use the LearnING Center as a study area, alone or in groups, whenever they have time between their courses. In addition, for a total of 28 hours per week tutors are available to help students. The tutors freely circulate among the students as they have questions or need help with their weekly assignments.

We decided to hire students as tutors for the LearnING Center instead of academic staff members partly for financial reasons but mostly because we felt that (1) they had gone through a similar experience more recently and (2) they would be better able to interact with the students at eye level. Particularly, we recruit upper-level students who have passed at least their first year exams. Thus, our project can be classified according to Topping as “Dyadic cross-year fixed-role peer tutoring” [4].

1.2 Role of the Tutors

The function of the tutor in the LearnING Center is to help the students resolve specific subject-related questions and find solutions to the assigned problems. Although, we specifically look for potential tutors who are confident in covering multiple subjects, we do not expect the tutors to be able to recognize immediately the solution to any problem a student may pose. Instead, the idea is that the tutors guide the students in finding their own solutions through carefully posed questions. As this is challenging even for very experienced instructors, the tutors need substantial training tailored to this task.

2 THE TUTOR TRAINING PROGRAM

2.1 Overview of Program

The tutor training covers nine hours, spread over one and a half days. All participants are prospective or returning tutors of the LearnING Center. Therefore, we are able to tailor the training to their needs. Usually, we recruit 6 to 7 tutors each semester with about half doing the job for the first time. The training takes place shortly before the beginning of the semester and thus the opening of the LearnING Center.

The program begins by giving the tutors the opportunity to share prior experiences of teaching others. Subsequently, we discuss the objectives and the concept of the LearnING Center and introduce the tutors to questioning techniques like the Socratic dialog. Then, the tutors observe a video recording of a typical tutoring situation, i. e. a one-on-one conversation between a student and a tutor, and analyze the performance of the tutor in the video. This activity serves as a preparation for a role-play scenario in which they practice their questioning techniques. Finally, the tutors are given the opportunity to reflect on their performance (using a recording of the role-play) and to receive feedback from the other participants.

2.2 Video Analysis

For the video analysis of the typical tutoring situation, the tutors are asked to use an observation protocol which was developed by the tutors of the previous training program. This includes some criteria that are common in protocols used for observations of teaching situations, such as the Reformed Teaching Observation Protocol (RTOP) [5, 6], but is adapted to the situation of one-on-one interactions between a student and a tutor (see Fig. 1).

Observation Protocol for the Learning Center		
Name of tutor:	Date:	
Criterion	+ O -	Comments
The tutor ...		
... checks whether the task is clear or not.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... recognizes the cause of the problem.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... helps in a way appropriate for the particular problem.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... considers the student's approaches.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... makes sure she/he is comprehensible.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... clarifies technical terms if necessary.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... speaks at an appropriate volume.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... speaks at an appropriate speed.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... is able to express herself/himself well.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... uses technical terms.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... pays attention to her/his body language and posture.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... gives the student enough time for consideration.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... lets the student finish speaking.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... avoids guessing games.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... supports the student to find the solution on her/his own.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... phrases as much as possible in form of a question.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... gives feedback.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
... lets the student reflect on her/his approach.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Fig. 1: Observation protocol developed by the tutors during their training (English translation).

With this sheet the tutors analyze a video recording, which was taken in an earlier training session. First, the participants fill out the observation protocol on their own while watching the video. They then form pairs to discuss their observations and try to come to an agreement concerning the tutor's performance in the recording. Finally, after a brief discussion of the video in the entire group, the participants focus on the observation protocol itself. They discuss whether the protocol has to be edited e. g. by adding a criterion, and if necessary do so.

2.3 Role-Play

The main goal of the role-play is to put the prospective tutors in a situation, that resembles their work at the Learning Center. There, most of the time the tutors carry on a one-on-one conversation with a student to discuss specific problems with a given assignment. For the role-play in our training program, first semester engineering students are being cast. They confront the tutors with actual problems. Thereby, the role-play becomes quite realistic.

While one tutor helps a student in the role-play scenario, two others observe the situation and analyze it using the (possibly modified) observation protocol from before (see Fig. 2). Video recordings of the role-play scenarios allow the participants later to reflect on their performance and receive feedback from the others.



Fig. 2: The role-play scenario: one-on-one conversation between a student (background right) and a tutor (background left) observed by two other tutors filling out the observation protocol (front left).

2.4 Video Feedback

After the role-play, the tutors give each other feedback using the video recordings, and thereby get the chance to assess their own performance in order to improve their questioning techniques for their later work in the study center. The video feedback is structured as follows: Firstly, the tutors watch their videos in private. To support their self-reflection, they are asked to fill out the observation protocol during this. Secondly, they are asked to identify what they did well and about which situations they are unsure regarding their performance. They will report their findings to the group. Thirdly, they are asked to select a three-minute clip from their video recording to receive feedback on by the group. For the report of their performance as well as the feedback in the group, specific feedback rules – namely to mentioned positive aspects first and only then give suggestions for improvement – are enforced.

3 RESULTS AND DISCUSSION

3.1 Usage of the Learning Center

In order to monitor the usage of the Learning Center, we ask the tutors to collect data while there are on duty. They do so by counting the students present at the half hour every hour. During the past two years since the opening of the Learning Center, we have observed an overall increase of the number of students present. Generally, usage is considerably greater in winter semesters than in summer semesters. In the most recent semester (Winter 2014/15), on average 30 students were present at the hourly count (see Fig. 3). Particularly noteworthy is the high number of students using the Learning Center already very early in the semester as compared to the previous semesters. In addition, we observe that the number of student-tutor interactions is disproportionately higher in the recent semester. Unfortunately, no statements can be made about the length of stay of the students, how often a particular student visits the Learning Center, and consequently the overall number of different students using this facility.

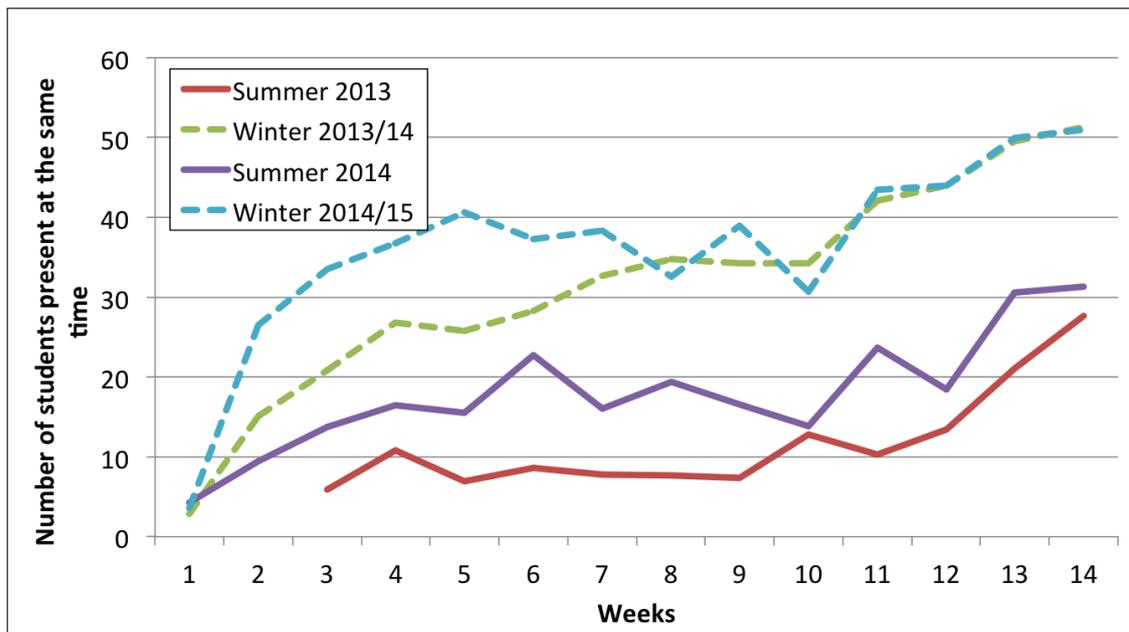


Fig. 3: Number of students (averaged over a week) present at the same time in the Learning Center during the last four semesters.

3.2 Student Feedback

In winter 2014/15, we designed a questionnaire to get some detailed feedback from the students using the Learning Center. It includes items concerning the Learning Center in general as well as items referring to a particular tutor (see Fig. 4a). All items were phrased as statements to which agreement or disagreement could be expressed on a 5-point Likert scale.

Two thirds of the students indicated that they came to the Learning Center because tutors were present (highest and second highest level on a 5-point scale, see Fig. 4b). An overwhelming majority stated that the discussion with the tutor was helpful (see Fig. 4c). About 75 % of the students credit the tutors with having a good command of subject matter (see Fig. 4d). Of particular interest to us was the question whether students came mostly for the solutions or to improve their understanding of a topic. Here, 60 % of the students favored understanding with 25 % answering indifferently (see Fig. 4e).

4 LESSONS LEARNED AND SUMMARY

The training program, which has been developed and continuously modified over the past four semesters, is perceived to be very helpful by the tutors. They particularly value the role-play activity and the subsequent feedback session as a useful preparation for their work in the Learning Center. Based on the increasing usage and the feedback from the students, we conclude that the tutors are indeed adequately prepared. Moreover, our strategy to provide help through questioning seems to have affected student attitudes towards learning in a positive way. Staffing a tutoring center with tutors who are not specialized in one discipline does not seem to have negative consequences as long as an appropriate tutoring concept is chosen and suitable tutor training is provided.

LearnING Center
Raum zum Lernen

Your Feedback about the LearnING Center

I visit the LearnING Center because of the tutors.	<input type="checkbox"/>				
The tutors have a good command of the subject.	<input type="checkbox"/>				
The tutors are available within a short time.	<input type="checkbox"/>				
It is more important for me to get solutions for an assignments than to improve my understanding.	<input type="checkbox"/>				
The tutors in the LearnING Center cover the range of subjects most important to me.	<input type="checkbox"/>				

I would like to receive help in the following subject: _____

Further comments, feedback or remarks: _____

Your Feedback about the Tutor

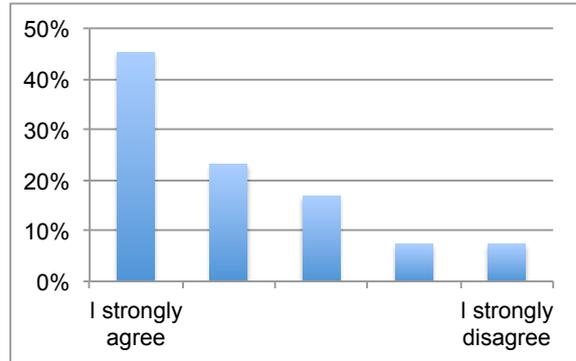
Name of the tutor: _____

Subject of the question: _____

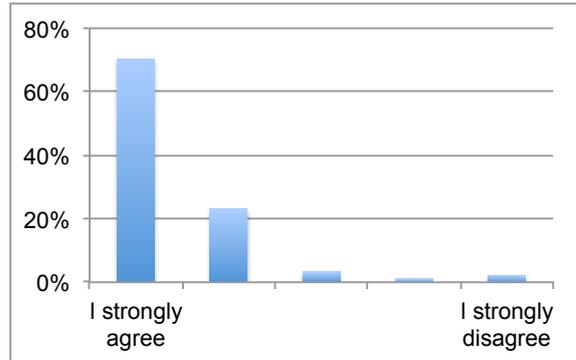
Talking with the tutor helped me.	<input type="checkbox"/>				
The tutor answered my question.	<input type="checkbox"/>				
The tutor was quickly available.	<input type="checkbox"/>				
The tutor's explanations were understandable.	<input type="checkbox"/>				
The tutor had good subject knowledge.	<input type="checkbox"/>				

Further comments, feedback or remarks: _____

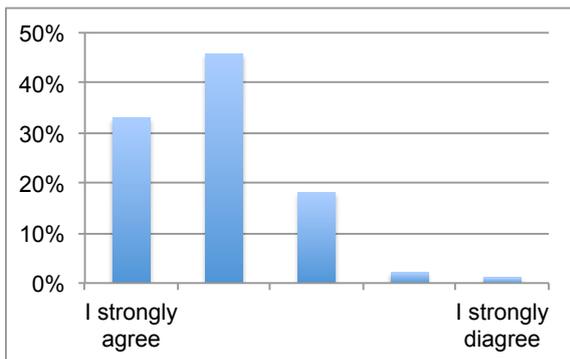
(a) Questionnaire.



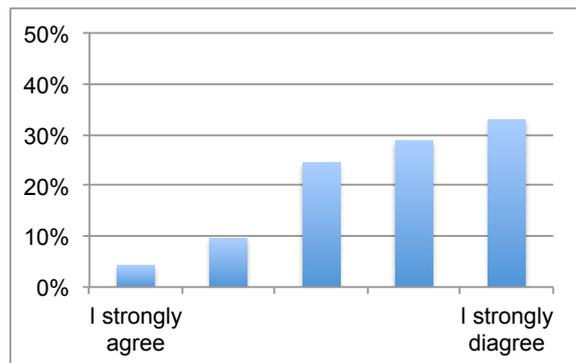
(b) I visit the LearnING Center because of the tutors.



(c) Talking with the tutor helped me.



(d) The tutors have a good command of subject.



(e) It is more important for me to get solutions for an assignment than to improve my understanding.

Fig. 4: The questionnaire (a) and for results selected questions (b-e). N=95

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