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**Evaluating Teaching Quality in Higher Education:  
A Focus on Students' Learning Experiences**

**Zenawi Zerihun**

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Organization for International Cooperation in Higher Education (NUFFIC)

Title: Evaluating Teaching Quality in Higher Education: A Focus on  
Students' Learning Experiences

Titel: Leerervaringen van Studenten in het Hoger Onderwijs als basis voor  
Docentevaluaties

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VRIJE UNIVERSITEIT

**Evaluating Teaching Quality in Higher Education:  
A Focus on Students' Learning Experiences**

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad Doctor aan  
de Vrije Universiteit Amsterdam,  
op gezag van de rector magnificus  
prof.dr. L.M. Bouter,  
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## Chapter 1

### General Introduction

As the objective of teaching is student learning, assessing teacher impact on learning has been considered a major indicator of teaching quality in higher education institutions. The most appropriate indicator of this impact would be the increased knowledge and skill among students as a result of their experiences. However, whatever students learn could not always be attributed to the quality of the teaching. Firstly, students play significant role in the game: the greater their effort, the more they learn. What is more, their abilities also contribute to their learning. Secondly, as the measures used to evaluate learning may not always reveal how much students have achieved, it is difficult to rely on grades as indicators of teacher effectiveness. For that reason, students' satisfaction with their learning experience is often used as a means of evaluating the impact of teaching on their learning. Universities and colleges evaluate teaching using student rating questionnaires that contain certain dimensions believed to be indicators of teaching effectiveness.

Students' descriptions of the characteristics of effective teachers are commonly used to develop measures of teaching quality. The most likely characterizations include 'one who knows the subject well, communicates effectively, is approachable, etc'. Rarely would you get descriptions such as 'one who involves students in learning, designs tasks that help student learning, or guides student learning'. Part of the reason for giving more emphasis to teachers' overt behavior as indicator of effectiveness could be the widely held belief that teaching is something the teacher does to make students learn. In fact what the teacher does in the process of learning has a

significant impact on student learning. For instance, a meta analysis by Hattie (2003) revealed that about 30% of the variance in student achievement can be explained by teacher performance. McKeachie (2007, p. 459) also states ‘To the degree that teachers make challenging assignments, encourage competency, give thought-provoking tests, and use other means to promote active learning, students will make their learning meaningful.’ However, when the indicators of teaching quality emphasize on teacher’s overt behavior, it may be difficult to evaluate teacher performance in terms of its impact on student learning. Students may not be able to evaluate teaching based on their learning progress.

Learning does not occur only because well designed knowledge is presented by teachers. Rather, it is an activity that is accomplished by students, of course with the guidance and facilitation from teachers. Students have to be the major players in creating meaning out of their experiences. Studies emphasize that student engagement in the learning process is important for learning (e.g. Biggs, 1999; Chickering & Gamson, 1987; Shuell, 1986). In other words, it may be difficult to evaluate teacher performance in terms of its impact on student learning if the emphasis continues to be on the teacher’s behavior. Thus, a measure of teaching quality has to be designed in such a way that students can evaluate the support from the teacher in terms of its impact on their own learning.

The appropriateness of evaluating teaching using student rating questionnaires has been extensively studied (Abrami, D’Apollonia, & Rosenfield, 2007; Marsh, 1987; Ramsden, 1991). But there are concerns about the suitability of the items in these questionnaires as sources of feedback for teaching improvement (e.g. Kember, Leung, & Kwan, 2002).

This study deals with the practice of evaluating teaching quality using student rating questionnaire, with particular reference to the higher education experience in Ethiopia.

This introductory chapter presents a description of the problem, the research methodology, and the theoretical framework employed. It also describes the study context and the relevance of the study. In 1.2 the theoretical framework used to explain the focus of the study is presented followed by a description of the context of the study under 1.3. The need for conducting the study is described under 1.4. In 1.5 the research problem and research questions are presented. The methodology used under the various studies is provided in 1.6. The relevance of the study and outline of the study are presented in 1.7 and 1.8 respectively.

## **1.1 Theoretical framework**

Teaching evaluation is conducted based on two related key assumptions. Primarily, teachers are seen as having an influence on student learning. The second one has to do with students' capacity to provide teachers with feedback to be used for improvement of teaching. The theoretical assumptions considered in designing the measures of teaching effectiveness influence the nature of the feedback for improvement of teaching behavior. Some feedback may turn out to be more appropriate or effective than other feedback. The implied meaning of teaching and learning in the measures in turn has an impact on the teaching and learning approaches employed.

A model proposed by Biggs (2003) that deals with the levels of thinking about teaching, expressed in terms of student learning, is used as a



theoretical framework to explain the assumptions considered when designing student rating questionnaires. In the model student learning is described in three different ways: (1) learning is a function of individual differences between students; (2) learning is a function of teaching; and (3) learning is the result of students' involvement in learning focused tasks. Biggs argues that when learning is considered a function of individual differences between students, failure to learn is attributed to lack of ability on the part of students but not to problems in teaching. On the other hand, when learning is considered a function of the teaching, the focus is on teacher performance, not on what types of students the teacher has to deal with. Whether the teaching has the desired effect on student learning is not the concern since the role of the teacher is on transmitting knowledge. Finally, when learning is considered the outcome of student engagement, the emphasis is on what students have to do. In this case, the focus of teaching shifts from what the teacher does to what students have to do to comprehend the contents of instruction. Thus, the role of the teacher in this case is facilitating student learning.

The dimensions of effective teaching indicated in student rating questionnaires reflect the influence of the 'teaching as transmitting knowledge' or 'teaching as facilitating learning' perspectives. When the 'teaching as transmitting knowledge' perspective is predominant, more emphasis is given to evaluating the effectiveness of teaching in delivering contents to students. A student rating questionnaire influenced by this perspective is designed to evaluate the effectiveness of teacher performance, i.e. whether the teacher organizes, presents, and evaluates contents. In this case, teaching evaluation is limited to the issues of content coverage and presentation since it is assumed that students learn when the teacher presents

contents. By contrast, when the ‘teaching as facilitating learning’ is the preferred perspective, student involvement in the process of learning is given more emphasis. This could be addressed in student rating questionnaires in terms of evaluating teachers’ support and facilitation to engage students in the process of learning.

Studies conducted on the process of teaching and learning, however, indicate that an element of both active student engagement and teacher guidance contribute to student learning. It is difficult to think of an instructional setting that is entirely teacher centered or student centered. In other words, learning is a function of teachers’ facilitation as well as students’ engagement in the process of learning. Some studies report that students learn better when they are actively engaged in learning (Chickering & Gamson, 1987; Biggs, 1999). Apart from benefitting students, such engagement proves to be helpful to teachers since they receive improved ratings from their students (McGowan & Graham, 2009). Others argue that teaching skills of the teacher are equally important for teaching effectiveness, although there is a difference in the magnitude of the impact. For instance, Hattie’s (2003) meta analysis revealed that teachers contribute to 30% of the variance in student learning while Pascarella and Terenzini (2005) noted that teacher organization and preparation has modest but statistically significant positive impact both on course level content mastery and on the development of critical thinking among students. Kember and Gow’s (1994) study on conceptions of teaching and learning can also be considered as an example of the direct impact of teacher performance on student learning. The study reported that teachers influenced by the learning facilitation orientation emphasized on the development of problem solving skills, critical thinking, and independent learning.

It is undeniable that students must be exposed to the information to be acquired, in which case transmitting knowledge will be the predominant strategy. Student learning cannot be adequately accomplished unless learning contents are described and presented, and learning outcomes are assessed, which implies that teachers have to possess competence in organizing and systematically presenting contents. However, it is equally important for students to be provided with the opportunity to be engaged actively in the process of learning. Thus, a measure designed to evaluate teaching quality should address teacher performance as well as the facilitation teachers provide to engage students since students learn better due to the support from the teacher, the feedback given, their active engagement, and the opportunities provided for peer learning (McDowell, Wakelin, Montgomery, & King, 2010).

Some studies characterized the most widely used student rating questionnaires as teacher centered, which is expressed in terms of the emphasis given to teacher behavior as a basis for evaluating teaching quality (Abrami, D'Apollonia, & Rosenfield, 2007; Barr & Tagg, 1995; D'Apollonia & Abrami 1997; Kolitch & Dean, 1999; McKeachie, 1997). The dimensions in these questionnaires inform students that to teach effectively means to present and evaluate contents. The implication is that students may give lower ratings to teaching that is more interactive and engaging (Crumbly, Henry, & Kratchman, 2001; Kember & Wong, 2000). As a result, teachers may be tempted to adhere to the requirements implicitly stated in the evaluation questionnaire for fear of being punished by their students for being too demanding. Johnson (2008) also mentions the challenges higher education institutions may experience in implementing learner centred instruction if the rating questionnaire used to evaluate

teaching gives more emphasis to teacher performance as criterion of effectiveness.

The studies reviewed reveal the need to consider students' active involvement as well as the support and facilitation from teachers if feedback from student rating questionnaires is to contribute to teaching improvement. The design of an improved rating questionnaire requires empirically identifying and properly defining appropriate teacher and student behaviors that contribute to the quality of student learning. Table 1.1 shows examples of teacher and student behavior with the difference in teaching perspectives. The behaviors under the 'teaching as transmitting knowledge' perspective give more emphasis to what the teacher has to do while the students attend to the presentations. Under the 'teaching as facilitating learning' perspective, on the other hand, the emphasis is on students' involvement in learning and on the support and guidance provided by the teacher.

Table 1.1

*Examples of Teacher and Student Behaviors under the Two Types of Teaching Perspectives*

		Teaching perspective	
		Teaching as transmitting knowledge	Teaching as facilitating learning
Teacher behavior	A Teacher presents contents	B Teacher guides students' group works	
Student behavior	C Students attend to teacher's presentations	D Students are involved in peer evaluation	

## 1.2 Context of the study

The study was conducted in Ethiopia where there has been massive expansion of higher education recently both in the number of universities and student intake. Currently, there are 22 public universities and the construction of 10 more universities is underway. There are also 66 privately owned Higher Learning Institutions (HEIs) that offer degree program. In just ten years (1995-2005), the annual intake of students increased from only 6,000 to 36,000 in the public universities (Yizengaw, 2007). A recent report has indicated that the yearly intake capacity for under graduate programs has reached 78, 624 in 2010 (Ministry of Education, 2011). However, there has been a problem of the quality of education and

lack of well designed evaluation mechanisms (Ministry of Education, 1997) and this has been more so following the expansion. Formal quality improvement practices started very recently after the establishment of the Higher Education Relevance and Quality Agency (HERQA) through the Higher Education Proclamation of 2003 (No. 351/2003). The Agency was constituted as an autonomous body, one of its main objectives being evaluating, monitoring, and supporting higher education institutions in the country. With support from the Agency, most of the public universities have recently conducted the first ever internal quality audit. The higher education institutions are required to produce a self-evaluation document prior to their external audit by HERQA.

A recent external quality audit report by the agency indicated that there is a lack of comprehensive system of quality assurance in these universities that reveals the quality of the services they provide (Teshome & Kebede, 2010). What is more, although quality care units have recently been established under the Academic Development and Recourse Centers (ADRC), they are not actively engaged in the implementation of the recommendations at the level of a department or faculty. Quality is treated like a one-time ritual conducted by ad-hoc committees whenever there is a pressure from outside. In a nut shell, there is no fully established institutional culture of conducting internal audits to make improvements at program and course levels.

One of the most commonly employed means of checking quality in these universities is the student evaluation of teaching. Students evaluate their teachers at the completion of a course using a 27-item generic teaching evaluation questionnaire that was originated by the Ministry of Education. The average score is communicated as a summative feedback to the teacher.

The outcome of the evaluation is used more for tenure decisions than for teaching improvement, partly because there are no clear directives in relation to the use of the outcomes for improvement. What is more, since a single average score is provided, it is difficult for teachers to make use of the feedback to improve specific areas of their teaching. Although discussions are occasionally held at the level of a department when the ratings provided to a teacher are lower than the minimum value required for promotion, the need to incorporate student feedback for course improvement or for staff development purposes is not clearly stated. It is up to the discretion of the individual teacher to make improvements using the feedback provided.

A significant majority of the teachers employed at universities in the country are subject specialists, with little or no pedagogical training. What is more, the need for such training is not considered during recruitment. Nor are directives put in place that state pedagogical training as a requirement for all teachers. Hence, the establishment of pedagogical resource centers with the purpose of improving teaching skills has been considered critical in the quality improvement effort (Saint, 2004). Staff development trainings have occasionally been offered in selected faculties, some of them referring to specific programs of study, although they are not well organized and do not consider outcomes of the student feedback provided to instructors. Recently, ADRCs have been established in the nine old universities following the support provided by a Dutch funded Educational Quality Improvement Program, otherwise called EQUIP Project. Using technical and financial support from the project, training manuals have been designed and some of these centers have now started providing trainings on teaching, assessment, and course writing to newly employed teachers. Improvements

have also been made to existing measures used to evaluate teaching by students and colleagues.

The ADRCs are structured under three units, one of which is the quality care unit. This unit is responsible for assessing quality of education in the university in collaboration with the faculties and providing advisory service to the university management on quality related issues. A quality care cycle has been designed to guide the efforts to improve the quality of teaching and learning. The cycle starts with an assessment of quality and relevance that lead to possible interventions for improvement (Cantrell, 2010). For instance, when students provide suggestions for teaching improvement, appropriate trainings will be designed that may enhance the teaching or course design skills of teachers. Hence, there is a possibility that feedback provided using a student rating questionnaire can be integrated with staff development trainings (see Figure 1).

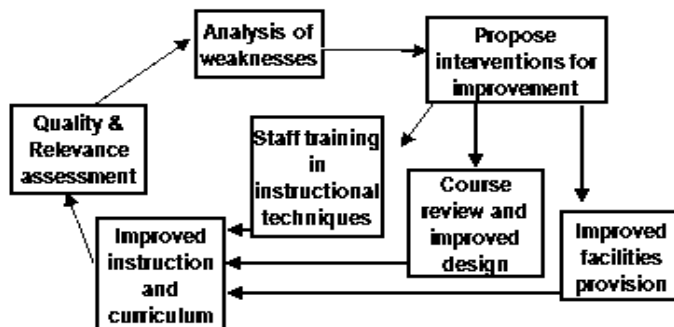


Figure 1. The Quality Improvement Cycle



The importance of using student feedback for teaching improvement can also be seen in terms of upgrading the teaching skills of the teachers in the universities. The qualifications guideline designed by the Ministry of Education states that at least 70% of the academic staff should be qualified at the level of masters and above (i.e. 30% BA/BSc, 50% MA/MSc, and 20% PhD). However, the actual figures are far from what is stated in the guideline. Owing to the rapid expansion and shortage of qualified staff in the market, many higher education institutions are assigning teaching loads to graduates with bachelor's degrees. Analysis of the quality audit reports conducted by the Higher Education Relevance and Quality Agency revealed that although the public universities have higher proportion of PhDs and Masters than the private higher education institutions, only one out of the nine old universities has satisfied the 30-50-20 ratio of staff qualification set by the Ministry of Education (Kebede, Lestrade, Teshome, & Tikele, 2011). In this type of academic environment, student feedback will have enormous contributions for staff development efforts.

### **1.3 The need for the study**

In the Ethiopian context, the Higher Education Proclamation (No. 650/2009) states the need for higher education institutions to put in place a comprehensive measure of quality that addresses, among other things, evaluating by students of the quality of teaching, and to give more emphasis to student centered approaches:

The internal system of quality enhancement of every institution shall provide for clear and comprehensive measures of quality ... which shall also include student evaluation of course contents together with the methods and systems

of delivery, assessment, examinations and grading. (Federal Democratic Republic of Ethiopia, 2009, p. 4988)

The same document also states that “the teaching and learning process in any institution shall be, whatever the methods of delivery employed, interactively student-centered that shall promote active learning” (Federal Democratic Republic of Ethiopia, 2009, p. 5005). An earlier version of the proclamation adds that ‘academic staff of an institution shall have obligation to provide service and teach to the required level in accordance with the internal regulations of the institution, and be evaluated, with respect to his performance and service delivery, by management and students’ (Federal Democratic Republic of Ethiopia, 2003, pp. 2241-2242).

The teaching evaluation questionnaire in use, however, refers to what teachers should do in the process of teaching and learning and does not serve the purpose of improving teaching quality. The current questionnaire does not provide opportunities for students to evaluate the impact of teaching on their learning. If, as stated in the proclamation, learner centered instruction is to be encouraged and student evaluation of teaching is to be used as feedback for teaching improvement, then it is imperative to improve the teaching evaluation questionnaire in use. More emphasis should be given to student learning experience as criteria for teaching evaluation. Studies indicate that teacher centered approaches may not encourage students’ active involvement through discussing contrasting views, designing student centered learning experiences, and engaging them in informal conversations (e.g. Romainville, 1999). In such contexts, teachers may not employ active learning strategies, since the emphasis is on evaluating teacher performance instead of what students believe they have

learned as a result of the teaching. Consequently, there will be a mismatch between the need to introduce learner centered instruction and the current practice of evaluating teaching quality unless the instrument is redesigned to help students reflect on their own learning experiences. These indicators have to be identified from students' experiences in a teaching-learning context that provides opportunities for active engagement.

An improved measure of teaching quality is believed to contribute to universities when they conducting internal quality review. As the main purpose of teaching is student learning, a rating questionnaire that gives more emphasis to evaluate students' learning experience may be a more appropriate measure of the quality of teaching. In the Ethiopian context, one of the focal areas of the institutional quality audit developed by HERQA refers to 'internal quality assurance'. Universities are required to develop policies and procedures that assist the quality and relevance of their programs (HERQA, 2006). It is believed that using an improved measure, these universities can produce institutional quality audits that reveal the quality of teaching and learning. What is more, the Academic Development Centers (ADRCs) can make use of the feedback obtained using the improved measure of teaching quality to provide staff development trainings and introduce quality assurance at the department level.

#### **1.4 Research problem and research questions**

Improving teaching quality has been indicated as a major strategy to upgrade the overall performance of the higher education system in universities in Ethiopia (Ministry of Education, 1997). However, teaching practices have been described as teacher centered, with a focus on transmitting contents to students (Daniel, 2004). Cognizant of these

problems, the government has recently stated the need to promote learner centered instruction as a means to improve student learning (Federal Democratic Republic of Ethiopia, 2009). Although more emphasis is now given to considering student learning in the quality improvement process, the way teaching is being evaluated is expected to become an impediment for the implementation of learner centered paradigm. The quality of the feedback students provide is determined by the quality and appropriateness of the measures designed to evaluate teaching. One of the measures employed to evaluate teaching effectiveness in universities in Ethiopia is the teaching evaluation questionnaire that is designed based on teacher centred orientations.

Better feedback could be provided for teaching improvement if the instrument enables students to evaluate whether their teachers designed multiple possibilities for learning, and provided opportunities for active and co-operative learning. Hence, the questionnaire should be redesigned in such a way that evaluation practices can support the government's envisaged student centered teaching. In order to achieve that goal, it was considered essential to evaluate the validity of the current teaching evaluation questionnaire, assess students' and teachers' conceptions and practices of teaching and learning, and design a new measure of teaching quality that gives more emphasis to student learning as a basis for evaluating teaching quality.

The aim of this research project was to evaluate the generic student rating questionnaire in use and design an improved one. Four independent studies have been conducted to address the following issues: (a) The validity of the existing rating questionnaire as indicated by its relationship with other

measures of teaching effectiveness; (b) The experience-based conceptions of effective teaching and learning among students and teachers in diverse instructional settings; (c) The construction and (d) validation of an improved rating questionnaire appropriate for learner centred instruction. More specifically, the project addressed the following research questions:

1. How valid is the Teaching Evaluation Questionnaire currently being used as source of feedback for teaching improvement?
2. How do instructors and students in different instructional contexts conceive effective teaching?
3. What is the implication of the nature of teaching and learning in learner centred instruction to the evaluation of teaching quality?

## **1.5 Methodology**

The purpose of this research project was to assess the validity of a teaching evaluation questionnaire and design an improved one that gives more emphasis to students' perception of their learning as an indicator of effective teaching. The experiences of students and teachers involved in learner centered instruction were considered while designing an improved measure. A survey research design was employed since the data had to be collected from a large number of participants. As the study focused on students' and instructors' opinions and experiences while developing the measure, questionnaires were employed as data collection tools. In addition to responses to structured items, students' and teachers' subjective interpretations of their experiences were considered. Student performance presented in course grades was also used. Hence, both qualitative and quantitative approaches to data analysis and interpretation were employed.

In the first study, a quantitative approach was used to examine the validity of a teaching evaluation questionnaire based on its relationships with other measures believed to be indicators of teaching quality.

In the second study both qualitative and quantitative approaches were implemented. As the objective of the second study was to examine the impact of conceptions of teaching and learning on practice, descriptions provided by students and teachers related to their experiences were qualitatively analyzed. Following the interpretations of the descriptions provided, quantitative approaches were being used to examine differences in conceptions and practices.

In the third empirical study, both qualitative and quantitative approaches were employed. The main purpose of the third study was to design an improved measure of teaching quality based on students' experiences in learner centered instruction. First, students provided qualitative descriptions of their learning experiences in learner centered instruction. Their descriptions, together with inputs from the literature, were then used to develop a pool of items. The quantitative part mainly dealt with conducting factor analysis to identify dimensions that reflect the effectiveness of teaching.

Finally, a quantitative approach was employed in the fourth study to validate the newly designed measure based on its relationships with other measures of teaching quality. Students evaluated the quality of the teaching conducted in a learner centered paradigm using the new as well as the previously used rating questionnaires. The appropriateness of the new measure was determined by the difference in ratings provided.

## **1.6 Relevance of the study**

In the most widely used measures of teaching effectiveness, the indicators of effective teaching were derived based on students' agreements to selected teacher characteristics. In this study, the dimensions in the improved measure were derived from students' experiences of their own learning in learner centered instruction and a review of related works. Thus, its practical relevance can be seen in terms of evaluating the quality of teaching based on indicators derived from students' learning experiences. The contents in the new measure entail the need to consider students' evaluation of their own learning progress together with the support they received from the teacher. The dimensions identified indicate that students are active players who can significantly influence their own learning, not just spectators passively observing teacher performance.

The relevance of improving a measure of teaching quality can also be seen in terms of its contributions to staff development programs. The major objective of conducting the evaluation of teaching is to use the feedback for teaching improvement. In this regard, the improved measure is believed to provide relevant information to be used by staff development centers. Departments and faculties will also be able to produce appropriate report on the quality of teaching that reflects students' experiences of their learning.

## **1.7 Outline of the dissertation**

This dissertation is presented in seven chapters. Chapter One provides a description of the theoretical framework, the methodology employed and the research problem. Chapter Two deals with the theoretical discussion related to the use of student rating questionnaires for teaching improvement. In Chapter Three, the teaching evaluation questionnaire currently being used in universities in Ethiopia was validated against measures believed to be proxy indicators of teaching effectiveness. Students' perceived learning gain, expected grade and actual grade were used to estimate the validity of the questionnaire. Multi-section validity design was employed to reduce confounding effects due to differences in courses and examinations. In Chapter Four, students' and teachers' conceptions have been considered in relation to teaching and learning. The implications of the differences in conceptions to providing and using feedback for teaching improvement are discussed. Chapter Five was conducted in two phases. In the first phase, students were involved in learner centered instruction and provided a description of the factors that contributed to their learning. Based on their suggestions and review of previous works, items were identified and presented for comments. In the second phase, a 24-item teaching evaluation questionnaire was designed consisting of four dimensions: assessment and feedback; course organization and presentation; student self assessment; student engagement. In Chapter Six, students attended to learner centered instruction and evaluated the quality of the teaching using the new as well as the previously used questionnaires. The validity of these questionnaires was computed based on relationships with students' course grades and their approaches to studying. In Chapter Seven, a summary of the major findings



## Chapter 1

of the various studies and the implications for improving teaching quality are presented.

## Chapter 2

### The need for an improved measure of teaching quality<sup>1\*</sup>

#### Abstract

Evaluating the quality of teaching using student rating questionnaires is conducted to provide teachers with feedback for teaching improvement. Studies on the impact of student rating feedback on teaching improvement are, however, inconclusive. Although improvements in teacher performance could be influenced by a number of factors, this review focuses on the impact of the dimensions addressed in the most commonly used rating questionnaires in using the feedback for teaching improvement. It also discusses how improved measures that address students' evaluation of their learning progress can make a difference on the quality of the feedback. Some examples of student evaluation questionnaires are cited that reveal the difference in emphasis between measures entirely designed based on teacher performance with those that also address students' learning experiences. The impact of conceptions of teaching and learning on the evaluation of teaching and learning is also addressed. The review concludes by presenting justifications for the need for an improved measure of teaching quality that focuses on students' learning experiences.

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<sup>1</sup> \* Zenawi Z., Beishuizen, J., & Van Os, W. (submitted). *The need for an improved measure of teaching quality*.

## 2.1 Introduction

Students' reflections on the quality of their experiences are widely used as sources of feedback for teaching improvement. The feedback obtained using student rating questionnaires reflects the implied meaning of effective teaching. For instance, some of the most widely used rating questionnaires give more emphasis to teacher performance as a basis for evaluating teaching quality (e.g. Barr & Tagg, 1995; D'Apollonia & Abrami 1997; Kolitch & Dean, 1999). The implied meaning of teaching and learning in these measures in turn influences the use of the feedback for teaching improvement (Kember, Leung, & Kwan, 2002).

Studies related to the impact of student rating feedback on teaching improvement revealed inconsistent results. An extensive review by Murray (1997) assessed the impact of student rating feedback for teaching improvement based on three different sources of evidence. One of them was a survey conducted among teachers which indicated that student rating questionnaires provide useful feedback and has contributed to improvement of teaching. Another source of evidence was obtained based on a field experiment in which randomly assigned teachers were evaluated and received mid-term feedback, whereas control teachers were evaluated but did not receive feedback. Findings revealed that teachers who were provided with mid-term feedback and subsequent expert consultation received improved ratings at the end of the term as opposed to those who didn't receive mid-term feedback. Murray's third source of evidence that was obtained from studies that assessed gradual increments in ratings across ten years revealed mixed results. Based on evidence collected from the three

different sources, the review concluded that student evaluation of teaching lead to improvement of teaching.

In a similar study by Yao, Weissinger, and Grady (2003) over 600 teachers from three universities reported their experiences in relation to using student rating feedback for teaching improvement. Over three quarters of these teachers replied they usually use feedback from students to create an atmosphere conducive to learning, to present ideas in a way that engages students, to motivate students, and to provide clear explanations. Van Os (2010) also examined improvements in ratings among 115 teachers in two faculties at the Vrije Universiteit in Amsterdam. Results indicated that teachers received significantly higher ratings during the second rating. He concluded that improvement following feedback depends on teachers' willingness to change, their awareness of what needs to be improved, and the training provided following the feedback.

Others, on the contrary, contend that there is no empirical evidence that revealed improvements in teaching or student learning as a result of the feedback provided. In a study by Kember et al. (2002) based on a four year data collected from 25 departments in one university, students reported that there were no significant improvements in teaching and learning as a result of the feedback provided. Similarly, Olivares (2003) conducted a review of studies related to the validity of student ratings as measures of teaching effectiveness. The study concluded that there is no empirical evidence that proved that student rating feedback leads to subsequent improvements in teaching or student learning. Olivares further argued that if student ratings were contributing to improvements in teaching, then there should have been

more effective teachers, and by implication more learned graduates now than we had before the measures were widely being used.

Various explanations can be given for the lack of improvement following feedback. One of these could be failure to give expert support after the feedback is being provided. It could also be the case that the teachers may not give due emphasis to the feedback provided. The universities may not also have a system in place to check improvements following feedback or they may not provide teachers with subsequent training (Van Os, 2010). What is more, teachers' perceptions of improvement might be different from what is being addressed in rating questionnaires. For instance, in a study by Akerlind (2007), teachers indicated that developing as a teacher means improving knowledge of the subject matter, using improved teaching methods, evaluating what worked for the teacher, and increasing one's understanding of what worked for students. Some of these sources of feedback may not be addressed in standard questionnaires. Still another possibility could be the difference in the conception of teaching and learning between teachers and students. Teachers and students might have differing interpretations of effective teaching from what is implied in rating questionnaires.

The nature of the items used to evaluate the effectiveness of teaching has been mentioned by Kember et al. (2002, p. 421) as one of the possible reasons for the lack of improvement. In their study, they stated that the emphasis of the rating questionnaire was on providing 'judgmental' instead of 'developmental' feedback, and this might have influenced the use of the feedback for improvement. In other words, the feedback may not have informed teachers what worked or didn't work for the students and what

needs to be improved, as the items refer to teacher performance (e.g. the teacher presents the subject matter clearly). As a result, they suggested improving the instruments as well as changing the focus of the evaluation if feedback is to be used for teaching improvement.

Although the reasons for the lack of improvement could be a combination of the factors described, the nature of the dimensions used to address effective teaching has to be investigated thoroughly since the quality of the instrument significantly influences the use of the feedback for improvement. The purpose of this chapter is to examine the assumptions considered while designing the most commonly used student rating questionnaires and present justifications for the need for an improved measure that also addresses students' learning experience as a measure of teaching quality. The review discusses the implied meaning of effective teaching in student rating questionnaires and the impact it has on the use of the feedback for improvement. It also deals with the impact of conceptions of teaching and learning on the evaluation of teaching.

## **2.2 Method**

As the purpose of the review was to present theoretical and empirical evidence for the need to improve student rating questionnaires, the sources of evidence had to be searched from various thematic areas that included the following: (1) teaching evaluation feedback and teaching improvement; (2) the implied meaning of effective teaching in student rating questionnaires; and (3) the impact of conceptions of teaching and learning on the evaluation of teaching. Most of the articles reviewed are published in scientific journals identified using computerized search (ERIC). The search was made in

published journal articles during the time period from 1990-2009, specifically referring to higher education. Keywords and authors together with the following search descriptors were used: Teaching evaluation, teaching improvement, effective teaching, teaching-learning conceptions, and student learning perception. A total of 127 published articles have been identified. In addition to the search made using the descriptors, other relevant articles referring to student learning experiences and the implications to the evaluation of teaching have also been identified from various journals. The review is not an extensive evaluation of all published works related to the evaluation of teaching quality since selected works that focused on the impact of teaching evaluation on teaching improvement, the problems with existing measures of teaching quality, and the need to consider students' learning experiences as indicators of effective teaching have been considered. Certain studies that were published online, conference proceedings, as well as books on teaching and learning in higher education, have also been considered.

### **2.3 'Effective teaching' implied in student rating questionnaires**

The lack of agreement on what constitutes effective teaching is one of the reasons for the disparities in the approaches to evaluating the construct. It may be difficult to define what constitutes effective teaching since students are observed performing well under entirely different teaching contexts. However, this does not mean there are no common indicators of teaching effectiveness that can be used in designing measures of teaching quality. For instance, in a conceptual article that deals with the three different ways teachers can engage in teaching, Kreber (2002) describes teaching as a scholarly activity that requires sound knowledge of one's discipline as well

as a good understanding of how to help students. Excellent teachers know how to motivate their students, how to convey concepts, and how to help students overcome difficulty in their learning. Excellent teachers are also expected to reflect on their own practice, seek out resources to enhance their teaching, implement these enhancements, assess the outcomes, and disseminate this knowledge to others (Hutchings & Schulman, 1999). Although there is a slight difference in emphasis, both Kreber's (2002) and Hutchings and Schulman's (1999) characterizations of effective teachers focus on what teachers have to do to support student learning.

Studies that reviewed the nature of the dimensions in some of the most widely used rating questionnaires revealed that the items are designed in such a way that students can evaluate the performance of the teacher. Sherman, Armistead, Fowler, Barksdale, and Reif (1987) conducted a review of indicators of teaching effectiveness in student rating questionnaires. The purpose of the review was to examine, define, and explain characteristics of excellent teaching as indicated in student rating questionnaires. These characteristics were identified based on one or a combination of the following procedures: presenting a list of characteristics and requesting students to rate their teachers on each characteristic; allowing students to present a list of characteristics they feel describe the characteristics of excellent teachers; and interviewing teachers identified as excellent teachers. Regardless of the procedures used, the reviewers identified five characteristics as indicators of effective teaching commonly cited across student rating questionnaires: enthusiasm, clarity, preparation and organization, ability to stimulate interest and thinking, and knowledge of the subject matter. Hence, teaching is believed to be effective when the teacher prepares and presents contents to students. Blackmore (2009)



mentions the difficulty teachers may experience in implementing feedback obtained using these types of rating questionnaires to improve student learning.

The studies reviewed reveal that the most widely used student evaluation questionnaires give more emphasis to evaluating the teaching skills of the teacher (Hutchings & Shulman, 1999; Kreber, 2002; Sherman et al., 1987). One may ask, why bother about student learning in a measure designed to evaluate the effectiveness of teaching? In fact, as Abrami et al. (2007) state, student evaluation questionnaires are not designed to measure student learning directly. Rather student learning is indirectly inferred from the ratings since studies indicated that highly rated teachers contribute to student learning (e.g. Marsh, 1987). However, such inference could be misleading if the items in student rating questionnaires entirely refer to teaching skills of the teacher since evaluating teacher performance may not necessarily indicate students' learning experiences. What the students have to do in order to learn is not considered as a basis for evaluating effective teaching. Although teachers are expected to conduct teaching based on the aims of the course, the focus on teacher performance could influence teachers to adhere to teacher centered approaches. The following description by Abrami et al. (2007) clearly indicates the impact of using teacher centered evaluation questionnaires:

If non-global items from such rating forms are used for summative decisions, instructors may feel obliged to ponder to the built in bias these forms exhibit towards teacher-centered learning environments, and so the rating forms themselves would become a major obstacle to adoption of more student-centered active learning strategies that

educational research has shown to promote conceptual change (Abrami et al., 2007, p. 451).

## **2.4 Student learning experience as a basis for evaluating effective teaching**

Some of the justifications for the need to consider students' evaluation of their learning as indicators of teaching effectiveness are obtained from studies that revealed that certain student related behaviours significantly contributed to their learning. For instance, students' active engagement and collaboration was found to contribute to their learning (Chickering & Gamson, 1987; Kuh, Pace, & Vesper, 1997; McGowan & Graham, 2009). Students also reported improvements in their use of deep approaches to learning, their level of motivation, and even their academic work after attending a training that gave them the opportunity to take responsibility for their own learning (Dart & Clarke, 1991).

Pascarella and Terenzini's (2005) review of how college experience impacts students revealed that growth in cognitive skills is a result of students' involvement in intellectual activities. The review addressed studies that provided estimates of gains in intellectual and analytical skills among students from the first year to the final year in college. It was indicated that teacher- student interaction and institutional emphasis on scholarship and learning influence students' intellectual development. Students use higher order learning strategies such as elaboration, comprehension monitoring, and critical thinking when there is an emphasis on collaborative learning. College students learning in cooperative groups were also found to have a statistically significant advantage in problem solving. Similarly, Kuh,

Kinzie, Schuh, and Whitt (2010) argued that student engagement, which refers to the time and energy students invest in educationally meaningful activities, is a function of the level of academic challenge experienced, enriching educational experiences provided, active and collaborative learning presented, student-faculty interaction, and supportive campus environment. The implication is that students will be able to provide appropriate feedback for teaching improvement if the evaluation of teaching quality also addresses their learning experiences. Teachers will also be able to witness the impact of their teaching on student learning when teaching is evaluated in terms of the opportunities provided for students.

It can be inferred from the studies reviewed above that effective teachers are required to create an environment that is conducive for student engagement and collaboration. The measure of effectiveness should enable students to evaluate the extent to which they were engaged in the process of learning. In relation to this, Ory and Ryan (2001) state that rating questionnaires designed using items exclusively referring to teacher performances as criteria of effectiveness may not be valid indicators of the construct, since ‘teaching quality’ also encompasses other dimensions such as teachers’ use of active learning. Similarly, Barr and Tagg (1995) underscore that emphasis should be given to the learning paradigm, as opposed to the instruction paradigm, although they did not provide evidence of whether implementing the learning paradigm indeed facilitates student learning. Developing a student evaluation questionnaire that gives more emphasis to student learning requires a change in emphasis from the instruction paradigm to the learning paradigm. Such a change is reflected in the differences in thinking about course design, teachers’ role, and criteria for success. Table 2.1 presents an illustration of the changes in focus from

teachers and their teaching to students and their learning as described by Johnson (2008).

Table 2.1

*Some Examples of the Changes in Focus from Teacher Centered to Learner Centered Evaluation.*

	Teacher centered evaluation	Learner centered evaluation
Course design	What do I want to teach?	What do students need to learn?
	How can the quality of instruction be improved?	How can the quality of student learning be improved?
Teachers' role	What will I do to teach?	What will students do to learn?
	What is the best way to present this material?	What is the best way for students to construct new understanding and develop new skills?
Success criteria	What evidence demonstrates my teaching ability?	What evidence demonstrates student learning?
	How well do I perform in the classroom?	How well do students perform in and outside the classroom now and in the future?

Note: From “learner centered evaluation of teaching,” by Trav D. Johnson, 2008, *To improve the academy*, 27, p. 333. Adapted with permission.

Considering student learning experience as indicator of effective teaching also refers to providing opportunities for students to evaluate their own learning so that they can develop skills of how to learn. It is important to gather information about students' own judgments of their involvement in the process of learning so that their teachers can use the feedback to facilitate learning. Students' perception of their learning alone does not, however, provide a comprehensive feedback for teaching improvement unless the support from the teacher is also considered. Certain teacher behaviors such as providing feedback and engaging students in learning have been associated with improved student performance (McDowell et al., 2010). Hence, it is equally important to evaluate the quality of the guidance provided by the teacher together with students' perceptions of their learning. The focus of evaluation should not only be checking whether students are actively performing the tasks presented but also whether the teacher designed appropriate tasks that facilitate student learning.

## **2.5 The impact of conceptions on teaching evaluation**

Studies indicate that student learning is a function of student related factors (such as students' ability, readiness, motivation, etc) and students' perception of the requirements in the learning environment. For instance, Pintrich (2004) theorizes that learning is a function of students' regulation of their cognition and behavior. He describes learners as active players in the learning process, who can monitor and regulate their cognition, motivation, and behavior. They can also set standards or goals and monitor their progress toward these goals. On the other hand, students' perception of the requirements in the learning environment could also influence their

approaches to learning (e.g. Entwistle & Tait, 1990; Prosser & Trigwell, 1991).

Teaching and learning practices are not only affected by students' regulation of their learning or their perception of the learning environment. The meaning teachers and students attach to teaching and learning has also significant impact on the approaches to teaching and learning as well as on the evaluation of teaching effectiveness. An excerpt taken from Barr and Tagg (1995, p. 17) could be considered as an example of how conceptions influence judgments on teaching and learning. They mention the case of a dean who went to class to evaluate a teacher. To the dean's surprise, the students were busy doing tasks in small groups and the teacher, on his part, was observing each group and providing comments. After observing the lesson for about 15 minutes, the dean said "I came today to do your evaluation. I will come back another time when you are teaching." Although this is just one example, it reveals how conceptions can influence the judgments we make. The dean is implying that to teach is to stand in front of the students and lecture, but not to help them do the learning by themselves.

There is a relationship between teachers' conceptions of teaching and how they approach their teaching. Teachers may encourage surface learning among students if they perceive their own role as transmitting readymade knowledge (see for instance Kember & Gow, 1994). Hence, these orientations lead to the development of perceptions that determine the way teachers approach their teaching which in turn influences students' approaches to learning.

Students' conceptions of teaching and learning influence their approaches to learning and how they rate the effectiveness of the teaching. Some studies indicated that students with passive orientations about teaching and learning do not provide higher ratings to teaching that requires their active involvement (e.g. Entwistle & Tait, 1990; Kember & Wong, 2000). When this is the case, the feedback students provide may not be appropriate for teaching improvement.

Evaluating teaching using a rating questionnaire that focuses on teacher performance has also an impact on teachers' approaches to teaching. If the items in the rating questionnaire give more emphasis to what the teacher has to do, teachers may develop the tendency to focus on transmitting knowledge to students.

Although redesigning the measure of teaching effectiveness to address student learning is believed to improve the nature of the feedback, it is still difficult to make use of the feedback for improvement unless teachers and students develop the conception that teaching is more appropriate when the focus is on facilitating student learning. Thus, together with improved measures of teaching quality, teacher centered conceptions need to be changed if student feedback is to be used for teaching improvement. Certain attempts at changing conceptions were found to be effective. Some researchers reported that teachers who attended to trainings intended to change their conceptions implemented student centered approaches and received higher ratings (Coffey & Gibbs, 2001; Ho, Watkins, & Kelly, 2001).

## **2.6 Conclusion**

Student rating questionnaires are widely used although studies related to the impact of the feedback on teaching improvement are inconclusive. It is argued that one of the reasons for the lack of improvement in teaching is the nature of the dimensions addressed in student rating questionnaires, particularly when the questionnaires focus on teacher performance instead of what students have learned and what needs to be improved. In fact, teaching evaluation is about teacher behavior since teacher performance contributes to student learning. But when the focus is primarily on teacher performance, students may not have the opportunity to evaluate teaching in terms of their own learning experiences. Student rating questionnaires become more appropriate measures of teaching quality if they are designed in such a way that students can evaluate teaching in terms of the encouragement they received to do the learning by themselves. The emphasis should be on whether the support and facilitation from the teacher promoted student learning. Thus, there is a need for an improved measure of teaching effectiveness that integrates the support from the teacher with students' evaluation of their own learning progress.





## Chapter 3

### Validating a Teaching Evaluation Questionnaire Using Multiple Measures<sup>2\*</sup>

#### Abstract

This study was conducted to estimate the validity of a Teaching Evaluation Questionnaire (TEQ) widely used in higher education institutions in Ethiopia. The focus of this instrument is on evaluating the teaching skills of the teacher. A multi-section design was employed to examine the appropriateness of the questionnaire based on its relationships with other outcome measures. The relationships between the TEQ ratings with actual grade, students' perceptions of their learning, and expected grade were interpreted. By means of analysis of variance the significance of the mean differences across the various sections was tested. The mean values of student ratings of teaching as well as their perceptions of learning revealed differences in teacher performance. The Teaching Evaluation Questionnaire would be more appropriate if it also addresses students' perceptions of their learning.

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<sup>2\*</sup>Zenawi Z., Beishuizen, J., & Van Os, W. (submitted). *Validating a Teaching Evaluation Questionnaire using Multiple Measures.*

### 3.1 Introduction

One of the aims of conducting teaching evaluation is to provide teachers with feedback on the effectiveness of their teaching so that they can make subsequent improvements. Student rating questionnaires are widely used measures to evaluate teaching and provide feedback for improvement. There is no agreement among researchers on the appropriateness of these measures as indicators of effective teaching. Some of these studies state that student ratings are valid indicators of the construct (Greenwald, 1997; Marsh, 1987; Onwuegbuizi, Daniel, & Collins, 2009), while others contend that these measures focus too much on the evaluation of teaching skills and do not pay enough attention to the issue of student learning. For instance, Blackmore (2009) argues that the ratings are designed to determine teaching quality based on whether teachers meet predetermined standards of performance, such as the teaching skills indicated in these questionnaires. Student rating questionnaires have also been criticized for not providing the opportunity for students to evaluate the quality of teaching in terms of their own learning (Barr & Tagg, 1995; Kolitch & Dean, 1999; Abrami et al., 2007). The most widely used student rating questionnaires fail to address students' learning as indicator of teaching quality (Abrami et al., 2007; Kolitch & Dean, 1999).

Students learn as a result of facilitation by the teacher as well as their own engagement in the process of learning (Biggs, 1999; Chickering & Gamson, 1987; Dart & Clarke, 1991). A study by McGowan & Graham (2009) has indicated that students gave improved ratings as their teachers actively engaged them in learning. Other studies also found that students evaluate the quality of the educational experiences based on perception of how much they learned in a course (e.g. Baird, 1987; Van Os, 1999).

Assessing teacher impact on student learning is one way of validating the ratings. This is conducted through studying the relationship between the rating scores and other measures of teaching effectiveness (Cohen, 1981; Marsh, 1984). Criterion validity is inferred from the relationship between student learning and student ratings of teaching, the former being expressed in actual grades, expected grades, or in students' perceptions of their learning (Olivares, 2003). Some of the learning indicators considered while validating student ratings of teaching are discussed below.

***Learning gain expressed by actual or expected grades***

The learning gain indicated in course grades is used as a measure of the effectiveness of teaching. Several studies indicate that there is an association between grades and ratings since student rating is higher in courses where student achievement is higher (Cohen, 1981; Marsh, 1987). Cohen's meta-analysis of 41 validity studies revealed that the average correlation between an overall instructor rating and student achievement was .43. The relationship between ratings and achievement has been interpreted as an indicator of teacher impact on student learning. For instance, Marsh (1987) argues that higher ratings could be due to more effective teaching that resulted in improved learning, student satisfaction with higher grades, or initial differences in student characteristics, such as motivation, ability, and interest. Similarly, Centra (2003) indicated that a positive relationship between grades and ratings could be a reflection of students' motivation in the subject or the outcome of hard work. However, in courses where no standards or expected learning outcomes are set, grades may not necessarily indicate what students have actually achieved. In such instances, it is

difficult to rely on grades as indicators of student learning or the quality of teaching (Biggs, 2003; Warren, 1992).

### ***Learning gain perceived by students***

In the higher education context, teaching is about creating opportunities for students to be engaged actively in the learning process. The effectiveness of teaching has to be determined by the degree to which instructors facilitate student learning. Students' judgments of the quality of their own learning should be given due emphasis when evaluating the effectiveness of teaching (Ellet, Loup, Culros, McMullen, & Ruggut, 1997). The measures of effective teaching should, therefore, be designed to assess the extent to which students perceive the teaching and learning activities enhanced their learning.

Several studies reported a stronger relationship between learning perception and ratings than between grades and ratings. For instance Arthur, Tubre, Paul, and Edens (2003) found a weak relationship between student learning, expressed in grades, and student ratings ( $r = .14$ ). Van Os (1999) found a strong correlation between student ratings and perceived learning ( $r = .70$ ) and a relatively weak relationship between student ratings and actual grades ( $r = .20$ ). In a study by Baird (1987) it was indicated that a large proportion of the variance in student ratings is explained by students' subjective assessment of their learning. Baird asked students from 50 sections to make a self reflection of how much they learned in a course. It was found that students' reflection of their learning correlated strongly both with course evaluation ( $r = .88$ ) and with instructor evaluation ( $r = .86$ ).

The use of a rating questionnaire that is entirely designed to evaluate teacher performance is believed to encourage teachers to focus on presenting contents, instead of engaging students in the process of learning (Abrami et al., 2007). Student evaluation of teaching could be improved if the rating questionnaire also addresses students' perception of their learning. This study was conducted to estimate the criterion validity of a widely used Teaching Evaluation Questionnaire (TEQ) based on its relationships with other indicators believed to be outcomes of effective teaching. The focus of the study was to determine the extent to which variations in mean overall ratings can be explained by students' perception of their learning, expected grade, and actual grade. For this purpose a multi-section study design was employed.

### **3.2 Method**

The study employed multi-section validity design, i.e. different sections attending the same course taught by different instructors. Such a design has been indicated as the most appropriate in addressing whether student ratings indicate teacher induced learning among students (Abrami, D'Apollonia, & Cohen, 1990). As the courses offered and the exams provided in multi-section design are the same, it was assumed that differences in ratings should reflect differences in performance among teachers in the various sections. To this end, as an estimation of the validity of the TEQ the ratings of teacher performance were correlated with perceived learning, expected grade, and actual grade.

### ***Participants***

Two higher education institutions in Ethiopia, namely Jimma University and Mekelle University were considered for the study as they represent the nine old universities. From the two institutions, three multi-section courses were purposively selected. One of these courses was Educational Measurement and Evaluation offered to prospective teachers in the Faculty of Education at Jimma University. Out of a total of 12 sections, five of them were randomly selected for the study. The other two courses, i.e. Principles of Accounting and Microeconomics, were offered to first year students at the Faculty of Business and Economics in Mekelle University. All the sections in the two multi-sections, i.e. three sections from Principles of Accounting and four sections from Microeconomics were considered. 507 questionnaires (292 from Jimma University and 215 from Mekelle University) were used for the analysis. The return rate was high (above 80%) although there were a number of questionnaires that were not properly filled and had to be discarded. In total, students in 12 multi-sections evaluated their teachers.

### ***Materials***

#### *Measure of students' evaluation of teaching effectiveness*

In most higher education institutions in Ethiopia, a 27-item Teaching Evaluation Questionnaire (TEQ) is used to evaluate the effectiveness of teaching. The questionnaire is designed in a five- point Likert scale, ranging from strongly disagree (1) to strongly agree (5). In this generic questionnaire, the instructors receive an average score after delivering a course. Examples of the items include '*The teacher explains the objectives of the course clearly*' and '*The teacher provides students with assignments*

*and subsequent feedback*'. Using the ratings students provided, the reliability of the scale was computed ( $\alpha = .94$ ). (See Appendix A for the complete text of the questionnaire).

*Measure of students' actual learning gain*

As a measure of students' learning gain, course grade was considered as one of the correlates. In all multi-section courses, the grades were determined based on students' performances in assignments, mid-term exams, and final exams. All instructors teaching each multi-section course were involved in designing the exam questions and assignments, although the scoring and grading were done individually based on agreed criteria. Teachers in a given multi-section course had to agree on the contents of the exams and exercises before they are given to students.

*Measure of students' perceived learning gain*

A 15-item questionnaire was developed to assess students' perceptions of their learning in a given course (see Appendix B). The questionnaire was designed in a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). The items were designed based on Chickering and Gamson's (1987) comprehensive review of good practices in teaching. Although the seven principles of good practice in undergraduate education refer to the instructional practices of teachers, the items in the perceived learning questionnaire were written in terms of student behavior. The ratings were designed in such a way that the items would enable students to evaluate their perceived learning gain. Examples of the items include '*I was encouraged to make self-evaluation of my progress*', and '*The assessment helped me achieve the intended course objectives*'. The reliability of the scale was high ( $\alpha = .85$ ).



*Measure of students' expected grade*

One of the items under the *measure of students' perceived learning gain* refers to students' expected grade. Based on their experiences in the process of teaching and learning, the students were required to estimate the grade they expect to achieve. While conducting the analysis, both the actual and expected grades were converted from letter grades to numbers. (The highest is A = 4, and the lowest is F = 0.)

***Procedures***

Students were informed that the evaluation is conducted for research purposes. To reduce grade-rating bias, students provided the ratings before they knew their final course grades, i.e. one week before the final exam. The mean values of the student ratings of teaching and perceived learning gain were used for the analysis. Students were randomly assigned to the multi-sections by their respective departments. Their performance was also evaluated using similar assignments and exams

***Data Analysis***

Means and standard deviations of the students' perceived learning gain, the ratings they gave to their instructors and the letter grades they expected and the grades they actually scored were considered during the analysis. Zero-order correlation was employed to study the inter-correlations of the four variables in the three multi-sections. One way analysis of variance was also used to examine whether differences in any of the variables considered also reflected differences in teacher performance across a multi-section course.

### **3.3 Results**

The study estimated the validity of the TEQ based on its relationships with other measures of teaching effectiveness. The inter-correlations between student ratings, perceived learning gain, actual grade, and expected grade were considered. Using analysis of variance, the study attempted to determine whether the TEQ reveals differences in teacher performance across the various multi-sections.

#### ***Correlation***

In Principles of Accounting, student ratings correlated significantly both with expected grade ( $r = .23, p < .01$ ) and perceived learning gain ( $r = .58, p < .01$ ). Expected grade also correlated significantly with actual grade ( $r = .31, p < .01$ ) and perceived learning gain ( $r = .48, p < .01$ ). No significant relationship was found between actual grade and perceived learning gain. In Microeconomics, all the inter-correlations were found to be significant, with the correlation between perceived learning and student ratings ( $r = .60, p < .01$ ) as well as between expected grade and perceived learning ( $r = .50, p < .01$ ) being higher. In Educational Measurement and Evaluation, the correlation between student ratings of teaching and perceived learning is significant ( $r = .69, p < .01$ ). There is a significant but low correlation between student ratings and expected grade ( $r = .12, p < .01$ ) (see Table 3.1).

Results indicate that student ratings provided using the TEQ significantly correlated with students' perceived learning gain in all the multi-sections, whereas actual grade correlated with student ratings in two out of the three multi-section courses. In general, the outcomes reveal that in sections where

higher ratings were provided, students had also reported higher scores in perceived learning gain. However, TEQ rating was not associated with course grade in eight of the 12 sections considered.

Table 3.1

*Zero- Order Correlation between the Four Variables in the Three Multi-Section Courses*

Sources	Student ratings	Actual grade	Perceived learning
Principles of Accounting ( $n = 97$ )			
Student ratings			
Actual grade	-.10		
Perceived learning	.58**	.00	
Expected grade	.23*	.31**	.48**
Microeconomics ( $n = 118$ )			
Student ratings	-		
Actual grade	.26**	-	
Perceived learning	.60**	.30**	-
Expected grade	.36**	.33**	.50**
Educational Measurement and Evaluation ( $n = 292$ )			
Student ratings	-		
Actual grade	.08	-	
Perceived learning	.69**	.11	-
Expected grade	.12*	.09	.00

\*\* Correlation is significant at the .01 (2-tailed).

\* Correlation is significant at the .05 (2-tailed).

### ***Analysis of variance***

As the values of the correlation presented above do not provide information about the differences in ratings across the various sections (difference between teachers), one way analysis of variance (ANOVA) was employed to do so. ANOVA was employed to determine whether differences in the mean values of perceived learning gain, expected grade and actual grade also reflect differences in teacher performance.

Table 3.2 shows results of the one way ANOVA for the three multi-sections. In the case of Principles of Accounting, it is only student rating that co-vary across the three sections,  $F(2, 94) = 5.25, p < .01$ . While in Microeconomics, mean values of three out of the four variables significantly differed across the sections. In the four sections considered, there is a significant mean difference in student ratings of teacher performance,  $F(3, 114) = 16.70, p < .01$ , students' perceived learning gain,  $F(3, 114) = 4.66, p < .01$ , and actual grades,  $F(3, 114) = 8.30, p < .01$ . In other words, in sections where students gave higher ratings, they also reported higher perceived learning gain and obtained higher grades. The expected grade did not co-vary across the different sections,  $F(3, 114) = 1.78, p = .15$ . In Educational Measurement and Evaluation, ANOVA revealed that mean values of three out of the four variables significantly differed across the sections. In sections where teachers received higher ratings,  $F(4, 287) = 19.14, p < .01$  students also reported higher learning gain,  $F(4, 287) = 5.12, p < .01$ , and expected to get better grades,  $F(4, 287) = 6.86, p < .01$ . However, the mean values of actual grade did not co-vary across the sections. The outcomes revealed that the perceived learning gain significantly differed in eight out of the 12 multi-sections, while the ratings

provided using the TEQ showed significant differences in all the sections. Students' perception of their learning gain and the ratings provided using the TEQ revealed differences in teacher performance in most of the multi-sections. The actual grade showed differences in teacher performance only in four sections.

Table 3.2

*ANOVA for the Mean Differences of the Variables in the Three Multi-Section Courses*

Variables	Principles of Accounting			
	M	SD	F	<i>p</i>
Student ratings	4.31	0.55	5.25	.00*
Actual grade	2.75	0.81	.47	.62
Perceived learning	4.23	0.44	.21	.80
Expected grade	3.55	0.58	2.41	.09
	Microeconomics			
Student ratings	4.02	0.55	8.30	.00*
Actual grade	2.18	0.86	16.70	.00*
Perceived learning	3.96	0.55	4.66	.00*
Expected grade	3.14	0.70	1.78	.15
	Educational measurement and evaluation			
Student ratings	4.20	0.64	19.14	.00*
Actual grade	2.61	0.66	.73	.57
Perceived learning	4.19	0.51	5.12	.00*
Expected grade	3.28	0.65	6.86	.00*

### **3.4 Discussion and Implications**

The study revealed that teachers who received higher ratings have also students who reported higher perceived learning gains. It was also found that the grades students achieved did not correlate with the ratings they provided in most of the sections, whereas the ratings provided using the TEQ are significantly correlated with students' perception of their learning. ANOVA revealed that students' perceived learning gain and student ratings showed differences between teachers in the various multi-section courses. Although the results are not the same in all the multi-sections, the findings confirmed the outcomes of other studies that reported significant relationships between ratings and students' perception of their learning (e.g. Van Os, 1999; Baird, 1987).

As the study was conducted in multi-sections, where the same course and the same exam was offered in each multi-section course, the expectation was that any differences in students' perceptions of their learning gain, the teaching evaluation ratings, as well as the grades they achieved would reflect differences among teachers. It was also assumed that higher values in one of the variables would be associated with higher values in the others. This is because, if the teaching is good, students are likely to expect and achieve good grades. They would also have higher perception of their learning and rate the teaching higher. However, this was not the case with actual grade and expected grade. The differences observed between the variables and the implication for the evaluation of teaching using these indicators is discussed below.

The outcomes of the study support Marsh and Roche's (1997) as well as Baird's (1987) works which stated that higher ratings are given not because students expect higher grades but because they are expressing that the teaching was effective. Moreover, the ratings students gave are also related to the grades they expected to get and their perceived learning gain. Thus, the student rating questionnaire ought to be supplemented by expected grade and students' perception of their learning. Together they give a better, at least a more differentiated, picture of teaching effectiveness.

Students' actual course grades did not significantly correlate with student ratings of teaching in most of the multi-sections considered, which could imply that grades may not necessarily reflect student learning. This could mean that students' perception of teacher effectiveness, expressed in the ratings they provide, may not necessarily reflect their learning. It could also reflect subjectivity in scoring among teachers in each multi-section course.

Considering students' subjective evaluation of their learning has the added advantage of providing opportunities for students to reflect on their learning experiences. Moreover, when students are providing the ratings based on perception of their learning, it significantly reduces the influence of factors other than the effectiveness of the teaching. Put differently, it is less likely that students will be influenced by factors such as the personality of the instructor, the nature of the course, or the size of the class since the basis for evaluating the teacher is the perception of their learning.

Although studies confirmed the appropriateness of using student ratings as indicators of effectiveness (Marsh, 1987; Onwuegbuzie, Daniel, & Collins, 2009), certain concerns have been raised among teachers about the ability of

students to make judgments on such issues as teachers' knowledge of subject matter, teacher's dedication, and appropriateness of the assessment strategies employed. Such concerns are believed to influence the use of the feedback for teaching improvement. Studies have also indicated that teachers may not make use of the feedback for teaching improvement if the focus of the items in the questionnaires is on making judgments of teacher performance instead of providing comments on how students' experiences can be improved (Kember et al., 2002). Thus, when emphasis is given to students' perception of their learning as a basis for evaluating teaching, it could be more appropriate for teachers to use the feedback for teaching improvement.

In conclusion, the differences in students' perceived learning gain and ratings across the multi-sections indicated differences in teacher performance. This can be considered as evidence of the validity of the student rating questionnaire used. Students are providing the ratings based on perceptions of their learning gain. However, the focus of the students' perceived learning gain questionnaire differs from that of the Teaching Evaluation Questionnaire (TEQ). When students rate perception of their learning, they are considering their experiences in the course, whereas when they rate their teachers using the TEQ, the emphasis is on the effectiveness of certain teacher characteristics. The correlation between the two types of ratings could be an indication that students are evaluating their teachers' performances based on perceptions of their own learning. Thus, the TEQ could be a better source of feedback for teaching improvement if the items reflect both students' evaluations of their learning and the effectiveness of teacher performance. Teachers may be able to receive better feedback using



## Chapter 3

a measure that addresses teacher performance and students' evaluation of their learning progress.

## Chapter 4

### **Conceptions and practices in teaching and learning: Implications for the evaluation of teaching quality<sup>3\*</sup>**

#### **Abstract**

This study was conducted in two public universities in Ethiopia to assess the impact of conceptions of teaching and learning on the evaluation of teaching quality. Students' and teachers' approaches to teaching and learning and their conceptions of the meaning of teaching have been examined. The results indicated that both teachers and students predominantly perceive teaching as transmitting knowledge and assessment as the recall of factual knowledge. For the students the mean values for teaching as transmitting knowledge and assessment as recall of facts significantly correlated. Students and their teachers have also identified similar characteristics they believe to be indicators of teaching effectiveness. The experiences and conceptions of both teachers and students reflect a teacher-focused approach to teaching and learning. The Teaching Evaluation Questionnaire (TEQ) also reflects teacher performance as an indicator of effectiveness. Improving the measure should be considered as a means of changing teachers' and students' conceptions of teaching and learning.

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<sup>3\*</sup> Zenawi Z., Beishuizen, J., & Van Os, W. (2011). Conceptions and practices in teaching and learning: Implications for the evaluation of teaching quality, *Quality in Higher Education*, 17(2), pp. 151-161.

## 4.1 Introduction

In the literature there are agreed frameworks provided to describe how teachers interpret teaching and learning. For instance, Samuelowicz and Bain (1992) indicated that teachers displayed five qualitatively different conceptions of teaching: teaching as *supporting student learning*; teaching as *changing students' understanding of the world*; teaching as *facilitating learning*; teaching as the *transmission of knowledge*; and teaching as *imparting information* to students. Kember's (1997) review of 13 studies also identified five conceptual categories: imparting information, transmitting structured knowledge, student-teacher interaction, facilitating understanding, and conceptual change. The first two categories are considered examples of the teacher-centred orientations while the last two refer to student-centred orientations. Akerlind (2004) also indicated that despite differences in the outcomes of many of the studies, the key dimensions held by teachers were either the transmission of information to students or supporting their conceptual understanding. From the descriptions presented above, it is possible to put the orientations towards teaching and learning into either transmitting information or facilitating learning.

Teachers' conceptions of teaching and student learning are reflected in organizing course contents and in selecting methods of teaching. Teachers who believe that students learn better when much content is presented are more likely to design assessment tasks that encourage students to recall detailed factual knowledge. Those who have student centred orientation, on the other hand, employ various methods of assessment and assist students to develop deep approaches to learning (Entwistle, 2000; Kember & Kwan,

2000). In such instances teachers implicitly inform their students what is required to succeed in a course. When the examinations encourage recall of factual knowledge, chances are less for the students to apply deep processing. On the other hand, when learning facilitation is emphasized, meaningful learning is encouraged among students.

It is not only teachers' approaches to teaching that will be influenced by their orientations. Students' conceptions of learning also influence their approaches to learning. A study by Van Rossum and Shenk (1984) revealed that students, who consider learning as increase in knowledge or memorization, employ a surface approach while learning a text. Those who conceive learning as abstraction of meaning or understanding concepts apply a deep approach while learning the given text. Similarly, a study on the relationship between students' conceptions of learning and academic achievement by McLean (2001) indicated that there is a link between conceptions and academic ability: students with transformative conceptions of learning, as opposed to reproducing, were observed to have higher academic standing. The study also stressed on the need to make learners aware of their conceptions to help them learn better. Entwistle and Tait (1990) found that students' orientations to learning are reflected in their approaches to learning. When students adopt a meaning or a reproducing orientation, they also prefer teaching and assessment strategies that support their approaches to learning. Akerlind's (2004) review indicated that teacher centred orientation is less likely to produce high quality learning outcomes among students. Whereas, when teachers adopt the facilitative or conceptual change approach to teaching, there is a better possibility for high quality student learning (e.g. Trigwell & Prosser 2004).

## **4.2 The impact of conceptions on the evaluation of teaching**

Students' beliefs about teaching and learning are observed to influence their judgments of the characteristics of effective teachers. Kember and Wong's (2000) study revealed that students with passive beliefs about teaching and learning expected the teacher to be organized, communicate clearly, and state clear objectives. On the other hand, students with active beliefs about learning indicated self-directed learning, role play, collaborative learning and project-based learning. The qualities described by students with active beliefs about teaching and learning are not indicated in the widely used student rating questionnaires. These questionnaires cannot be used to evaluate innovative or student centred teaching, since they are designed to evaluate teacher performance as indicator of the effectiveness of teaching.

The most commonly used teaching evaluation instruments are influenced by the teacher-centred model since they contain items that describe good teaching as presenting contents to students. The task of the teacher is implicitly understood as providing a ready-made material to be remembered by students (Barr & Tagg, 1995; D'Apollonia & Abrami 1997; Kolitch & Dean, 1999; McKeachie, 1997). When students and teachers have different conceptions, it will be difficult to make use of the data on teaching quality for teaching improvement. For instance, students who conceive learning as an active process may not give high value to teaching that is teacher-centred. On the other hand, when the students have a passive conception of learning, they are expected to be biased against teaching which required their active engagement (Kember & Wong, 2000). Students will give higher value to teachers if they are knowledgeable in the subject and transmit the concepts. However, when students provide higher ratings using

questionnaires based on teacher-centred approach, higher ratings may not necessarily indicate student learning, hence the effectiveness of teaching. Studies indicated that students learn better when their teachers employ the facilitative rather than the transmitting approach (see for example Entwistle & Tait, 1990).

The studies reviewed indicate that teachers' and students' conceptions of teaching and learning influence their approaches to teaching and learning. Students' conceptions also influence the nature of the feedback they provide. Teachers' use of the feedback will also be influenced by their conceptions. This study was conducted in Ethiopia where the instructional practice in the universities is widely teacher-dominated and content oriented (Daniel, 2004) and the current system of evaluating teaching effectiveness encourages such practice. Staff development centers have recently been established in these universities to provide support, though there are no reliable data sources that could be used in the quality improvement efforts. In this study we examined teachers' and students' conceptions and practices of teaching and learning and state the implications to the evaluation of effective teaching. We also looked at the link between conception and practices and discussed the implications for the evaluation of effective teaching.

### **4.3 Methodology**

There are agreed frameworks used to describe students' and teachers' perceptions of teaching and learning. These perceptions are believed to influence the approaches to teaching and learning (Kember, 1997). In this study the 'teaching as facilitating learning' and 'teaching as transmitting

knowledge' were used to describe teachers' and students' beliefs and practices of teaching and learning. The differences in perception were compared with the respondents' observations of their experiences.

### ***Participants***

The Faculties of Science and Technology and Health in two higher learning institutions in Ethiopia, Mekelle University and Jimma University, were chosen. Out of a total of eleven departments in these faculties, Civil and Electrical Engineering Departments from the Faculties of Science and Technology, and Nursing and Pharmacy Departments from the Health Science Faculties in both universities were randomly selected. All the graduating students in the selected departments were considered for the study. For the academic staff, senior teachers who have been teaching these groups of students for more than four semesters were contacted. The response rate from students was high. 465 questionnaires were distributed and recollected, though some were not properly completed and had to be discarded. 434 questionnaires (93.3%) were used for the analysis. For teachers, a total of 75 questionnaires were distributed in the two institutions. Teachers were contacted through their respective faculties and departments, and 43 of them (57%) completed and returned the questionnaires.

### ***Materials***

***Student and Teacher Questionnaires:*** Two questionnaires were designed, one for instructors and one for students, each containing two parts. In the first part, items referred to teaching and assessment practices, and the type of feedback students and teachers gave and received were included. The

second part dealt with their conceptions of teaching and learning. The items that refer to the teaching and assessment experiences were designed to reflect both the knowledge transmission and the learning facilitation orientations identified by Kember (1997). Examples under the knowledge transmission include '*teaching focused on remembering contents*' and '*assessment focused on recall of facts*'. Under the learning facilitation category, '*teaching focused on assisting students to relate concepts with previous knowledge*' and '*assessment focused on checking application of knowledge*' were included. The reliability for the teaching and assessment subscale was acceptable ( $\alpha = .80$ ). Teachers and students also provided a description of effective teaching and presented a list of characteristics of effective teachers. Most of the items in the questionnaires were similar except that they were written in such a way that students and teachers could respond from their respective experiences. The items on the respondents' evaluation of their teaching and assessment experiences were presented on a five-point Likert scale ranging from 'never' to 'always'.

***Students' Cumulative GPA:*** As a measure of students' learning in a given program, students' cumulative grade point average was considered.

### ***Procedures***

The items for the questionnaires were extracted from the literature on the nature of teaching and learning in student centred and teacher centred environments (Barr & Tagg, 1995; Kember & Gow, 1994; Ramsden, 2003). After the items were prepared, they were given to experts in educational psychology for comments and improvement. Changes were made based on the comments, and descriptions were provided on how to complete the



questionnaires. The students and teachers were also asked to provide responses based on reflections of their learning and teaching experiences respectively.

### ***Data Analysis***

As the objective of the study was to make an assessment of students' and teachers' conceptions of teaching and learning, correlational design was employed to check the degree of relationship between students' and instructors' observations of the teaching and assessment experiences. T-test was used to test whether the observed mean differences between teaching as knowledge transmission and teaching as learning facilitation were statistically significant. The same test was also used for the differences between assessment as remembering facts and assessment as checking understanding.

### **4.4 Results**

Students' observations of teaching approaches significantly correlated with their judgments of the nature of assessment used. Students who stated that the teaching approach was predominantly knowledge transmission also indicated that the assessment encouraged recall of facts ( $r = .49, p < .05$ ). Although the values of the correlations were weak, students' cumulative grade point average also significantly correlated with their observation of the teaching experience as 'transmitting knowledge' ( $r = .17, p < .05$ ) and their judgment of the assessment as 'recall of facts' ( $r = .21, p < .05$ ). Teachers' experiences of the nature of teaching and assessment frequently employed were also assessed. Significant correlation was found between

‘teaching as transmitting knowledge’ and ‘assessment as remembering facts’ ( $r = .66, p < .05$ ). This implies that teachers who reported that their teaching experience was teacher dominated also described that their assessment emphasized on remembering facts.

A paired samples t-test was employed to test whether there was a significant difference in students’ and teachers’ evaluations of teaching and assessment. For students, t-test revealed statistically significant difference between the mean values of their conceptions of ‘teaching as transmitting knowledge’ ( $M = 3.74, SD = .59$ ) and ‘teaching as facilitating learning’ ( $M = 3.58, SD = .73$ ),  $t(433) = 4.55, p < .00$ . Their observations of the nature of the teaching indicated that it was predominantly transmission of knowledge rather than facilitating student learning. The same test for teachers failed to reveal statistically significant difference between the mean values of ‘teaching as transmitting knowledge’ ( $M = 4.32, SD = .67$ ) and ‘teaching as facilitating learning’ ( $M = 4.28, SD = .66$ ) orientations,  $t(42) = .260, p = .79$  (see Table 4.1).

Table 4.1

*A paired samples t-test for students' and teachers' observations of the teaching approaches frequently employed*

	Paired differences			
	M	SD	t	p
Students				
Transmitting knowledge	3.74	.59	4.55	.00
Facilitating learning	3.58	.73		
Teachers				
Transmitting knowledge	4.32	.67	.26	.79
Facilitating learning	4.28	.66		

Students' experiences of the nature of assessment showed significant differences between 'assessment as remembering facts' ( $M = 4.01$ ,  $SD = .65$ ) and 'assessment as checking understanding' ( $M = 3.59$ ,  $SD = .80$ ) orientations,  $t(433) = 12.01$ ,  $p < .00$ . Students described assessment to be dominantly encouraging the remembering of factual knowledge more than checking understanding. There was no significant difference in students' views in different faculties. The same test for teachers' experiences of assessment showed no significant difference between 'assessment as remembering facts' ( $M = 4.39$ ,  $SD = .64$ ) and 'assessment as checking understanding' ( $M = 4.37$ ,  $SD = .62$ ) orientations,  $t(42) = .140$ ,  $p = .88$  (see Table 4.2). Results indicate that there are differences between students and teachers in interpreting the nature of the assessment provided.

Table 4.2

*A paired samples t-test for students' and teachers' observations of the nature of assessment frequently employed*

	Paired differences			
	M	SD	t	p
<b>Students</b>				
Remembering facts	4.01	.65	12.01	.00
Checking understanding	3.59	.80		
<b>Teachers</b>				
Remembering facts	4.39	.64	.14	.88
Checking understanding	4.37	.62		

### ***The meaning of effective teaching***

Students were requested to provide descriptions of the meaning of effective teaching. Based on the phrases they used in their descriptions, their replies were categorized into 'teaching as facilitating learning' or 'teaching as transmitting knowledge. Half of them (52%) described teaching as transmitting knowledge while the rest stated that it was 'facilitating learning'. They were also requested to list at least four characteristics of effective teachers and how such characteristics contribute to their learning. The need for the teacher to be punctual appeared most frequently (32%), followed by being knowledgeable in the subject matter (29%). The reasons given were that punctuality maximizes the time for learning. Being sociable and friendly, well organized and expressive were the other qualities the students expect from effective teachers (20%) since they believed these

characteristics help them easily communicate with the teacher. Other qualities of an effective teacher suggested by the students include being a good communicator, focusing on the students, and providing adequate course materials (15%). They indicated that these qualities help the teacher to transmit knowledge clearly. Students also wanted their teachers to show self confidence and to provide feedback on progress. There was no difference in the characteristics of effective teacher identified by students in the various disciplines considered.

Teachers were also requested to describe effective teaching and provide a list of characteristics that describe effective teachers. Slightly higher than half of them, i.e. 54% described teaching as transmitting knowledge. They were also asked to list four characteristics of effective teachers. Nearly a quarter of the teachers (23%) stated the need for the teacher to be organized and deliver clear presentation as essential requirements. Applying continuous assessment and providing feedback on progress were other elements in the required profile (23%), followed by being knowledgeable in the subject matter (18%). Punctuality and considering students' comments for teaching improvement were also indicated as the required qualities (16%).

### ***Giving and receiving feedback***

Teaching and learning is an interactive process where students give feedback to their teachers while teachers provide comments to students on their progress. In this study students were requested to indicate the alternatives they use to provide feedback to their teachers. Although in practice the student evaluation of teaching is formally conducted through the

Teaching Evaluation Questionnaire (TEQ), the students reported that they equally use informal means such as discussions after class, suggestions during instruction, feedback based on self evaluation of their learning, and focus group discussions. Asked about which of the alternatives was a better way of providing feedback, slightly higher than half of them (56%) preferred suggestions during teaching learning sessions. The students also gave reasons for choosing a given method of feedback. They saw 'suggestions during teaching and learning' as more appropriate for a number of reasons: It helps the teacher make improvements when the course is still in progress; it is easier for them to tell what the teacher has to improve; they can give feedback without being restricted by structured questions in the rating form; it is better than other alternatives for teachers to make use of the comments.

Students also reported how teachers provide feedback on progress. They mentioned end of course examination results, written feedback to test results and assignments, comments based on students' self evaluation of their progress, comments on group work, and feedback based on the objectives in course outlines. They indicated the end of course examination result as the most frequently used approach by teachers.

Teachers' views were similar with students. They rated the end of course examination results or grades as the most frequently used method followed by written comments to tests and assignments. They reported that they use suggestions by students, student outcomes, and reflections on their teaching to make improvements in their teaching. Feedback using formal student evaluation of teaching was also cited, though less commonly. Asked which source of feedback was most effective for teaching improvement, nearly a

quarter of them cited students' learning outcomes. The reasons were, its appropriateness for making immediate improvements, the ease with which this provided feedback, and its validity compared to other sources.

### ***Checking understanding***

Another area that was investigated involved the mechanisms employed to check students' understanding of concepts. Students relied on their performance in assignments and projects, ability to use concepts learned to solve problems, and explanations to peers as the more frequently used means of checking their understanding. Teachers, on the other hand, indicated using several sources such as students' test results, students' answers to questions during discussion sessions, students' answers to assignments and projects, as well as their application of the concepts learned to a problem situation.

### ***Students' role during teaching and learning***

Students provided a description of their roles during the instructional process. Responses were categorized into either 'students as active players' or 'students as passive listeners to teachers' presentations'. A significant majority (71%) saw their role primarily as passive listening to teachers' presentations. Some of the roles they cited included listening to teachers' presentations, attending class regularly, and writing down notes. Only a quarter of them (24%) stated their role as 'active players' mentioning such roles as analyzing what they have learned, relating concepts with the real world outside, and elaborating on teachers' presentations through discussion and further reading.

#### **4.5 Discussion and implications**

The outcomes of the study conducted in two public universities in Ethiopia reveals that teaching is teacher centred: students view the teaching practices to be dominated by transmitting knowledge and assessment is influenced by recall of factual knowledge. This implies that more emphasis is given to transmitting knowledge and to testing for remembering of hard facts, without interpretations or relating to previous knowledge.

The application of a facilitative or conceptual change approach to teaching is believed to encourage high quality student learning. Effective teachers are characterized as those who apply deep approaches while teaching (Andrew, Garrison, & Magnusson, 1996) and use teaching approaches that facilitate student learning (Dunkin & Precians, 1992). In our study, however, higher grades were associated with higher values in students' judgment of assessment as recall of information. Higher grades in this case may not necessarily reflect improved learning since teacher dominated approaches may not lead to quality learning among students (e.g. Akerlind, 2004).

Both teachers and students agreed that the end of course examinations and course grades were commonly employed by teachers as sources of feedback on progress. Although valuable, such feedback does not help students make improvements while the course is in progress. Neither will teachers be able to improve their teaching if they wait for feedback until the end of course examinations. Students rely more on formative evaluation such as performance in assignments and solving problems to assess their progress. Hence, it is essential for teachers and students to use appropriate and timely



sources of feedback on progress and for the measures of teaching effectiveness to address these sources.

Student rating of teaching that is completed at the end of the course is what is formally being used in universities in Ethiopia as a source of feedback for the evaluation of teaching. However, the students indicated that they prefer providing comments during instruction since it is easier to give specific comments for improvement while the course is in progress. Teachers also stated that they use other sources of feedback, such as student performance outcomes in addition to the formal assessment results, to improve their teaching. Although teachers and students showed some differences in their preferred source of feedback, the fact that they cited sources other than the student rating of teaching implies there is a need to make improvements to the ratings or to look for other options as sources of feedback.

It is worrying that the majority of the students (i.e. 71%) indicated their role during the instructional process as passive listening to teachers' presentations. Although it is difficult to determine whether this kind of role perception was developed as a result of teachers' approaches or students' own experiences of appropriate ways to learn, it implies that students will be providing higher ratings to teaching that lets them listen passively to the presentations. They may not value a student-centred teaching that involves them in the process and assists their attempts at learning. The Teaching Evaluation Questionnaire (TEQ) used in universities in Ethiopia is designed to rate the effectiveness of certain teacher characteristics instead of the support and facilitation they received. It could be possible that the prolonged use of the questionnaire might have influenced teachers' and students' perceptions of teaching and learning. When the evaluation items focus on

what the teacher does, it implies that it is up to the teacher to conduct the teaching and for the students to receive whatever is presented. Hence, improving the questionnaire could be one way of changing the widely held conceptions of teaching and learning.

Given the descriptions referring to students' and teachers' experiences of the teaching– learning process, it is hardly surprising that most of the characteristics of effective teachers identified by both groups reflect the teacher dominated orientations. Although there are differences in the types of characteristics identified, both students and teachers consider an effective teacher as one who is knowledgeable, punctual, organized and a good communicator; all refer to what the teacher should do to make students learn. Even though such attributes as 'facilitating student learning' and 'encouraging student participation' could lead to evaluating teaching effectiveness based on student learning, these traits were mentioned by a very small number of teachers and students. Half of the participants in both groups also described effective teaching as transmitting knowledge. Unless such conceptions are changed, it is difficult to introduce teaching practices that encourage students' active involvement in the process of learning.

It can be inferred from the characteristics identified that the teacher is considered as provider of information. It is assumed that learning is guaranteed as long as the teacher teaches. The fact that students play a significant role in their own learning is not recognized in the descriptions provided. Nor does the TEQ address student engagement in the process of learning, although studies indicated the need to give more emphasis to student engagement as a criterion of effectiveness (Biggs, 1999; Chickering & Gamson 1987; Shuell, 1986). The focus of evaluating the quality of

teaching should be whether students believe the teaching helped them to achieve the desired learning objectives.

In conclusion, teacher centred conception is the predominant orientation, and the teaching-learning practices have been described to be reflections of these orientation. The measure of teaching effectiveness currently in use reflects the teacher centred paradigm. The items are phrased in such a way that students can rate the effectiveness of teacher characteristics instead of their learning progress. The study has also revealed that the feedback teachers use for teaching improvement is different from the one obtained using the rating questionnaire. The measure does not take into account the need for students to be actively involved in the learning process and for the teacher to provide support. It is, therefore, imperative to design an improved measure as a vehicle to changing the widely held conceptions as well as encouraging students' active engagement as a requirement for evaluating teaching quality. What is more, unless students realise that they achieve better when they are active participants in the learning process, a redesigned evaluation form might in fact allow them to mark down the good teachers.

## Chapter 5

### Student Learning Experience as Indicator of Teaching Quality <sup>4\*</sup>

#### Abstract

The purpose of the study was to develop an improved teaching evaluation questionnaire based on students' learning experiences and selected teacher characteristics identified as indicators of teaching quality. Teaching evaluation questionnaires are commonly designed either based on agreed indicators of teaching excellence, students' suggestions of characteristics of excellence, or dimensions identified from interviews conducted with excellent teachers. In this study, however, students' evaluation of their own learning experiences in learner centered classes and a hypothesized framework derived from the literature were used to develop the items for the questionnaire. Students attended to courses designed in a learner centered paradigm and evaluated their learning experiences. Based on the hypothesized framework and students' reflections of their experiences, items were designed and validated at various levels. Exploratory factor analysis resulted in a 24-item Student Evaluation of Learning and Teaching Questionnaire (SELTQ) that comprises four factors: assessment and feedback; course organization and presentation; student self evaluation; and students' level of engagement. As opposed to the questionnaire widely used in higher education institutions in Ethiopia that focuses on the evaluation of selected teacher characteristics, the new measure enables students to evaluate teaching in terms of their own learning progress.

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<sup>4\*</sup> Zenawi Z., Beishuizen, J., & Van Os, W. (2012). Student Learning Experience as Indicator of Teaching Quality. *Educational Assessment, Evaluation and Accountability*. DOI 10.1007/s11092-011-9140-4.

## 5.1 Introduction

Student rating questionnaires are widely used in higher education institutions, amid concerns about their appropriateness as indicators of the quality of teaching. Some of the criticisms against the use of student ratings stem from the fact that these instruments focus on the evaluation of teacher characteristics and students' judgments of these characteristics could be influenced by factors unrelated to teaching effectiveness, such as the nature of the course or the personality of the teacher (Pounder, 2007). Using these questionnaires, students rate their teachers' knowledge of subject matter, enthusiasm, organization and presentation. It is argued that student evaluation questionnaires should also address students' evaluation of their own learning experiences in addition to the facilitation from the teacher.

Students' active engagement contributes to their learning and provides better opportunities for teachers to facilitate student learning (Chickering & Gamson, 1987; Moises & Johanna, 2009). If student learning is to be considered as a criterion for teaching quality, appropriate indicators should be designed that give more emphasis to improvements in student learning. Ramsden (2003) presents an example of changing the focus from checking whether teachers give feedback to whether students reported the feedback improved their learning. One may ask, what difference does it make if students give response to an item written as '*the teacher gives feedback*' or '*the feedback helped me improve my learning*'? Although it is possible to provide feedback in both ways, the rating that focuses on what the teacher does may not tell whether students have benefited out of the process. As the main purpose of feedback is to help teachers improve student learning, there is indeed a difference between telling that 'feedback was given' and

‘feedback assisted learning’. There might have been situations where teachers gave feedback that didn’t help students comprehend what they are supposed to learn.

The teaching evaluation questionnaire currently used in most universities in Ethiopia focuses on the evaluation of teacher performance, although policy documents state the need to implement learner centered instruction (Federal Democratic Republic of Ethiopia, 2009). The practice in these universities is also indicated to be widely teacher dominated and content oriented (Daniel, 2004) and the system of evaluating teaching effectiveness encourages teacher centered approaches (Zenawi, Beishuizen, & Van Os, 2011). When this is the case, the effectiveness of teaching is inferred not (directly) from students’ evaluations of their own learning progress but (indirectly) from the ratings of certain teacher characteristics.

Armstrong (1998) noted that using rating forms that focus on evaluating teacher characteristics implicitly states that teacher performance determines student learning. He suggested improving the questionnaires so that students can assess their own learning progress. However, Armstrong (1998) seems to underestimate teachers’ role in organizing learning contents and in facilitating the process of instruction. Giving more emphasis to student engagement does not mean the teacher has no role to play at all. The support and facilitation provided by the teacher is still important. For example, Abrami and D’Apollonia (1999) argued that student ratings should reflect students’ responsibility for their own learning and teachers’ role in supporting and encouraging student learning. The use of teaching evaluation instruments designed exclusively based on the teacher centered paradigm is,

however, believed to influence teachers to employ teacher dominated approaches.

Some attempts have been made in relation to considering students' evaluation of their learning experiences as a basis for evaluating the effectiveness of teaching. Wohlfarth, Sheras, Bennett, Simon, Pimental, and Gabel (2008) evaluated teaching in learner centered instruction using a measure designed by Brookfield (2005). As opposed to rating forms designed to evaluate teacher performance, this questionnaire has items that enable students to express their level of engagement in the classroom, what helped or hindered their learning, their perceptions of the teachers' strengths and weaknesses, and the most important skills, attitudes, and concepts they learned. Similarly, Johnson (2008) argued that if the focus of evaluating teaching is to promote student learning, then the measure employed has to indicate how and what students have learned. He identified four possible dimensions that should be addressed while evaluating teaching quality: 1) the appropriateness of learning goals; 2) the nature of the learning activities; 3) the appropriateness of the learning assessment; and 4) whether the learning outcomes were addressed. Logan and Ellet (1989) also designed a teaching evaluation instrument based on Brophy's (1986) survey of the process-product research. The focus was on preparing a rating questionnaire that gives opportunities for students to evaluate the effectiveness of teaching in terms of enhancing their learning. Four factors emerged after the analysis, which include preparation and management, techniques of instruction, interpersonal skills, and student evaluation practices.

Oliver, Tucker, Gupta, and Yeo (2008) developed a rating instrument intended to evaluate students' perceptions of their learning experiences. The

items were derived from the teaching and learning goals in a specific university. Factor analysis identified three factors: students' perceptions of what helped their achievement of intended learning objectives, their level of motivation and engagement, and their overall satisfaction with the contents presented. A study by Cabrera, Colbeck, and Terenzini (2001) also developed performance indicators of learning gains related to the effectiveness of teaching in engineering programs, which include student-teacher interaction, teacher guidance on students' attempts at learning, and feedback and encouragement. Still another attempt at designing a teaching evaluation instrument was the Student Evaluation of On-line Teaching Effectiveness. The instrument was designed by Bengert (2004) based on the seven principles of effective teaching identified by Chickering and Gamson (1987). The measure addresses such dimensions as student-faculty interaction, active learning, time on task, and cooperation among students as valid sources of feedback to be used by the teacher in online instruction.

The studies reviewed clearly show the emphasis given to students' evaluation of their own learning experiences. As compared to measures designed to evaluate teacher performance, the dimensions identified provide opportunities for students to evaluate teaching quality in terms of its impact on their learning. Teacher's role in this case is expressed in facilitating student learning through designing appropriate learning experiences. Certain characteristics related to student learning are not, however, addressed in the indicators discussed. For instance, student learning is related to the effort they exert (Davis & Murrell, 1994). Moreover, some of the dimensions were identified based on the experiences in specific instructional contexts (e.g. Cabrera et al., 2001) or they refer to a specific mode of delivery (e.g. Bengert, 2004). Others are suggestions from the literature and have not been



developed into standard rating questionnaires (e.g. Johnson, 2008). A better example is the questionnaire by Brookfield (2005), although the nature of the dimensions that specifically refer to students' evaluation of their own learning and the facilitation they received from the teacher are not clearly indicated. What is more, not much is known about whether the measures actually enable students to evaluate teaching in terms of their own learning.

Some studies indicate that students learn better when they are actively engaged in the process of learning (e.g. Biggs, 1999; Chickering & Gamson, 1987; McDowell et al., 2010) and given responsibility for their own learning (e.g. Weimer, 2002). Others have also reported improvements in student learning when teachers make better course organization and presentation (e.g. Pascarella & Terenzini, 2005) and provide feedback on progress (e.g. McDowell et al., 2010; Ramsden, 2003). Thus, if students have to evaluate their teachers, the measure of teaching quality has to address the facilitation by the teacher as well as students' evaluation of their engagement in the process of learning. In this study, it was hypothesized that such a measure has to address the following five dimensions: the way courses are organized and presented, the quality of assessment and evaluation, the feedback teachers give and receive, students' level of engagement in the process of learning, and students' judgments of their involvement in the process of learning.

Student evaluation questionnaires are designed using one or a combination of the following approaches: (1) selecting certain characteristics of teaching excellence and asking students to evaluate their teachers; (2) allowing students to write characteristics of excellence they believe describe effective teachers; and (3) interviewing teachers identified as excellent (Marsh, 1987,

Sherman et al., 1987). A slightly different approach was implemented in this study. First, five dimensions believed to address students' evaluation of their progress and the support they receive from the teacher have been identified. Second, students evaluated their experiences while attending courses designed in accordance with learner centered approaches. Finally, a pool of items was drafted using students' descriptions of their experiences and the dimensions in the hypothesized framework.

## **5.2 Method**

When designing a measure of teaching effectiveness, Levine and Wright (1987) suggest three major steps that should be accomplished: selection of measurement criteria, developing the rating scale, and checking the reliability and validity across instructional settings. Similarly, Berk (1979) mentions specifying the domains of indicators as the first step in designing evaluation instruments. The items for the improved scale were identified from the dimensions in the hypothesized framework and students experiences based on appropriate statistical procedures.

### ***Participants***

Two academic departments at Mekelle University, one from the social sciences and the other from the natural sciences, were selected to represent diverse instructional settings. The sample involved 189 second year students from the Department of Geography and Environmental Studies and 54 graduating class students from the Department of Mechanical Engineering. The two teachers who taught the courses in the two departments were also involved in the study.

## ***Material***

### *Student Learning Experience Questionnaire*

A Learning Experience Questionnaire was designed based on the tenets of learner centered instruction proposed by Weimer (2002) that was used by students to evaluate their experiences. The questionnaire contains structured items presented in a Likert scale format (e.g. *I am encouraged to make interpretations of the learning contents*) and students were required to rate the frequency of the behavior. In the open ended items, on the other hand, students provided comments related to their experiences (e.g. *Provide your suggestions on how to improve the process of instruction*). Students' responses to these questions were used to generate items for the newly designed Student Evaluation of Learning and Teaching Questionnaire (SELTQ).

## ***Procedure***

The purpose of the study was to design a measure of teaching quality that reflects students' learning experiences. The new measure had to be designed based on students' experiences in learner centered instruction. The study was implemented in two phases. During the first phase, teachers were provided with trainings on the tenets of learner centered instruction (Weimer, 2002). Courses were redesigned in such a way that the students could do most of the learning by themselves. Specific objectives and tasks were presented for the different subtopics in the courses. Trainings were also provided for teachers on the instructional methods appropriate for learner centered instruction. During the implementation of learner centered instruction, students were giving comments for teaching improvement.

Students were also provided with orientations on the changes being introduced. During the second phase that commenced half way in the semester, students provided descriptions of their experiences using the Student Learning Experience Questionnaire (see Appendix C). The items for the SELTQ were derived from the data obtained using the learning experience questionnaire and the hypothesized framework. The SELTQ was developed using appropriate factoring procedures.

### ***Data Analysis***

The items for the SELTQ had to be identified from students' evaluation of their experiences in learner centered instruction and the hypothesized framework. Students' experiences in learner centered instruction were described using percentages. The most frequently cited characteristics have been selected for inclusion in the item pool. Once the items were identified from the five dimensions and students' experiences in learner centered instruction, reliability and validity were estimated. Factor analysis was used to identify appropriate dimensions that enable students to evaluate their own engagement and the support and facilitation from the teacher.

## **5.3 Results**

### ***Students' evaluation of learner centered instruction***

During the implementation of learner centered instruction, students evaluated the appropriateness of their experiences using the Student Learning Experience Questionnaire. One of the questions was related to their assessment of the approach employed in the course. 85% of the

students replied that the teaching approach was different as compared to the one used in other courses. The students described that teachers in the learner centered classes designed courses to engage students in the process of learning, gave suggestion and facilitation, provided reading materials in advance, and conducted regular evaluation and feedback (see Table 5.1 for the most frequent replies provided on a five point Likert scale). They also stated that assignments and exams were designed to help them learn and they were given the opportunity to redo assignments based on teachers' comments. Students were asked if they were learning better in the courses designed in learner centered paradigm. 94% replied that they learned better in the learner centered classes since, according to them, they were able to exercise new learning skills such as group participation and presentation. They also added that they were informed why they learn a given topic and what they should do to grasp the concepts. 87% of students replied that they performed the requirements in learner centered classes, such as working in group activities, performing desired tasks, and conducting peer as well as self evaluation. Their replies indicated that they learned better in these courses since they had been engaged in the process of learning.

Table 5.1

*A list of students' evaluation of the most frequently used instructional approaches in the learner centered classes*

Instructional approach employed	M
Regular suggestions are given on how best I can learn a given concept	3.45
I am encouraged to evaluate my own and my colleagues' works	3.41
Assessments are mostly integrated within the learning process	3.35
Enough class works, assignments, and quizzes are given	3.30
I am regularly informed about what is the expected outcome	3.20
Reading materials are given in advance, with review questions clearly stated	3.20
I am encouraged to make interpretations of the contents and provide examples	3.02
The teacher is a facilitator of learning, not a provider of information	3.01

### ***Instrument development methodology***

During the development of the scale, a pool of 44 items was drafted based on the most frequently used approaches identified by students (see Table 5.1) and a review of previous works on student and teacher characteristics that contribute to student learning (Biggs, 1999; Chickering & Gamson, 1987; McDowell et al., 2010; Pascarella & Terenzini, 2005; Ramsden, 2003; Weimer, 2002). The list was presented under the five thematic areas in the hypothesized framework: course organization and presentation; level of student engagement; the nature of assessment and evaluation; the quality of the feedback from and to students; and students' own judgment of their

learning. The procedures implemented to estimate reliability and validity are presented below.

### *Validity estimates*

#### *Content validity*

Content validity in this study refers to the judgment given by content experts on the appropriateness of the items. As a way of estimating content validity, the item pool was presented to five senior educators for comments. They provided their comments based on an improved version of a checklist designed by Berk (1979). The educators checked for clarity, redundancy, whether each item contains one complete thought, and if the content in the item helps students to evaluate their learning experiences. Based on their recommendations, the initial draft was reduced to 30 items. In another survey, 76 instructors randomly selected from six departments provided their comments based on the four criteria presented below:

- (a) Students can provide comments about the issue;
- (b) the item can be used across instructional contexts;
- (c) I can receive feedback for teaching improvement; and
- (d) the item is clearly stated.

The respondents were requested to provide their answers in a ‘yes’ or ‘no’ format after reading the four criteria for every item. Items with an average yes response below 60% for each criterion were removed from the list since it was believed that nearly two third of the respondents should agree if an item has to be retained in a given dimension. The mean values of the yes

responses for the remaining items range from 60-90%. This resulted in a total of 24 items presented under five categories (see Appendix D).

### *Construct validity*

Construct validity in the context of rating scale design refers to assessing whether or not the scale measures the hypothesized construct it claims to measure. To test the extent to which the newly designed rating scale has meaningful structures stated in the hypothesized framework, factor analysis was employed. Construct validity was assessed by examining whether the underlying constructs addressed in the five subscales were retained after running factor analysis. Factor loading was used as a criterion to select items for the scale, since items with higher loadings on a factor represent the underlying dimension.

Although the total number of valid responses (204 respondents for 24 items) is slightly lower than the 10 subjects to 1 variable ratio commonly used in most studies of factor analysis (Costello & Osborne, 2005), the fact that Kaiser-Meyer-Olkin's (KMO) index of sampling adequacy was high (.92), as compared to the recommended value of 0.60, implies that the sample size was adequate. Bartlett's Test of Sphericity was also significant ( $p < .00$ ), suggesting factorability of the correlation matrix.

As the intention was to identify underlying factors that reflect the effectiveness of teaching, exploratory factor analysis has been used. The factors were selected after exploratory factor analysis has been conducted and rotated using varimax rotation to identify orthogonal (independent) factors. Although it was assumed that the new scale would represent five dimensions, factor analysis revealed four factors with Eigen values



exceeding one. The two factors assumed to be independent in the hypothesized framework, i.e. (1) assessment and evaluation and (2) feedback, have been combined after the analysis. The four factors explained 56.68% of the total variance. The minimum value or cutoff for retaining an item was .32, a value suggested as a good rule of thumb for the minimum loading of an item. What is more, only two items, i.e. *objectives and expectations were explained*, and *I was involved in group projects* have communalities below 0.4, a minimum value suggested for social sciences (Costello & Osborne, 2005). All the 24 items have loaded into the various categories and showed acceptable values of communalities. Absolute values less than .10 were suppressed and omitted from the cells (see Table 5.2).

### ***Dimensions under the SELTQ***

The newly designed Student Evaluation of Learning and Teaching Questionnaire (SELTQ) has four dimensions, although they are not verified using confirmatory factor analysis. The first dimension combined items that were presented under evaluation and assessment as well as feedback. Items under assessment and evaluation address whether assessment approaches evaluate comprehension, if students have been informed about the nature of assessment ahead of time, and if assessment was part of the instructional process (e.g. *Assessment was designed to evaluate understanding*). Items referring to the nature of feedback address issues related to whether there was prompt feedback following performance, if discussions were held following suggestions from students, and whether the instructor has been providing comments to draft works before submitting the final version (e.g. *The teacher revised assignments before exam*).

Under the second dimension appeared items referring to course organization and presentation, which include whether teachers inform students about the objectives and tasks related to various topics, the perceived appropriateness of instructional methods to topic objectives, the encouragement given by the teacher to involve students in the process, and the opportunities for student-teacher discussion (e.g. *The teacher created opportunities for dialogue*).

The third dimension includes items referring to students' self assessment of their learning. Items under this factor require students to make an evaluation of whether they knew what was expected of them in the process of learning, whether they have been asking the teacher any time they needed help, if they have been implementing suggestions provided by the teacher, and if they believe they are learning better as a result of their involvement (e.g. *I implemented the feedback from the instructor*).

The fourth dimension contains items referring to students' level of engagement. Items that refer to students' involvement in peer and self evaluation, in group projects and assignments, and in providing alternative explanations and elaborations to answers are included (e.g. *I was encouraged to assess my own progress*). It can be judged from the items that loaded into the four factors that the hypothesized factor labels were the same for the three paradigms, i.e. course organization and presentation, student self assessment, and student engagement. Only the first factor that combined the items under evaluation and assessment and feedback had to be renamed into assessment and feedback. Table 5.2 reveals the paraphrased version of the items and factor coefficients.

Table 5.2

*Summary of factor pattern loading (n = 204)*

Item	Factor coefficients			
	1	2	3	4
Assessment criteria communicated	<b>.736</b>			.234
Immediate feedback given	<b>.655</b>	.204	.214	.187
Assessment coherent with objectives	<b>.623</b>	.408		.110
Discussions held following feedback	<b>.618</b>	.141	.302	.148
Assessment evaluated understanding	<b>.614</b>	.271	.297	
Assessment was part of learning	<b>.608</b>	.224	.221	.199
Revised assignments before exam	<b>.606</b>	.423	.273	
Feedback on group assignments given	<b>.555</b>	.278	.300	.279
Comment given to draft works	<b>.516</b>	.410	.339	.148
Examples of good work provided	<b>.498</b>	.298	.368	.191
Contributions encouraged and valued	.228	<b>.806</b>	.273	.115
Contents have tasks and objectives	.220	<b>.737</b>	.252	.127
Appropriate teaching methods used	.278	<b>.704</b>	.269	.205
Objectives and expectations explained	.286	<b>.509</b>		.178
Opportunities given for dialogue	.417	<b>.432</b>	.267	.250
Learned better due to my involvement		.274	<b>.719</b>	
Asked instructor for support	.357	.143	<b>.681</b>	.165
Required performance informed	.449	.188	<b>.659</b>	.203
Implemented instructor's comments	.298	.216	<b>.591</b>	.285
Asked to provide justifications		.316		<b>.693</b>
Assessed own progress	.103		.364	<b>.671</b>
Provided alternative explanations	.141	.408		<b>.661</b>
Involved in peer evaluation	.367		.232	<b>.544</b>
Involved in group projects	.249		.103	<b>.396</b>
Percentage of variance explained	<b>19.84</b>	<b>14.41</b>	<b>12.25</b>	<b>10.17</b>

### 5.3.5 Reliability estimates

Internal consistency reliability using Cronbach's alpha was conducted on the 24-item scale. Results indicated that the standardized alpha coefficient

for the scale was 0.93, which reveals a high degree of reliability. Item-scale correlation confirmed this statistics, with all items exhibiting strong item-to-scale correlation. Only four items would make a slight difference to the overall reliability if deleted. However, as the increment is not significant, all the 24 items were retained in the scale. What is more, alpha coefficients for Course Organization and Presentation (.84), Assessment and Feedback, (.77) and Student Self Assessment (.85) were found to be high, apart for the Student Engagement subscale (.68). The results of the reliability estimates are summarized in Table 5.3.

Table 5.3

*Item-Total Statistics (n = 204)*

Item	Item-scale Correlation	Item mean	SD
Assessment criteria communicated	.540	4.266	1.016
Immediate feedback given	.645	4.274	.941
Assessment coherent with objectives	.610	4.348	.987
Discussions held following feedback	.609	4.118	1.044
Assessment evaluated understanding	.633	4.437	1.033
Assessment was part of learning	.636	4.525	.853
Revised assignments before exam	.693	4.288	.976
Feedback on group assignments given	.692	4.385	.992
Comment given to draft works	.702	4.229	1.125
Examples of good work provided	.661	4.200	1.098
Contributions encouraged and valued	.671	4.496	.937
Contents have tasks and objectives	.623	4.414	.925
Appropriate teaching methods used	.689	4.511	.937
Objectives and expectations explained	.482	4.496	.888
Opportunities given for dialogue	.652	4.437	.919
Learned better due to my involvement	.410	4.429	.851
Asked instructor for support	.619	4.363	.919
Required performance informed	.716	4.422	.832
Implemented instructor's comments	.621	3.955	1.138
Asked to provide justifications	.387	4.229	.945
Assessed own progress	.434	4.222	.974
Provided alternative explanations	.503	4.518	.845
Involved in peer evaluation	.475	4.214	.813
Involved in group projects	.363	3.600	1.160

**5.4 Discussion and Implications**

In this study, the Student Evaluation of Learning and Teaching Questionnaire (SELTQ) was designed based on students' experiences in

learner centered instruction and a review of related works. Psychometric analyses revealed high internal consistency reliability and good content and construct validity. Four underlying dimensions were identified, namely, (1) students' self assessment, (2) students' level of engagement, (3) the quality of feedback students give and receive, the appropriateness of the assessment employed, and (4) the way the course content is organized and presented. These dimensions explained 56% of the variance in ratings.

Certain peculiar features distinguish the new SELTQ from the previously used TEQ. The most commonly used student ratings are designed based on selected characteristics agreed by students and teachers to be indicators of teaching effectiveness (Marsh, 1984; Feldman, 1988). Thus, the appropriateness of the measure can be seen in terms of combining indicators that address both the effectiveness of teacher performance and students' evaluation of their own learning. Ory and Ryan (2001) have also stated that student rating questionnaires will be more valid indicators of teaching quality if they address all what effective teaching encompasses; students' active engagement as well as the support and facilitation from the teacher. What is more, in the SELTQ the items are designed based on students' reflections of their experiences in learner centered instruction as well as a review of studies on student learning. The effectiveness of teaching is determined using dimensions that reflect teacher support and students' evaluation of their learning. Students will be able to provide valuable information that reflects their level of engagement in the process of learning.

Another difference with the previously used Teacher Evaluation Questionnaire (TEQ) is that there is one factor in the new questionnaire that contains items referring to students' self assessment of their learning. The

items under this factor are designed in such a way that students can evaluate whether they have been accomplishing all the required tasks and, as a result, believe they are learning better. It is also a means of conveying the message to students that they are responsible for their own learning. The feedback students provide to teachers about their learning is also believed to help teachers improve students' learning experiences.

The second factor that focuses on student engagement is also not commonly addressed in rating scales that give more emphasis to teacher performance. Students are the center of attention, and this is expressed in terms of involving them in the process of learning. Since what students accomplish during learning is equally important, a measure of teaching quality should provide opportunities for students to evaluate their level of engagement. The new questionnaire enables teachers to obtain feedback about students' level of engagement in such a way that they can make improvements in teaching.

The dimension that deals with evaluation and feedback is not new as such since items referring to the validity of exams and the nature of the feedback provided have been included in the TEQ as well. However, the difference in the new rating scale is that these items are designed to help students evaluate the effectiveness of assessment and feedback in facilitating their learning. Students are required to judge whether the evaluation practices were contributing to their learning. The items focus on the extent to which students gave feedback for teaching improvement and if teachers made improvements following suggestions from students.

As the main objective of teaching is student learning, the effectiveness of teaching has to be determined using feedback that reveals the quality of

learning experiences described by students. The new measure has dimensions that enable students to evaluate the effectiveness of the teaching in terms of their own learning experiences. The improved measure addresses students' judgments of teacher performance and evaluation of their learning progress.

The purpose of evaluating teaching is to provide teachers with feedback to be used for teaching improvement. The tradition in most universities is that teaching evaluation is conducted after the course is delivered, probably because the feedback is used more for promotion decisions than for teaching improvement. In the newly designed questionnaire, the emphasis is on students' evaluation of their learning. There is no use to provide feedback at the end of the semester since teachers will not be able to make improvements when the course is underway (of course, it will be useful for students in the next year). Findings of the second study have also indicated that students preferred using sources of feedback other than the TEQ such as suggestions during teaching and learning sessions since, according to them, it helps the teacher to make improvements while the course is in progress (Zenawi, Beishuizen, & Van Os, 2011). Teachers have also expressed that they use sources of feedback other than student ratings. Students may not be able to witness the effect of their evaluation in improving the teaching-learning process if the evaluation is conducted at the end of the semester. The SELTQ has to be used while the course is in progress so that feedback can be used for teaching improvement. Teachers can make real improvements in student learning if they are provided with appropriate and timely feedback.



In conclusion, the dimensions identified in the newly designed scale need to be cross validated in wider contexts using confirmatory factor analysis to examine whether the same factors emerge in similar educational settings. However, in the higher education context where the study has been conducted, these dimensions are believed to contribute to the discussion on the need for an improved measure of teaching quality. The focus of the TEQ currently in use is on evaluating teacher performance. As the aim of teaching is student learning, teachers may not be able to receive information about students' learning progress using feedback that evaluates the effectiveness of teachers' presentation skills only. Nor will they be able to improve their teaching unless the feedback informs them about what worked for students and what needs to be improved. Student engagement in the process of learning should be given equal emphasis to the support and facilitation from the teacher. In this regard, the dimensions identified under the SELTQ reveal the emphasis given to student learning as a way of evaluating teaching quality. As opposed to the previously used rating scale, the new questionnaire combines both students' evaluation of their learning as well as the guidance and support they received from the teacher. If the new questionnaire is effectively being implemented, not only will it provide teachers with feedback about how they can promote student learning but it will also help students develop their ability to reflect on their learning. They will be able to evaluate their own learning progress as a way of evaluating the effectiveness of the teaching. The contents in the new questionnaire reflect that teaching is effective not only when teachers teach but also when students learn. The use of the questionnaire is also believed to change the widely held conception about teaching and learning, i.e. from teaching as transmitting information to teaching as facilitating learning. The dimensions

in the improved questionnaire reflect that students are not passive spectators but active players in their own learning.



## Chapter 6

### **Estimating the validity of a measure of teaching quality: Approaches to studying and course grade as criteria**

#### **Abstract**

The aim of the study was to estimate the validity of a newly designed Student Evaluation of Learning and Teaching Questionnaire (SELTQ) based on its relationships with students' course grades and students' approaches to studying. Students evaluated their teachers using a previously used Teaching Evaluation Questionnaire (TEQ) and the SELTQ after attending to a course conducted in learner centered instruction. The students also described their approaches to studying in terms of achieving, meaning and reproducing orientations. Students who provided higher ratings using the SELTQ had significantly higher scores in achieving and meaning orientations and achieved higher grades. The SELTQ is significantly correlated with the qualitative and quantitative indicators of learning. Ratings provided using the TEQ did not significantly correlate with course grades and approaches to studying. Hence, the SELTQ is a more appropriate measure of teaching quality in learner centered instructional contexts since it was significantly correlated with indicators that reflect the quality of students' learning experiences.

#### **6.1 Introduction**

Teachers' approaches to teaching are influenced by their orientations of the meaning of teaching and learning. Their approach could also be a reflection

of the implied meaning of effective teaching indicated in student rating questionnaires. In a comprehensive review of the dimensions addressed in student rating questionnaires Abrami, D'Apollonia, and Rosenfield (2007) noted that rating questionnaires focus on the evaluation of teacher performance as evidence of the effectiveness of teaching. They concluded that the use of these questionnaires does not encourage student engagement, as teachers tend to give more emphasis to the transmission of contents to students. If student learning is to be considered as a measure of effective teaching, it is imperative to use a rating questionnaire that also addresses the support and facilitation provided by teachers.

Studies that compared the effectiveness of teaching evaluation instruments based on teacher-centered and student-centered orientations are rare. Part of the reason could be the fact that rating questionnaires designed to reflect students' evaluation of their learning as a basis for teaching evaluation have not been widely used. Certain attempts have been made to compare the differences in the nature of the feedback obtained using questionnaires and other alternatives. For instance, a study conducted by Huxam, Laybourn, Cairncross, Gay, Brown, Goldfinch, and Earl (2008) compared feedback obtained using a standard questionnaire and other sources such as rapid oral feedback, diaries, and focus group discussion. It was indicated that only 30-35% of the comments students gave using the other data sources were similar to those obtained using a standard questionnaire. Students expressed the feedback obtained using the other methods to be more specific to the instructional settings being evaluated. Specific course related issues were raised by students in the alternative methods as opposed to the general questions on the student evaluation of teaching questionnaire. Students have also showed preferences to the other sources of feedback stating that they

were able to express what they considered was important in the process of teaching and learning.

## **6.2 Estimating the validity of student rating questionnaires**

One of the desired qualities of a teaching evaluation questionnaire is its validity as an indicator of the effectiveness of teaching. Effective teaching is, however, a hypothetical construct and the appropriateness of a measure of teaching quality is determined based on its relationships with similar indicators believed to be outcomes of effectiveness.

The interrelationship between student ratings and other outcome measures, such as course grades is a widely used method of validating the ratings (Cohen, 1981; Marsh, 1987). Other methods focus on whether the items in the questionnaire are valid indicators of teaching quality. Still another option is the relationship between the quality of students' learning experience, expressed in terms of the approaches to studying, and student ratings (e.g. Prosser & Trigwell, 1990). The choice of a specific approach for estimating the validity of a measure depends on the type of validity evidence required. Examples of estimating the validity based on the relationship between student ratings with course grades and the quality of students' learning experiences are presented below.

### ***Student ratings and course grades***

The validity of a teaching evaluation questionnaire can be estimated based on the relationship between course grades and the ratings, since it is assumed that students provide higher ratings as an expression of their learning (Marsh, 1987). In this case, when higher ratings are associated with

higher grades, then the ratings are considered to be valid indicators of teaching quality. The correlation per se doesn't, however, give meaning unless a description is provided about the purpose of conducting the evaluation and the nature of the items in the questionnaire. Certain teaching evaluation questionnaires are designed to reflect teacher centered orientations that encourage the transmission of contents. In such instances, a stronger relationship between ratings and grades may not necessarily imply that students are benefiting out of the teaching since the ratings they provide could be influenced by factors unrelated to the effectiveness of teaching, such as the personality of the teacher.

### ***Student ratings and approaches to studying***

Another approach to estimating the validity of student rating questionnaires is examining the relationship between the ratings and study approaches. The need to consider study approaches instead of course grades as indicators of teaching quality comes from studies that argued that the quality of teaching has a more direct influence on study approaches than on course grades (e.g. Prosser & Trigwell, 1990; Ramsden, 2003). In other words, the impact of teaching is reflected on the ways students approach their learning more than on the grades they achieve. Students' approaches to studying are in turn related to their perceptions of the teaching and learning context (Ramsden, 2003). For instance, when students perceive that they have a clear understanding of the purpose of what they are learning, they adopt deep approaches to learning. Whereas when they perceive that teaching is intended to transmit information, they consider learning as a quantitative increase in knowledge and adopt a surface approach. Their perceptions determine their approaches to study as well as the quality of their learning outcomes (Entwistle & Tait, 1990; Trigwell & Prosser, 1991). Studies have

also indicated that students with high academic achievement were significantly different in their study approaches from those with low academic achievement (e.g. Bernardo, 2003; Yip & Chung, 2005). In this case, the rating questionnaire used can be considered valid if students with higher scores on deep approaches to studying also give higher ratings, since deep approaches to learning were related to students' perceptions of high quality teaching (Trigwell & Prosser, 1991).

This study was conducted to validate the Student Evaluation of Learning and Teaching Questionnaire (SELTQ) that was designed based on students' experiences in learner centered instruction (Zenawi, Beishuizen, & Van Os, 2012). The newly designed rating questionnaire has dimensions referring both to students' evaluation of their learning as well as to the support they received from their teachers, as opposed to the previously used Teaching Evaluation Questionnaire (TEQ) that focuses on evaluating teacher performance. The study examined the criterion validity of the SELTQ based on its relationships with a measure of student achievement and students' observations of the quality of their learning, i.e. students' course grades and approaches to studying respectively. Students evaluated the quality of the teaching using the newly designed SELTQ as well as a previously used TEQ. The validity of the new questionnaire was determined based on the difference in relationships between the ratings provided using the two types of questionnaires with the criteria measures, i.e. course grades and approaches to studying.



### **6.3 Method**

Among the various alternatives employed to estimate the validity of student rating questionnaires, criterion validity focuses on the relationship between a given measure with other criterion measures believed to be indicators of effective teaching. In this study, course grades and approaches to studying were considered as criterion measures to estimate the validity of the SELTQ and the TEQ.

#### *Participants*

A total of 146 second year students from the Department of Geography and Environmental Studies evaluated their teachers using the TEQ and SELTQ at the end of the course. The same students and their teacher were also involved in the process of developing the SELTQ (Chapter 5).

#### *Materials*

##### *Rating questionnaires*

Students evaluated their learning experiences using two types of rating questionnaires. One of these questionnaires is the 27-item previously used TEQ that focuses on evaluating the effectiveness of teacher performance. The second one is the newly designed 24- item SELTQ that addresses student learning experience as well as the support from teachers. In both questionnaires, students were instructed to provide their responses on a 5-point Likert scale ranging from 'definitely disagree' to 'definitely agree'. The TEQ is a generic questionnaire and a single average is computed out of the 27 items, while the SELTQ is presented under the following subscales:

- 1) *Assessment and feedback*: Refers to the extent to which students felt that assessment and feedback helped them understand the course and whether feedback from students was used to improve teaching.
- 2) *Course organization and presentation*: Refers to whether students believe that the way the course was organized and presented has facilitated their learning.
- 3) *Student self assessment*: Refers to the assessment students' make on whether they have performed all the requirements in the process of learning.
- 4) *Student engagement*: Refers to students' evaluation of whether they were engaged in the process of learning.

Reliability was also computed for the subscales under SELTQ, and alpha coefficients for Course Organization and Presentation (.92), Assessment and Feedback, (.91) and Student Self Assessment (.85), and Student Engagement (.76) were found to be high.

#### *Approaches to Studying Questionnaire*

Another data source was the Approaches to Studying Questionnaire developed by Entwistle and Ramsden (1983). The questionnaire is a measure of students' approaches to learning and contains 18 items referring to three different categories of study approaches. The reliability of the three subscales computed in this study was found to be rather low, which may be attributed to the limited number of items under each subscale: achieving orientation ( $\alpha = .57$ ); reproducing orientation ( $\alpha = .43$ ); and meaning orientation ( $\alpha = .51$ ). Each category has six items that refer to the specific study orientation. The value of each orientation ranges from a minimum of 6 to a maximum of 30. Higher values in one of these orientations indicate

students' preferred approach to studying. Students gave their responses on a 5-point Likert scale ranging from 'definitely disagree' to 'definitely agree'. The scale has been recommended as a useful instrument for monitoring study orientations while studying student learning in higher education (Richardson, 1990). A description of each of the three subscales is presented below.

- 1) *Achieving Orientation*: Items under this subscale refer to competitiveness, well organized study methods, and hope for success. Students with higher score on this subscale are oriented towards doing well (e.g. 'If conditions aren't right for me to study, I generally manage to do something to change them').
- 2) *Reproducing Orientation*: Items under this subscale refer to surface approach to learning. Students who score high on this subscale attempt to memorize subject matter and are not interested in studying a subject for its own sake but only out of a concern to pass (e.g. 'When I'm reading I try to memorize important facts which may come in useful later').
- 3) *Meaning Orientation*: Items under this subscale refer to deep approach to learning. Students who score high on this subscale follow up their own interests even if their preferences are outside the parts that will be assessed. (e.g. 'I usually try to understand thoroughly the meaning of what I am asked to read').

### *Course grade*

The course grade issued to students at the end of the semester was used as a measure of quantitative differences in learning outcomes. As a measure of learning outcome, a grade was computed based on students' performances

on assignments, midterm and final exam. The value of the grade ranges from 'A' = 4, to 'F' = 0.

### ***Procedure***

Students attended a course presented in a learner centered instructional paradigm. Course materials were redesigned and provided to students. Both formative and summative assessments were employed to evaluate student learning and assign grades. At the end of the semester students evaluated their experiences using the two different types of rating questionnaires: the previously used TEQ; and the newly designed SELTQ. Students evaluated their teachers before grades were issued. The students also indicated their study approaches using the Approaches to Studying Questionnaire.

### ***Data analysis***

The analysis dealt with the relationship as well as the significance of the differences observed. The correlational analysis focused on examining the magnitude of the interrelationship between course grade and the ratings provided using the SELTQ, the TEQ, and the approaches to studying. Variations in ratings between the SELTQ and the TEQ as well as differences in study approaches were computed using t-tests.

## 6.4 Results

### *Correlational analysis*

Correlation was employed to evaluate the nature of the relationship between the two types of rating scales. The results of the correlational analysis presented in Table 6.1 reveal that the ratings provided using TEQ significantly correlated with the SELTQ ( $r = .16, p < .05$ ). The same test conducted between TEQ and the subscales under the SELTQ indicated that TEQ significantly correlated only with student engagement ( $r = .20, p < .05$ ). The results revealed that higher values provided using the TEQ were correlated with similar values provided using the newly designed SELTQ.

A significant relationship was found between the mean values of the ratings provided using SELTQ and achieving orientation ( $r = .40, p < .01$ ), as well as meaning orientation ( $r = .37, p < .01$ ). Whereas reproducing orientation was not significantly correlated with the ratings. All the subscales under the SELTQ correlated significantly with achieving and meaning orientations. The results indicated that students who provided higher ratings using the SELTQ have also higher scores in achieving and meaning orientations, while no significant relationship was found between any of the components of the approaches to studying with the ratings provided using the TEQ.

Correlational analysis was also employed to check the nature of the relationship between course grades and ratings provided using the two types of questionnaires. A significant relationship was found between ratings provided using the SELTQ and grade ( $r = .37, p < .01$ ), while no significant relationship was found between ratings provided using TEQ and grade. Thus, students who gave provided higher ratings using the SELTQ have also

higher course grades. Correlation was also computed between course grade and the various subscales under the SELTQ. It was found that course grade significantly correlated with assessment and evaluation ( $r = .33, p < .01$ ), course organization and presentation ( $r = .38, p < .01$ ) student self assessment ( $r = .34, p < .01$ ), and student engagement ( $r = .31, p < .01$ ). As the SELTQ has dimensions that reflect students' evaluation of their own learning and teachers' organization and presentation of the courses, the correlation indicates that higher grades are associated with students' evaluation of their learning as well as the support from the teacher.

Table 6.1

*Zero-order correlation between grade, ratings and approaches to studying*

Variables	1	2	3	4	5
1. Grade					
2. TEQ	.10				
3. SELTQ	.37**	.16*			
4. Achieving orientation	.44**	.05	.40**		
5. Reproducing orientation	-.20*	.13	-.11	-.19*	
6. Meaning orientation	.29**	.14	.37**	.58**	-.03

\*correlation is significant at the .05 level (2-tailed)

\*\*correlation is significant at the .01 level (2-tailed)

*Differences in student ratings and approaches to studying*

The analysis conducted based on relationships does not show the magnitude of the differences observed. Paired samples t-test was employed to test whether there is significant difference in ratings provided using the two types of questionnaires. The mean score for the SELTQ was obtained from the overall average of the subscales. Paired samples t-test revealed that the

mean value of the rating provided using the TEQ ( $M = 4.80$ ,  $SD = .26$ ) is significantly higher than the mean value of the SELTQ ( $M = 4.25$ ,  $SD = .68$ ),  $t(144) = 9.47$ ;  $p < .00$ . This indicates that students provided higher ratings when evaluating teaching using the previously used TEQ. As the SELTQ also addresses students' perceptions of their learning, significant differences between the two types of rating questionnaires reveals that students gave higher ratings when they evaluated teaching based on teacher performance (see Table 6.2).

Table 6.2

*Paired samples t-test for student ratings provided using the TEQ and the SELTQ*

Rating Scale	Paired differences				
	M	SD	T	df	<i>p</i>
TEQ	4.80	.26	9.47	144	.00
SELTQ	4.25	.68			

The analysis conducted using the subscales of the SELTQ also revealed similar findings. The difference in ratings provided using the TEQ and selected subscales under the SELTQ indicated that the mean score of the TEQ ( $M = 4.8$ ,  $SD = .26$ ) is significantly higher than the mean value of student self assessment ( $M = 4.19$ ,  $SD = .72$ ),  $t(144) = 9.82$ ;  $p < .00$ . Similarly, the mean score of the TEQ is significantly higher than the mean value of student engagement ( $M = 4.06$ ,  $SD = .73$ ),  $t(144) = 12.01$ ;  $p < .00$ . As the two subscales under the SELTQ specifically refer to students' evaluation of their learning progress, a significant difference with the ratings

provided using the TEQ implies that students gave higher ratings when the evaluation focused on teacher performance (See Table 6.3).

Table 6.3

*Paired samples t-test for student ratings provided using the TEQ and the two subscales under the SELTQ*

Rating Scale	Paired differences				
	M	SD	<i>t</i>	df	<i>p</i>
TEQ	4.80	.26	9.82	144	.00
Student self assessment	4.19	.72			
TEQ	4.80	.26	12.01	144	.00
Student engagement	4.06	.73			

The same test has also been used to check which of the study approaches are predominant. The results indicated that students' mean scores in achieving orientation are significantly higher ( $M = 25.20$ ,  $SD = 3.67$ ) than their scores in reproducing orientation ( $M = 21.23$ ,  $SD = 3.44$ ),  $t(144) = 8.68$ ;  $p < .00$ . Similarly, students have significantly higher mean scores in meaning orientation ( $M = 23.69$ ,  $SD = 3.47$ ) than in reproducing orientation,  $t(144) = 5.95$ ;  $p < .00$ . Students' mean score in achieving orientation is also significantly higher than the mean score on meaning orientation,  $t(144) = 5.56$ ;  $p < .00$  (see Table 6.4). Both achieving and meaning orientations are believed to contribute to high quality learning. Thus, a higher score in achieving orientation among students reveals that they give more emphasis to succeeding in a course. Achieving orientation is characterized by competitiveness and hope for success. Meaning orientation, on the other hand, emphasizes on studying a given content to satisfy one's own interests even though it may not be included in formal assessments.



Table 6.4

*Paired samples t-test for study approaches*

Study Approach	Paired differences				
	M	SD	<i>t</i>	df	<i>p</i>
Achieving orientation	25.20	3.67	8.68	144	.00
Reproducing orientation	21.23	3.44			
Meaning orientation	23.69	3.47	5.95	144	.00
Reproducing orientation	21.23	3.44			

**6.5 Discussion and implications**

The results of the study indicated that the SELTQ significantly correlated with course grade while the previously used TEQ was not significantly correlated. Students who provided higher ratings using the SELTQ have higher values on meaning as well as achieving orientations. Thus, the SELTQ is valid since it is significantly correlated with other indicators of learning: course grade and approaches to studying.

The nature of the items in the two types of rating questionnaires reveals the difference in emphasis given to students' learning as a basis for evaluating teaching quality. In the TEQ, the items do not indicate what students have to do in the process of learning and how teachers should help. Studies show that rating questionnaires designed to evaluate teacher characteristics as indicators of effectiveness are based on the belief that teacher performance determines student learning (Barr & Tagg, 1995; D'Apollonia & Abrami 1997; Kolitch & Dean, 1999; McKeachie, 1997). Whereas the items under the SELTQ refer to what teachers and students have to do in the process of

teaching and learning. Two out of the four dimensions refer to what students have to do and their reactions to the impact of teaching on their learning. The SELTQ combines both teacher performance believed to contribute to student learning as well as students' evaluation of their learning. The fact that the rating questionnaire enables students to evaluate their own engagement implies that it is more appropriate as a measure of teaching quality since student learning was indicated to be the result of students' active engagement and the support and facilitation they received from their teachers (McDowell, Wakelin, Montgomery, & King, 2010; McGowan & Graham, 2009).

It is difficult to determine whether the qualitative differences in study approaches were developed because of students' classroom interactions. However, significant relationship between achieving and meaning orientations with the SELTQ implies that the newly designed questionnaire enables students to evaluate teaching in terms of the quality of their learning experiences. It is also indicated that students provide higher ratings to teaching that encouraged them to adopt deeper learning approaches (Prosser & Trigwell 1991).

Prosser and Trigwell (1991) stated that student ratings are more valid indicators of teaching effectiveness when the quality of students' learning experience is used as criterion instead of course grades. Similarly, Baird (1987) found that a higher proportion of the variance in ratings is explained by students' subjective evaluation of their learning than by the grades they achieved. In this study, however, the ratings provided using the SELTQ significantly correlated with course grades and approaches to studying. Hence, the SELTQ enables students to evaluate teaching both in terms of

the quality of the learning experience and their achievement expressed in course grades.

Students provided significantly higher ratings using the TEQ. The focus of the TEQ is on what teachers accomplish during teaching and learning, while the SELTQ also addresses students' experiences of learning as a basis for the evaluation of teaching quality (students' self assessment of their learning and their engagement in the process of learning). The difference in ratings shows that providing comments based on selected teacher characteristics is not the same as assessing one's own learning. What is more, the fact that grades significantly correlated with the SELTQ but not with the TEQ also reveals that students can use the SELTQ to evaluate teaching based on their level of learning.

Taken together, the outcome of the study revealed that quality in teaching has to be evaluated using a measure that enables students to evaluate their learning experiences. A measure of teaching quality has to provide opportunities for students to evaluate their learning and provide comments on how it can be improved. The effectiveness of teaching has to be seen in terms of promoting high quality student learning. In this respect, the dimensions in the SELTQ are believed to provide opportunities for students to evaluate teaching based on their learning experiences. The outcome of the study also revealed that the SELTQ is more appropriate as a source of feedback for teaching improvement than the previously used TEQ.

## Chapter 7

### Summary

There were two major reasons for starting this research project. First, the Ethiopian Government clearly stated the need for higher education institutions to put in place a comprehensive measure of quality that addresses, among other things, evaluating by students of the quality of teaching, and to give more emphasis to student centered approaches (Higher Education Proclamation, 2009). Second, the Teaching Evaluation Questionnaire (TEQ) widely being used in most higher education institutions in the country is teacher-centered in its character. Thus, it was mandatory to develop an improved measure that can be used in learner centered instruction. As the dominant form of instruction in these institutions was described to be teacher centered (Daniel, 2004), the measure was developed based on students' experiences in learner centered instructional setting.

The use of student rating questionnaires as measures of teaching effectiveness is based on the assumption that teachers have an impact on student learning, which can be demonstrated by students through the feedback they provide about their experiences. Such feedback, apart from being evidence of students' learning experience, can be used for teaching improvement. However, a number of factors need to be considered if the feedback is to be used for teaching improvement. Some of these factors are the appropriateness of the items in the rating questionnaire and the impact of conceptions on teaching approaches and teaching evaluation. The Teaching Evaluation Questionnaire (TEQ) currently used in higher education

institutions in Ethiopia focuses on the evaluation of teacher performance as an indicator of the effectiveness of teaching. The use of the questionnaire is believed to encourage teacher centered orientations since there is a tendency among teachers to give more emphasis to what is being evaluated.

In this research project the Student Evaluation of Learning and Teaching Questionnaire (SELTQ) that combines both the support from the teacher and students' perception of their learning has been designed and validated. It has been argued that the basis for evaluating teaching quality should be students' perception of their learning progress as well as the support teachers provided to enhance student learning. The appropriateness of the measure currently being used had to be evaluated before designing a new measure. Teachers and students participated in the process of validating the TEQ and in designing the SELTQ. The study examined students' experiences in learner centered instruction while designing the improved measure. In this chapter the assumptions considered in conducting the various empirical studies including the summary of the major findings and their implications are discussed. The study investigated the following:

1. The validity of the Teaching Evaluation Questionnaire as source of feedback for instructional improvement.
2. The conceptions instructors and students in various instructional settings hold about the meaning of teaching and learning.
3. The nature of teaching and learning in learner centred instruction and its implications to the evaluation of teaching quality.

## **7.1 Assumptions considered**

The empirical studies were conducted based on certain assumptions related to evaluating teaching effectiveness. One of the assumptions is that a measure designed to evaluate teaching effectiveness is not valid unless it takes student learning into account. In the case of student rating questionnaires, one of the approaches used to estimate validity is to consider the interrelationship between student ratings and other measures believed to be indicators of teaching effectiveness (Cohen, 1981; Marsh, 1984; Olivares, 2003). It is assumed that if a student rating questionnaire is actually an appropriate measure of the construct, then it should be related to other measures believed to be outcomes of the effectiveness of teaching, such as course grades or students' perception of their learning. The quality of the Teaching Evaluation Questionnaire (TEQ) had to be evaluated before designing an improved measure. The validity was estimated based on the relationships the TEQ has with such indicators as course grades, students' perceptions of their own learning, and expected grades.

The second assumption was that teachers' and students' conceptions of teaching and learning have an impact on whether the teaching approaches will be teacher centered or learner centered (Entwistle & Tait, 1990; Trigwell & Prosser, 1991). These conceptions are also believed to influence students' evaluation of the effectiveness of the teaching (Kember & Wong, 2000; Kember, Jenkins, & Ng, 2004). Although conceptions of teaching and learning may be formed as a result of experiences in the process of instruction, it is possible that the implied meaning in student rating questionnaires could influence teachers and students to develop new conceptions or strengthen existing orientations. Thus, when a measure of

teaching effectiveness is entirely designed to evaluate teacher performance, it is believed to influence teachers and students to develop teacher centered conceptions. On the other hand, when the instrument addresses the support and facilitation from the teacher as a basis for effectiveness, then student centered conceptions are believed to be exercised. In the second empirical study teachers' and students' conceptions of teaching and learning were assessed. The study examined how these conceptions were reflected in the actual practices of teaching and learning. The implication of the conceptions to the evaluation of teaching quality has also been discussed.

The third assumption was that students learn better when they are actively engaged in the process of learning (Barr & Tagg, 1995; Johnson, 2008; Kuh, Kinzie, Schuh, & Whitt, 2010; Ory & Ryan, 2001). As student engagement in the process of learning is believed to contribute to learning, a measure of teaching quality has to address whether opportunities have been provided for students for active engagement and self regulation of their learning. Engaging students in the process of learning could be difficult when the nature of instruction is entirely teacher centered. The dominant instructional approach in universities in Ethiopia has been described as teacher centered (Daniel, 2004). Thus, it was necessary to implement learner centered instruction for the following reasons. Firstly, as a way of changing students' and teachers' conceptions it was a requirement to implement active learning by redesigning course materials and changing the instructional approaches and assessment strategies. Secondly, some of the indicators of effective teaching under the newly designed Student Evaluation of Learning and Teaching Questionnaire (SELTQ) had to be identified from students' experiences of their learning. There was no other way for students to identify these indicators unless they experience such a learning

environment. After designing the improved measure, its validity was estimated based on its relationships with measures believed to indicate qualitative and quantitative changes in student learning.

## **7.2 Summary of the four empirical studies**

The aim of the research project was to validate a teaching evaluation questionnaire currently in use and to design an improved measure of teaching quality that gives emphasis to student's perceptions of their learning experiences. To this end, four independent empirical studies have been conducted. Various groups of students and teachers from two higher education institutions were involved in the different studies.

In Chapter Three the validity of the TEQ currently in use was estimated. To do so, the relationship was checked between the ratings and other indicators of teaching effectiveness. To minimize the influence of differences in the nature of courses on the ratings, multi-section courses were selected. In these sections, the same courses were offered by different instructors. The same types of assessment procedures were employed to determine the grades. Thus, differences in ratings would be attributed to differences in teacher performance, and not to differences in assessments.

*Method-* Students in the multi-section courses evaluated their teachers using the 27-item TEQ. With the intention of evaluating students' perception of their learning, another questionnaire was designed based on the seven principles of good practice identified by Chickering and Gamson (1987). Students' actual and expected grades were also considered. It was assumed that if the TEQ is valid, then higher ratings provided using this questionnaire should also be associated with higher grades as well as with



higher ratings of students' perceptions of their learning gain. Thus, the validity of the teaching evaluation questionnaire was determined based on its relationships with students' perceptions of their learning, expected grade, and actual grade. An analysis of variance was employed to determine whether differences in ratings and grades also reflected differences in teacher performance.

*Results-* It was found that students' actual grades did not significantly correlate with the ratings they provided. Instead, students' perceptions of their learning gain correlated significantly with the ratings. ANOVA revealed that differences in ratings provided using the TEQ and students' perception of their learning gain were associated with differences in teacher performance across the multi-sections, while actual and expected grades did not show similar differences. However, the items in the TEQ focus on evaluating teacher performance as criteria of effectiveness. The questionnaire doesn't provide opportunities for students to evaluate teaching in terms of their own learning. The study concluded that improved feedback can be provided if the TEQ is redesigned to include students' perceptions of their learning.

In Chapter Four, the purpose of the study was to assess students' and teachers' conceptions and practices of teaching and learning and state the implications for the evaluation of teaching effectiveness. The effectiveness of the feedback from student evaluation questionnaires is also influenced by the conceptions teachers' and students' have about teaching and learning. The ratings students provide are reflections of their conceptions of the meaning of effective teaching and learning. Similarly, teachers' performance is influenced by the meaning they attach to teaching and learning.

*Method:-* Teachers and students from two higher education institutions have been involved in the study. Two types of questionnaires with similar contents were designed to assess students' and teachers' conceptions and experiences. The first part of the questionnaires had items referring to the nature of teaching and assessment based on Kember's (1997) classification of teaching as 'knowledge transmission' and teaching as 'learning facilitation'. In the second part, teachers and students were asked to provide descriptions of the meaning of teaching and characteristics of effective teachers. Their responses were analyzed to look for the predominant orientation of teaching and learning among teachers and students. Differences in orientation as well as practice have been evaluated.

*Results-* It was found that teachers and students consider teaching as predominantly transmitting contents. Students' and teachers' assessments of their experiences revealed that teaching focused on transmitting contents and assessment was dominated by recall of factual knowledge. The fact that students with higher levels of achievement expressed reproducing orientation also implies that assessment focused on recall of facts. Thus, the use of an improved measure of teaching quality that encourages active learning can also assist teachers and students to change their conceptions. The TEQ currently in use contains items that refer to teacher centered orientations. Prolonged use of the measure might have encouraged the 'teaching as transmitting knowledge' conception of teaching among teachers and students. Moreover, the feedback students provide and teachers use is different from the one obtained using the rating forms. The TEQ currently in use does not address students' active engagement in the learning process as a requirement for teaching evaluation. It does not either address students' evaluation of their own learning.

In Chapter Five the purpose was to design a measure that gives more emphasis to student learning as a basis for evaluating teaching quality. In the most widely used student rating questionnaires the items have been identified based on students' and teachers' agreements to selected teacher characteristics. However, in this study, they were identified from students' experiences in learner centered instruction. Students have been involved in a learning environment that presents opportunities for active engagement.

*Method-* Students and their teachers participated in learner centered instruction. The courses were redesigned based on the tenets of learner centered instruction proposed by Weimer (2002). During the implementation of learner centered instruction students evaluated their experiences using the learning experience questionnaire. Their replies were used to generate items for the Student Evaluation of Learning and Teaching Questionnaire (SELTQ). In the learning experience questionnaire students were requested to describe their experiences in terms of what helped or hindered their learning in learner centered instruction. Based on a review of previous works and students' evaluations of their experiences, it was hypothesized that evaluating teaching quality has to address the way courses are organized and presented, the nature of assessment, the appropriateness of the feedback to and from students, students' self evaluation of their learning, and students' engagement in the process of learning. A pool of items has been designed and validated at various levels using content and criterion validity.

*Results-* Students reported that they benefited a lot from their experiences in learner centered instruction. They mentioned that opportunities were provided for engaging them in the process of learning. They also added that regular evaluation and subsequent feedback were provided and, as a result, they believed they were learning better in the learner centered classes.

Factor analysis identified four out of the five hypothesized dimensions, which included course organization and presentation, assessment and feedback, student self evaluation, and students' level of engagement. Two dimensions in the hypothesized framework were combined. As opposed to the TEQ that is entirely designed to evaluate teacher performance, the SELTQ has dimensions that enable students to evaluate their own learning progress as well as the support and guidance from the teacher. The use of the measure is believed to provide teachers with feedback on the impact of teaching on student learning.

Once the SELTQ has been designed, it was necessary to check whether it is more appropriate than the previously used TEQ. The difference in relationships the SELTQ has with course grade and study approaches were used to validate the improved measure. It was assumed that if the improved measure is indeed better, then students who provided higher ratings using the SELTQ should also apply study approaches that encourage high quality learning, and achieve higher course grades. Thus, Chapter Six dealt with evaluating the appropriateness of the SELTQ as compared to the previously used TEQ.

*Method-* Students attended to learner centered classes and evaluated their experiences using both the previously used TEQ and the newly designed SELTQ. They also indicated their Approaches to Studying using the questionnaire designed by Entwistle and Ramsden (1983). The questionnaire has three subscales: achieving orientation, reproducing orientation, and meaning orientation. The ratings provided using the previously used TEQ and the SELTQ have been used to examine possible relationships with grades and approaches to studying.

*Results-* Higher ratings provided using the SELTQ were associated with higher values in achieving and meaning orientations. The ratings provided using SELTQ were also significantly correlated with course grade, which implies that the new measure has a significant relationship with the student learning expressed in course grades. Whereas ratings provided using the TEQ were not significantly correlated with approaches to studying as well as with course grade. The rating provided using the TEQ were significantly higher than the one provided using the SELTQ. This implies that students gave higher ratings when the focus of the evaluation was on teacher performance. The fact that students provided higher ratings using the TEQ can be considered as evidence that higher ratings provided using a rating questionnaire entirely designed based on teacher performance may not reflect student learning. Thus, the feedback provided using the SELTQ can be a better source of information for teaching improvement since students are evaluating the quality of the teaching based on the quality of their own learning.

### **7.3 General discussion and implications**

The studies conducted revealed the problems in the rating questionnaire currently being used and the need for an improved measure that gives emphasis to student learning. The outcomes of the first and second empirical study were considered while designing the SELTQ. In the first study, it was indicated that students' perceptions of their learning has an impact on the ratings they provide. The study concluded that a measure of teaching effectiveness would provide better feedback for improvement if it also addresses students' evaluation of their learning progress. The second study also revealed that teacher centered orientation is predominant and has an

impact on the instructional process. The use of the TEQ as a measure of effective teaching is believed to encourage the implementation of teacher centered instruction since the emphasis is on the evaluation of teacher performance. Based on the justifications discussed in the first and second study an improved measure has been designed.

As compared to the previously used TEQ, the SELTQ is believed to provide improved feedback for teaching improvement since it also addresses students' perceptions of their learning progress. Using the improved measure, students can evaluate the effectiveness of the teaching based on reflection of their own learning. Moreover, a study that compared the two measures revealed that the SELTQ has stronger relationships with the qualitative as well as quantitative indicators of teaching effectiveness. In the newly designed measure, students are also expected to make a self evaluation of their own performance, which conveys the message that students have an active role in their own learning. What is more, the use of the improved measure is expected to contribute to changing the teacher centered orientation widely being exercised in the higher education institutions in the country.

Effective teaching is about communicating expected behaviors and providing support to students in their efforts to learn the material presented. The appropriateness of a measure of teaching has to be evaluated in terms of whether it addresses teacher behavior that contributes to student learning. However, learning is also significantly influenced by the effort students exert. A measure of effective teaching should also provide opportunities for students in such a way that they can evaluate teaching in terms of the support they received to do the learning by themselves. Thus, as opposed to

the previously used TEQ that focused on teacher performance, the SELTQ has dimensions that refer to teacher performance and students' learning experiences. The new questionnaire is believed to help teachers make improvements in teaching with a focus on improving student learning. Students will be able to evaluate teaching both in terms of self evaluation of their own learning experiences and the support the teacher provided. More specifically, students can provide feedback based on self assessment of their contributions to their own learning, their engagement in the process of learning, the appropriateness of courses and how they are presented, the impact of assessment and feedback in improving their learning, and the use of student feedback for teaching improvement. The effectiveness of the teaching will be determined based on students' evaluation of both the facilitation from teachers as well as their own involvement in the process of learning. What is more, the use of the questionnaire is believed to encourage students to develop deep approaches to learning since students can also make self reflections of their own learning while evaluating the quality of the teaching.

The impact of the improved measure can also be seen in terms of its contribution to changing conceptions of teaching and learning. The first empirical study has indicated that improved feedback could be provided to teachers if the rating questionnaire addresses students' perceptions of their learning. The study on beliefs and practices has revealed that teacher centered orientations are widely held among students and teachers in the study site. The questionnaire in use encourages such beliefs since teacher performance is considered as a basis for evaluating effective teaching. Thus, the use of the improved questionnaire is believed to help teachers and

students develop the conception that teaching is effective not only when teachers teach but also when students learn.

The fact that the new measure has dimensions that urge students to make self evaluation of their learning progress enables them to develop the thinking that learning is not something the teacher provides. It shows that the teacher is there to provide guidance and facilitation and it is up to the students to do the learning. The use of the questionnaire reflects that failure in student learning should not only be attributed to the lack of support from the teacher but also to students' inability to do all what it takes to learn. Student engagement is, therefore, considered as evidence of the effectiveness of teaching since it is assumed that it is still the teacher who has to provide opportunities for students to do the learning by themselves. Studies also indicated that the time and energy students invest in educationally meaningful activities is a function of the level of academic challenge experienced, enriching educational experiences provided, active and collaborative learning presented, student-faculty interaction, and supportive campus environment (Kuh et al., 2010; Pascarella & Terenzini, 2005).

The use of the feedback for teaching improvement depends on students' and teachers' conceptions of teaching and learning. It was indicated in one of the studies in this research project that teacher centered conceptions are widely held among teachers and students. In such a context, it will be difficult for students to provide meaningful feedback and for teachers to make use of the feedback for improvement. The attitude is equally, if not more important, in introducing a different approach into an already established educational practice. Hence, staff development programs should consider changing



conceptions of teachers as a requirement if the improved measure is to be used properly. Studies also reported that teachers may not apply instructional approaches that improve the quality of student learning if the approach is not in line with their conception of effective teaching (Trigwell & Prosser, 1991).

The implications of the differences between the TEQ and the SELTQ are reflected in the outcomes of the fourth empirical study that compared the appropriateness of the two measures. The findings of the study revealed that student ratings of teacher characteristics may not reflect students' perception of their learning. The fact that the SELTQ ratings are correlated with grades reveals that students are evaluating what the teacher does in terms of its contributions to their learning. The emphasis of the TEQ is on teacher performance while in the improved measure dimensions that refer to students' evaluation of their learning are included. The difference in ratings between the two types of questionnaires indicates that students gave higher ratings using items that refer to teacher performance. However, the same students gave lower ratings using the SELTQ that also included evaluation of their own engagement. Thus, evaluating one's learning progress may not necessarily be the same as evaluating the effectiveness of teacher performance. It could be the case that students were happy about the performance of the teacher although they were not as happy when it comes to the impact of the teaching on their learning. This clearly indicates the need for a measure of effective teaching to give more emphasis to student learning.

## **7.4 Practical Implications**

Certain issues should be taken into consideration if the improved measure has to contribute to improving teaching. An improved measure of teaching quality does not in itself lead to improved teaching or student learning. Although the requirements stated in the dimensions enable teachers and students to conduct instruction accordingly, the effectiveness of the measure in improving teaching quality depends on implementing an instructional setting that actively engages students in the process of learning. In the higher education institutions in Ethiopia, teacher centered orientation is widely being practiced. Although the use of improved measure of teaching is believed to help in developing student centered conceptions, it is difficult to completely change the teaching-learning tradition by just introducing an improved scale. Thus, department based guidelines that encourage and reward good practices should be put in place if the new measure is to make a difference in improving teaching, by implication student learning. Institutional policies and practices should encourage the use of student centered instruction in such a way that teaching could be conducted according to the demands stated in the dimensions in the new questionnaire. Such policies may have substantial effect on the way teachers and students approach teaching and learning. What is more, the learning environment should be designed in such a way that students will be encouraged to make self evaluation of their learning progress.

The effectiveness of the SELTQ also depends on students' readiness to be self critical to evaluate their own learning as well as work done by their colleagues. Students may resist unless the learning environment encourages students to make self evaluation of their learning progress. What is more,

teachers and the departments have the responsibility to create awareness among students about the importance of active engagement. Students need to be well aware that they will benefit from their experience through active learning. It is when they are actively involved that they can appropriately use the improved measure to provide their teachers with feedback. Studies have also reported that students developed deep approaches to learning when their departments encouraged leaning focused instruction (Kember & Gow, 1994; Trigwell et al., 1999).

In the nine old universities, a staff development program is recently being introduced following the intervention by the Educational Quality Improvement Program (EQUIP). It is hoped that the program will take into account student evaluation feedback provided using the SELTQ as point of departure. The SELTQ could also be used in Communities of Teachers in which teachers learn to reflect on their own teaching habits by discussing the outcomes of SELTQ evaluations.

### **7.5 Research Implications**

The second empirical study revealed that teacher centered conception of the meaning of teaching and learning predominates among students and teachers. The study also indicated that in universities in Ethiopia the nature of the teaching is dominantly teacher centered and the assessment gives more emphasis to reproducing information. As the focus of the second study was on the implications of conceptions about the evaluation of teaching, not much has been done to investigate how these conceptions were formed and what needs to be done to change them. The use of feedback for teaching improvement depends on students' and teachers' conceptions of teaching

and learning. Research that focuses on how existing conceptions are formed and what needs to be done to change these conceptions is believed to contribute to the effective use of student feedback for teaching improvement.

The outcome of the first empirical study revealed that teachers use other sources of feedback in addition to student ratings. Student ratings are just one of the sources of evidence about the effectiveness of teaching and should be considered as a supplement to other sources such as self reflection and self evaluation by the teacher. Further research is required to validate the SELTQ and determine the impact of student rating feedback for teaching improvement.

The effectiveness of the new measure depends on the readiness of students and teachers in implementing student centered instruction. Thus, further research is needed to study the impact of culture and institutional impediments on the introducing student centered university education in the higher education context in Ethiopia. What is more, the SELTQ can also be studied in terms of its contributions to changing teacher centered conceptions in teacher training institutions. Using the scale student teachers may implement learner centered instruction during teaching practice sessions and evaluate their own learning experiences and the teaching skills of their colleagues.

## **7.6 Limitations**

The new scale provides opportunities for students to evaluate the effectiveness of teacher performance in terms of their own learning

progress. The dimensions referring to teacher characteristics and to student learning have been identified based on appropriate factoring procedures. However, the participants were limited in number and do not represent various disciplines. What is more, confirmatory factor analysis has not been conducted to check whether the same dimensions would be extracted using data from various groups. Thus, large scale empirical research has to be conducted to verify the appropriateness of the dimensions across instructional settings and various student groups.

### 7.7 Nederlandse Samenvatting

De aanleiding voor dit onderzoek is in de eerste plaats de wens van de Ethiopische regering om bij de instellingen voor hoger onderwijs een instrument van kwaliteitszorg te introduceren waarbij niet alleen studenten het gegeven onderwijs evalueren, maar waarbij daarnaast in het onderwijs zelf ook meer nadruk gelegd wordt op student gecentreerde benaderingen. Het instrument dat in het hoger onderwijs in Ethiopië momenteel algemeen gebruikt wordt – de Teaching Evaluation Questionnaire (TEQ) – is namelijk in essentie vooral docent gecentreerd. Vandaar de behoefte een instrument te ontwikkelen dat beter bruikbaar is in student gecentreerd onderwijs.

De onderliggende gedachte bij het gebruik van evaluatievragenlijsten is dat docenten invloed hebben op het studeergedrag van studenten, en dat die invloed kan worden gedemonstreerd door de feedback van studenten over hun leerervaringen. Die feedback kan dan weer worden gebruikt voor onderwijsverbetering. Daarbij is het wel van belang dat de elementen van de vragenlijst aansluiten op het vertoonde docergedrag. Het probleem is dat de hierboven genoemde TEQ als gezegd gericht is op docent gecentreerd onderwijs, en als gevolg daarvan anders dan bedoeld dergelijk docergedrag bevordert in plaats van het meer student gecentreerde onderwijs. Het was daarom nodig een meer op de laatste situatie toegespitst evaluatie-instrument te ontwikkelen en te valideren: Student Evaluation of Learning and Teaching Questionnaire (SELTQ).

Dit onderzoek richt zich op de volgende drie hoofdvraagstellingen.

1. Hoe valide is de in gebruik zijnde TEQ als bron van feedback voor onderwijsverbetering.

2. Wat zijn de opvattingen van docenten en studenten in uiteenlopende onderwijssituaties over (de betekenis van) doceren en studeren.
3. Wat zijn de kenmerken van doceren en studeren in student gecentreerde onderwijssituaties, en welke implicaties heeft dat voor de evaluatie van de kwaliteit van doceergedrag.

De empirische deelstudies waarover in dit proefschrift wordt gerapporteerd zijn gebaseerd op een drietal assumpties:

1. De eerste is dat een instrument dat is ontworpen om de effectiviteit van doceergedrag te evalueren noodzakelijkerwijs de uitkomst van dat doceergedrag, en dat zijn de leeruitkomsten van de student, in ogenschouw moet nemen. Hiertoe dient de relatie te worden nagegaan met andere indicatoren van leeruitkomsten: het (verwachte en/of behaalde) studieresultaat, en de door de student gepercipieerde leerwinst.
2. Een tweede aanname is dat de opvattingen van docenten en studenten over doceren en studeren van invloed zijn op het uiteindelijke onderwijsproces: docent- of student gecentreerd. Zo is het mogelijk dat een instrument dat geacht wordt de effectiviteit van doceergedrag te meten en dat alleen aandacht geeft aan de docentkant daarvan, zowel docenten als studenten stimuleert om in opvattingen en gedrag een docent gecentreerde benadering te ontwikkelen. Anderzijds kan een aanpak waarbij de ondersteuning van de docent ten behoeve van het leerproces van studenten centraal staat, aanleiding geven tot de ontwikkeling van een meer student gecentreerde benadering.
3. Een derde uitgangspunt is dat studenten beter leren wanneer ze actief betrokken zijn in het leerproces en geen passieve ontvangers van informatie. Om die reden zal een meting van de kwaliteit van de docent

ook gericht moeten zijn op de geboden mogelijkheden voor zo'n actieve betrokkenheid en de zelfregulering van het eigen leerproces.

In de eerste deelstudie is de validiteit van de in gebruik zijnde TEQ onderzocht. Hiertoe is het verband nagegaan tussen de vragenlijstuitkomsten (ratings) en andere indicatoren van effectief doceergedrag. Om de invloed van verschillen tussen diverse cursussen te minimaliseren is uitgegaan van multi-sectie onderzoek. Hierbij is steeds dezelfde cursus door verschillende docenten gegeven met een voor alle secties gelijke eindtoets. Eventuele verschillen moeten daarom worden toegeschreven aan docentverschillen, en niet aan inhoudelijke verschillen tussen de cursussen of aan verschillen in de eindtoets.

Per cursus is de TEQ afgenomen, en zijn de uitkomsten gerelateerd aan het verwachte en behaalde studieresultaat in termen van het eindcijfer. Met behulp van een andere vragenlijst is eveneens het verband onderzocht tussen de ervaren leerwinst en het studieresultaat. Het behaalde cijfer correleerde niet significant met de ratings. Dat was wel het geval met de gepercipieerde leerwinst.

In de tweede deelstudie is onderzocht wat de opvattingen zijn van docenten en studenten aangaande doceren en studeren, en welke implicaties dat heeft voor de evaluatie van effectief doceergedrag. Hierbij zijn docenten en studenten van twee instellingen voor hoger onderwijs betrokken. Aan hen zijn twee typen vragenlijsten voorgelegd. Het eerste deel bevat items die gebaseerd zijn op de classificatie van onderwijs in enerzijds de overdracht van informatie, en anderzijds onderwijs als het faciliteren van het leerproces van studenten. In het tweede deel is docenten en studenten gevraagd om een



beschrijving te geven van de betekenis van doceren en van de kenmerken van goede docenten. Zowel docenten als studenten zagen onderwijs primair als de overdracht van kennis, en dit komt terug in de afgenomen eindtoetsen die gedomineerd worden door de toetsing van feiten. Het gebruik van een verbeterde meting van de kwaliteit van doceergedrag zou een bijdrage kunnen leveren aan de bevordering van activerend onderwijs. De gangbare TEQ bevat als gezegd alleen items die gericht zijn op docent gecentreerd onderwijs. Het is denkbaar dat het langdurig gebruik van dit instrument de opvatting waarbij onderwijs gezien wordt als informatieoverdracht heeft bevorderd.

Het doel van de derde deelstudie is een instrument te ontwerpen waarin het leerproces van de student meer nadruk krijgt. Hiertoe zijn in enkele onderwijssituaties die meer dan elders in Ethiopië student gecentreerd zijn, studenten ondervraagd over hun ervaringen. Hun antwoorden zijn gebruikt om items te genereren voor de Student Evaluation of Learning and Teaching Questionnaire (SELTQ), bestaande uit vier dimensies: *Cursusorganisatie en presentatie*, *Toetsing en feedback*, *Zelfevaluatie* en *Participatie*.

Analoog aan de eerste deelstudie is tenslotte de validiteit van het nieuwe instrument onderzocht, waarbij dezelfde criteria zijn gehanteerd, te weten een positieve relatie van vragenlijstuitkomsten (ratings) met het actuele en verwachte studieresultaat, en ook met de studieaanpak. Voor wat betreft dat laatste geeft de SELTQ significante correlaties te zien, in tegenstelling tot de TEQ. Daarnaast geldt dat de SELTQ gerelateerd is aan het behaalde studieresultaat, zoals dat eerder ook het geval was met de TEQ.

Het algemene uitgangspunt in dit onderzoek is dat doceergedrag effectief is zolang en in de mate het studenten ondersteunt in hun inspanningen om de studiestof te beheersen. Een instrument dat bedoeld is om de kwaliteit van dit doceergedrag te meten, en feedback te geven over de wijze waarop het verbeterd kan worden, zal daarom min of meer per definitie aandacht moeten besteden aan de genoemde inspanningen van studenten en de rol die de docent daarbij vervult. In dit verband is het belangrijk dat het nieuw ontwikkelde instrument – de SELTQ – elementen bevat die studenten dwingt om over hun eigen leerproces te reflecteren, en op die manier er bewust van te worden dat ‘leren’ niet iets is dat door de docent verschaft wordt. De docent faciliteert, de student leert. In het verlengde daarvan zijn gebreken ten aanzien van de leeruitkomsten ook niet exclusief te wijten aan gebreken van de één of de ander.

De inzet van het nieuwe instrument zal niet automatisch leiden tot een verbeterd doceer- of studeergedrag. Zoals al eerder aangegeven, is de in Ethiopië meest gebruikelijke onderwijsaanpak docent gecentreerd. Voor een verandering daarvan in de richting van het gewenste meer student gecentreerd hoger onderwijs is meer nodig dan een nieuw evaluatie-instrument, al helpt dat wel. Belangrijk is in dit verband de introductie van een cursusprogramma voor docenten in het hoger onderwijs bij de negen Ethiopische universiteiten (Educational Quality Improvement Program – EQUIP). Gehoopt en verwacht wordt dat het ontwikkelde instrument in dit proces wel een rol zal kunnen spelen.



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## Appendices

### Appendix A

Items included in the teaching Evaluation Questionnaire (TEQ) currently in use in higher education institutions in Ethiopia.

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Evaluation criteria
The teacher.....
1. explains the objectives of the course clearly
2. explains specific objectives of each unit/chapter
3. describes the course outline clearly
4. presents contents according to timetable
5. has adequate course preparation
6. has adequate knowledge of the subject matter
7. follows the course outline when teaching
8. presents the course clearly using the language of instruction
9. answers students' questions properly
10. allows students to freely forward their opinions in the classroom
11. encourages students to participate in class
12. provides students with assignments and subsequent feedback
13. uses different teaching aids while teaching
14. informs students in advance about types of exam and their values
15. constructs tests relevant to the course
16. gives reasonable weight for each question in the test
17. allots appropriate time for the exam
18. provides handouts for the course he teaches
19. prepares and provides useful list of reference materials
20. prepares equipment useful for the instructional process
21. is punctual
22. has interest in teaching
23. uses the time for teaching appropriately
24. has set consultation hours and communicates it
25. is willing to understand students' problems
26. tries to solve academic problems of students
27. tries to be respected by students by being good mannered, disciplined, and showing diligence.

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## Appendix B

### Perceived learning gain questionnaire

This form provides you with the opportunity to think about what you have learned in the course and evaluate the quality of the instruction in terms of your own learning. Your genuine replies are appreciated. Use the following criteria to make the evaluation: **SD**= strongly disagree, **D**= disagree, **U**= undecided, **A**= agree, and **SA**= strongly agree.

Thank you in advance

Faculty \_\_\_\_\_ Department \_\_\_\_\_ ID. No. \_\_\_\_\_

Items	--	-	-/+	+	
1 I was encouraged to make self-evaluation of my progress.	SD	D	U	A	SA
2 I learned a lot through discussion in group works	SD	D	U	A	SA
3 Self evaluation of my work helped me comprehend the concepts taught.	SD	D	U	A	SA
4 I was actively engaged in the learning process.	SD	D	U	A	SA
5 The assessment required understanding of the material covered	SD	D	U	A	SA
6 I received useful feedback on my progress in the course.	SD	D	U	A	SA
7 The assessment helped me achieve the intended course objectives.	SD	D	U	A	SA
8 I was performing the required tasks on the specified time.	SD	D	U	A	SA
9 I knew the expected learning outcomes of the course.	SD	D	U	A	SA
10 I was aware of what I need to do to achieve the course objectives.	SD	D	U	A	SA
11 My learning styles have adequately been addressed during the learning process	SD	D	U	A	SA
12 I know how this course contributes to my knowledge/skill in the field of study.	SD	D	U	A	SA
13 I know that I am responsible for my progress in the course.	SD	D	U	A	SA
14 I have acquired the desired knowledge and skill in the course	SD	D	U	A	SA
15 Overall this course was a good learning experience.	SD	D	U	A	SA

What grade do you expect to achieve in this course (A, B, C, D, or F)? \_\_\_\_\_

## Appendix C

### Student Learning Experience Questionnaire

The purpose of this questionnaire is to help you evaluate the effectiveness of the instructional approach currently being implemented in this course. You are expected to provide genuine responses based on your reflections of how the sessions are being conducted.

Thank you in advance

#### General direction:

Provide your responses by making a tick (✓) on the appropriate box or writing short description when there is a space provided.

1. Is the instructional approach used in this course different from the one employed in the other courses you are taking?

Yes, it is different

No, it is not any different

2. If your answer is '**yes, it is different**', what is changed in this course as compared to the other courses? Provide your answers in terms of the frequency of the action indicated: (1= never, 2= rarely, 3= sometimes, 4= usually, 5= always)

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	1	2	3	4	5
a	The teacher informs me that I am responsible for my own learning				
b	The teacher is a facilitator of learning, not a provider of information				
c	Reading materials are given in advance, with the objectives and review questions clearly stated				
d	I am encouraged to make interpretations of the contents and provide examples				
e	Regular suggestions are given on how best I can learn a given concept				
f	Enough class works, assignments, and quizzes are given.				

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- 
- g I am regularly informed about what is the expected outcome and how I should act to achieve the outcome
  - h Assignments are designed to help me work with peers.
  - i Regular feedback is given on my progress.
  - j I am involved in providing comments to improve the content of the assignments.
  - k I am encouraged to evaluate my own work/ my colleagues' works
  - l Assessments are mostly integrated within the learning process
  - m Assignments and tests are designed to help me learn, not just to grade my work.
  - n The teacher allows me to redo assignments based on comments for improvement.
  - o The teacher asks us for feedback to improve the process of instruction.
- 

**NB: For questions 3, 5, 6, 8, and 9 multiple answers are possible**

3. If your answer to question number 1 is '**no, it is not different**', why not?
- More or less similar approaches are employed
  - There still is teacher dominated approach and lots of lecturing
  - The assignments and quizzes are not related to the objectives of the course
  - It is still not clear how the contents in the course contribute to my professional profile
  - I am not regularly informed about my progress in the course

Other reasons

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4. Do you believe you are learning better in this course as compared to the other courses?

Yes

No

5. If **yes**, how do you come to know that you are learning better?

I am now practicing to explain things to my peers

I have now started to exercise presentation skills

I am developing group participation techniques

I started to look at the contents in terms of what/why I am learning and how I can learn

I can now provide comments to the works of my friends

6. If **no**, why not?

I do not have the required skill, such as how to regulate my own learning, and conduct peer evaluation

I understand concepts better when listening to lectures than when actively involved in the process.

There is a lot of work in this approach that I found difficult to accomplish.

I am not sure I have learned a concept before I sit for exams

Other reasons

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7. Are you accomplishing all the required student activities during the instructional process?

Yes, I am accomplishing

No, I am not

8. If yes, which ones are you frequently employing?

Involving in group work

Doing required class activities

Completing reading assignments before coming to class

Actively participating during questions and answers

Giving and receiving feedback from colleagues

Making genuine evaluation of my work based on the criteria set

9. If no, which ones are you not employing and why not?

<b>Activity</b>	<b>Reason</b>
Involving in group work	
Doing required class activities	
Completing reading assignments before coming to class	
Giving and receiving feedback from colleagues	
Making genuine evaluation of my work based on the criteria set	

10. Do you have any suggestions to improve the instructional approach being employed? Please provide your suggestions in terms of what the teacher and you (the student) are expected to do.

Teacher

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Students

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## **Appendix D**

Dimensions identified under the Student Evaluation of Learning and Teaching Questionnaire (SELTQ)

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### **ASSESSMENT AND FEEDBACK**

1. The teacher communicated assessment criteria
2. The teacher gave immediate feedback
3. Assessment was coherent with objectives
4. Discussions were held following feedback
5. Assessment was designed to evaluate understanding
6. Assessment was part of learning
7. The teacher revised assignments before exam
8. The teacher gave feedback to group assignments
9. The teacher gave comments to draft works
10. The teacher provided examples of good work

### **ORGANIZATION & PRESENTATION**

11. My contributions were encouraged and valued
12. Reading materials have objectives and tasks
13. The teacher used appropriate teaching methods
14. The teacher explained the objectives and expectations
15. The teacher created opportunities for dialogue

### **STUDENT SELF ASSESSMENT**

16. I learned better due to my involvement in the process
17. I've been asking the instructor anytime I needed support
18. I was informed about required performance ahead of time
19. I implemented the feedback from the instructor

### **STUDENT ENGAGEMENT**

20. I was asked to provide justifications to my answers
  21. I was encouraged to assess my own progress
  22. I was asked to provide alternative explanations
  23. I was involved in peer evaluation
  24. I was involved in group projects
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## **Curriculum Vitae**

Zenawi Zerihun W.Yohannes was born on October 24, 1969 in Axum (Ethiopia). He completed his secondary schooling in 1987 at Axum Comprehensive Secondary School. From 1988 to 1991 he studied Pedagogical Science at the then Bahir Dar College of Teacher Education, with specialization in Teacher Education. He worked at a teacher training institution as a teacher trainer for two years. From 1995 to 1997 he studied his Master's Degree in Educational Psychology at Addis Ababa University. He specialized in Educational Measurement and Evaluation and taught courses at a college of teacher education and a university.

Zenawi started his PhD in 2007 at the VU, CETAR. His PhD research project *Evaluating teaching quality in higher education: a focus on students' learning experiences*, was intended to evaluate the existing system of teacher evaluation in the higher education in his home country, Ethiopia and design an improved measure. Together with colleagues, he presented part of his project at international conferences (in Spain and in Ethiopia). He has also published articles related to his project.

Currently, Zenawi is working at the Department of Psychology in Mekelle University, Ethiopia. He is also a member of the International Consortium for Educational Development (ICED) representing Ethiopia. His current research focuses include investigating student dropouts, and development and assessment of graduate attributes.