Professional Assessment Requires Professional Training

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Abstract
Assessment in Higher Education requires qualitatively high assessing. Curricula with student-regulated learning demands assessments and assessing that aim on agentic engagement of students. Assessments and assessing demanding lecturers to deliver high quality assessing and summative feedback. The study explores assessor competencies based on the work of Baartmans and Gulikers (2012), self-efficacy in assessing based on the work of Dellinger, Bobbett, Olivier and Ellett (2008) and sustainable summative feedback based on Nicol (2010). The research has taken place in the context of a master education of applied science (HE) in the Netherlands. This study proposes a model of co-construction of summative feedback and a model of education of assessors. The results indicate that sustainable assessments need to educate the assessors in making reliable judgments in assessing, self-efficacy will be stimulated and delivering sustainable summative feedback requires specific education.

Introduction
Sometimes students experience a judgment of an assessment or test or achievement as helpful for their learning process and sometimes as very injustice and not helpful. Lecturers are expected to assess accordingly to the assessment criteria and learning outcomes (Reddy & Andrade, 2010). Judging in tests with closed question is an easy task. However if an assessment has many open questions, with many choices that students have to make, such as in essays, cases, internship reports, research reports and so on, assessing is far more difficult. In a curriculum that targets agentic engagement (Reeve & Tseng, 2011) the assessor must be prepared to adjust his assessing on the substantive choices of the student and the learning outcomes the student has to prove. Furthermore, the assessor has to outline the achievements against an expected final level (Andriessen & Manders, 2014). In assessing, the assessor can deliver feedback that contributes to further development of the students during and after the education (lifelong learning). In this report, this kind of feedback on a summative assignment is called summative feedback. It is the base of the formative feedback of a next teaching unit and assignment. Assessing cognitively complex tests is hard, because in such a test a student can make his own choices, whereas the assessment criteria leave room for interpretation by the assessors. Not just because of this room for interpretation of the criteria, but also the difference in reference frameworks between assessors can cause much confusion (Vivekananda-Schmidt, MacKillop, Crossley & Wade, 2013). It is important that assessors possess knowledge of and are capable in assessing so that they are self-effective in arriving at an assessment. Assessors must be aware of the way in which they arrive at an assessment in the assessing process and willing to sharing their judgment with colleagues and students transparently (Blair, Curtis, Goodwin & Shields, 2013). In this report, a research is being presented in the context of a professional master education into the relation between assessor competencies, self-efficacy in assessing and to delivering summative feedback.

Theoretical framework
The assessor matters Curricula with a high degree of student self-regulated learning is a matter of choosing and accomplishing assessments. It is important for assessors that they as a team assess in the function of the agentic engagement of students.
Agentic engagement requires that assessors are focused on the established assessment criteria and learning outcomes (Hattie & Timperley, 2007; Shute, 2007) and the expected final level (Andriessen & Manders, 2014). In this kind of assessments, feedback is crucial for the choices that students make regarding the follow-up. Feedback is supposed to be of great value as a motor for student learning (O’Donovan, Rust & Price, 2015). However, many factors determine whether the given feedback is received in the proper way and contributes to a positive follow-up of the learning process. Feedback that is not only for use in the current assessment, but is also effective for future assessments, sustainable feedback. It is important to teach students to search for feedback themselves (Sluijsmans, 2013; Van Soelen, 2013). Learning and assessments should fit one another, constructive alignment (Biggs, 2003). Constructive alignment puts demands to the feedback and to the assessor. The assessor should possess assessor competencies, should have confidence in his role as assessor and should ensure that feedback initiates further learning. These three aspects are being illustrated hereafter.

**Assessor competencies**

Professional assessing demands a high level of professionalism of assessors. (Bout, 2010; Vivekananda-Schmidt et al., 2013). The training and education of lecturers as assessors enhances the quality of assessing (Blair, Curtis, Goodwin & Shields, 2013) and with that the quality of learning and assessment. Baartman and Gulikers (2012) point out which knowledge, skills and characteristics of an assessor are necessary, see Table 1.

Table 1. Knowledge, Professional Skills and Professional Characteristics of an Assessor - Educational philosophy, content, didactic methods, used in the regarding domain in which the assessment is being done.- Goals and achievement indicators of qualifications in the assessments. Knowledge of: Professional Skills: Professional

- Required standards of validity, reliability and transparency that apply in assessments.
- Mistakes concerning improper emphasis on specific prove or argumentation, selective observation, inconsistencies in scoring of assessments by the assessor, halo-effect, horn-effect, and central tendency.
- Assessing based on observation, register and assessing of a person’s achievements according the assessment instruments.
- Corresponding of the assessment results, as oral as written, to stakeholders (students, colleagues, managers and the board of exam).
- To give feedback that motivates students.
- Skilled in oral and written communication in Dutch and if necessary in English and both on an academic level.
- Skilled in cooperation in a team of college assessors.
- Skilled in receiving and giving feedback on the assessment to take.
- Skilled in adapting the work because of reflection, feedback and education.


**Self-efficacy in assessing**

Self-efficacy is the belief of an individual in his capacities to show behavior that is required to obtain predictable outcomes (Bandura, 2006). Self-efficacy is the contextual specific estimation of the competencies that are required to perform a specific task (Dellinger, Bobbett, Olivier & Ellett, 2008). This study is targeted on the task of lecturers in assessing the achievements of students. To measure self-efficacy Dellinger et al. point out that three aspects should be highlighted. Firstly, the measure should represent the meaning of self-efficacy. Secondly the self-efficacy should be linked to the context in which the self-efficacy is developed. Thirdly, the measured tasks should be meaningful. Self-efficacy enhances by a higher level of education (Griffioen, De Jong & Jak, 2013). Tscannen-Moran and Hoy (2001) prove that the increase of experience in educational contexts ensures that lecturers estimate themselves to a higher level on self-efficacy. They declare that gender maybe of influence on the results found. Self-efficacy is influenced by successful practical experience, a positive comparison with others (cooperative learning), encouragement by colleagues who give confidence and an optimal social emotional state (Cherian & Jacob, 2013). Successful practical experience is hereby the most important factor. To become an expert in assessing assessors should be educated in knowledge and professional skills of assessing achievements of students (Dellinger & Bobbett & Olivier & Ellett, 2008. Reddy & Andrade, 2010). The question in this research is whether ‘education in assessing’ and ‘experience in assessing’ indeed will enhance the self-efficacy of
assessors in making judgments of achievements of students in a curriculum that targets agentic engagement.

Quality of summative feedback
Feedback plays an important role in the learning of students. Feedback directs the learning process (Hattie & Timperley, 2007) by means of ‘feed up’ (Where will you go to? Which goals do you have?), feedback (How are you doing? What have you done?) and feed forward (What are your next steps, actions?). Carless, Salter, Yang and Lam (2006) suggest that this demands an even greater awareness of the student as of the lecturer, such as sharing knowledge of techniques in giving the summative feedback and reflection on actions to improve one’s own actions. To describe the process of delivering and processing feedback Nicol en MacFarlane-Dick (2006) have designed a model (See Figure 1).

Figure 1. A model of feedback principals that support students in developing their self-regulation (Nicol & MacFarlane-Dick, 2006, p.203).

The model of Nicol and MacFarlane-Dick for dialogue in formative feedback (Figure 1, A-G) shows the passing of the internal feedback process of the student. The lecturer sets the task with the goals and explains the criteria (A). Then the student gets started. By developing self-regulating processes, such as domain knowledge, learning strategies, and stimulating, motivating himself to get started (B). The student sets his own goals to pass the task, assessment (C). He learns by means of strategies and working according to plan to refrain the contents on personalized way (D). Thus, the student obtains the internal learning outcomes (E) that are transformed by the student into observable learning outcomes (F).

On these learning outcomes the student receives feedback from lecturers, fellow students and colleagues from the own working place (G), which leads to adjusting the domain knowledge, learning strategies and motivational aspects. In order to support and to develop the self-regulated learning Nicol en MacFarlane-Dick point out that this process should go along seven points (see Figure 1). This model is based on formative assessments. There is no indication in the role of summative assessments and summative feedback in this process, is not indicated. To this model another aspect can be added, namely a culture in which lecturers and students are engaged to co-construct the learning outcomes of the assessment criteria together, in order to build a bridge between formative and summative assessments. Figure 2 portrays that schematically.
The formative feedback facilitates lecturers and students together, in dialogue, to co-construct the learning outcomes and the assessment criteria to monitoring the learning processes by means of the internal and external feedback processes. This co-construction delivers formative feedback to students with whom the student can perform and evaluate the summative assessment. In this research the step and loop is added, to the internal feedback loop, which Nicol and MacFarlane-Dick distinguished, of summative feedback delivered by assessors, see Figure 3.

This means that assessors should be educated (II) in assessor competencies (II) to assess the summative assessment of the student (I) wherefore they ensure that the assessment criteria (V) and the summative feedback (VI) are in line with each other. An assessor possesses self-efficacy in assessing (IV) with assessment criteria. At last, the student receives his assessing and summative feedback (VII).

**Nicol (2010) points out a number of ten characteristics of effective feedback:**

1. understandable: expressed in a language that students understand;
2. selective: commenting on a reasonable detail on two or three things that the student can do something about;
3. specific: pointing to instances in the student’s submission where the feedback applies;
4. timely: in any case before the next assessment/assessment;
5. contextualized: framed with reference to the learning outcomes and or assessment criteria;
6. non-judgmental: descriptive rather than evaluative, targeted on learning goals, not just achievement goals;
7. balanced: pointing out the positive as well as areas in need of improvement;
8. forward looking: suggesting how students might improve subsequent assessments;
9. transferable: focused on processes, skills and self-regulatory processes not just on knowledge content;
10. personal: referring to what is already known about the student and her or his previous work. The question is whether the relation between self-efficacy in assessing is actual present and to which extent that contributes to the quality of delivering feedback at a summative assessing?

**Research questions and hypotheses**

What is the relation between the self-efficacy of assessors, their assessor competencies and the quality of summative feedback and to which extent is that influenced by education, experience, gender, and age?

This question is split into the next sub questions:

1. To which extent are education and experience in assessing positive predictors of assessor competencies self-efficacy in assessing and delivering summative feedback of lecturers?
2. To which extent are assessor competencies, gender and experience in assessing positive predictors of self-efficacy in assessing?
3. To which extent are assessor competencies and self-efficacy in assessing predictors of the quality of summative feedback?
4. Is there a difference in assessor competencies, self-efficacy, quality of summative feedback based on gender, age, domain expertise, experience and education?

**Hypothesis 1.**

Education and experience in assessing are positive predictors of assessor competencies of lectures.

**Hypothesis 2.**

High assessor competencies are positive predictors of a high self-efficacy in assessing.

**Hypothesis 3.**

High self-efficacy in assessing and high assessor competencies are positive predictors of the quality of summative feedback.

**Hypothesis 4.**

Gender, age, experience and education are positively related to assessor competencies, self-efficacy, the quality of summative feedback of assessors in assessing the achievements of students.

**Research method**

**Population and sample**

The questionnaire is submitted to lecturers of a professional master of higher education. The response of this questionnaire is 40%. This sample (n = 33) contains 70% female and 30% male lecturers. Table 2 shows the distribution of age categories.

<table>
<thead>
<tr>
<th>Age category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 40 years</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>41 – 50 years</td>
<td>7</td>
<td>21%</td>
</tr>
<tr>
<td>51 – 60 years</td>
<td>17</td>
<td>52%</td>
</tr>
<tr>
<td>61 and older</td>
<td>6</td>
<td>18%</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100%</td>
</tr>
</tbody>
</table>

Age category 51-60 year is more than half of the sample, 18% is older and 30% is younger. Table 3 shows the number of years of experience in assessing. Age category 51-60 year is more than half of the sample, 18% is older and 30% is younger. Table 3 shows the number of years of experience in assessing.
Table 3 Number of Years Experience in Assessing

<table>
<thead>
<tr>
<th>Experience</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 5 years</td>
<td>6</td>
<td>18%</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>14</td>
<td>42%</td>
</tr>
<tr>
<td>11 – 20 years</td>
<td>12</td>
<td>36%</td>
</tr>
<tr>
<td>more than 21 years</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3 shows that the lecturers of this sample are from experienced till very experienced in assessing by three quarter. Table 4 shows the amount of time of spent education in assessing by lecturers in this sample.

Table 4  

<table>
<thead>
<tr>
<th>Amount of Hours</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>1</td>
<td>3.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>less than 20 hours</td>
<td>3</td>
<td>9.1%</td>
<td>12.1%</td>
</tr>
<tr>
<td>between 20 and 50 hours</td>
<td>16</td>
<td>48.5%</td>
<td>60.6%</td>
</tr>
<tr>
<td>more than 50 hours</td>
<td>13</td>
<td>39.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Instrument

A questionnaire is developed, targeted on three variables to measure: assessor competencies, self-efficacy in assessing and the quality of summative feedback.

1. Assessor competencies.

These questions are derived from the theory about Assessor competencies as pointed out by Baartman and Gulikers (see Table 1). The section ‘Assessor competencies’ contains nineteen items.

2. Self-efficacy in Assessing.

These questions are derived from the findings of Bandura (1977), Reddy and Andrade (2010) and Cherian and Jacob (2013). The section ‘Self-efficacy in Assessing’ contains nine items.

3. Quality of Summative Feedback.

The quality of summative feedback is derived from features of effective feedback as pointed out by Hattie and Timperley (2007) and Nicol (2010). The section ‘Quality of Summative Feedback’ contains eleven items. Examples of the above-mentioned questions are shown in Table 5 per questionnaire section.

Table 5. Examples of Items in the Questionnaires

| Questionnaires                          | Items                                                                 |
|-----------------------------------------|                                                                      |
| Assessor competencies                   | My judgments are reliable.                                          |
| Self-efficacy in Assessing              | In my judging, I am aware of my own prejudices.                     |
| Quality of Summative Feedback           | In my summative feedback I focus primarily on the skills the student possesses and what is needed in my opinion |

The questionnaire is submitted to a number of experts in the field of assessments and assessing. This has led to adjustments in regarding the validity of the questionnaire. The questions are answered on a five point Likert scale. Five is hereby the highest score and one the lowest scores. Some items are negatively formulated and are scored reversely in that prospect and indicated by (r), see Table 6.

Table 6. Examples of Negatively Formulated Items

| Questionnaires                          | Items                                                                 |
|-----------------------------------------|                                                                      |
| Self-efficacy in Assessing              | I doubt my autonomous judgment my assessing (r).                    |
| Quality of Summative Feedback           | In my summative feedback, I target on personal feedback (r).       |
Data-analysis

In order to determine the construct validity of the scales assessor competency, self-efficacy in assessing and the quality of summative feedback a confirmative factor analyses is executed to which extent the model fits. In factor analyses values are the Kaisers Mayer Olkin between 0.50 and 0.70 as moderate, between 0.70 and 0.80 as good, between 0.80 and 0.90 as very good and above 0.90 as sublime (Hutcheson & Sofroniou, 1999). After establishing the scales pro scale validity is established and is analyzed whether the scale can be made more reliable by deleting items. A Cronbach’s Alpha above 0.70 is considered reliable (Cohen, Manion & Morrison, 2011). Per research question, the variables and their measure values are mentioned.

Research question 1.

Independent variables, on ordinal level, are: the number of hours of education in assessing and the number of years of experience in assessing the achievements of students, transformed into dummy variables. The dependent variable is ‘Assessor competencies’, on ratio level.

Research question 2.

The independent variables are gender, measured on nominal level, domain expertise, experience and education in assessing, measured on ordinal level and ‘Assessor competencies’, measured on ratio level, the dependent variable is ‘Self-efficacy in Assessing’, measured on ratio level.

Research question 3.

The independent variables are ‘Assessor competencies’ and ‘Self-efficacy in Assessing’ on ratio level and the dependent variable is ‘Quality of Summative Feedback’, on ratio level.

Research question 4.

The independent variables, on nominal level, are; gender and on ordinal level age, domain expertise, experience and education in assessing.

In order to answer research questions 1, 2 and 3 a multiple regression analysis is done. By this regression analysis causal relations will be searched. Hereby applies that the nominal and ordinal variables as independent variables in the regression analyses are included, that is why they are transformed into so-called dummy variables. By correlation analysis, between the explanatory variables the interrelationship will be determined to determine the multicollinearity. If the multicollinearity is ≤ 0.50 than one of the variables will be left out of the model. By ANOVA the most significant model will be chosen. To answer research question 4, ‘Is there a difference between assessor competencies, self-efficacy in assessing, quality of summative feedback based upon gender, age, domain expertise, experience and education in assessing?’ a MANOVA test will be done.

The data in this research are analyzed with SPSS version 23.

Results

Descriptive statistics of all scales

Based upon the factor analysis and analysis of reliability some items are deleted and three scales are discriminated: Assessor competencies (19 items, α = 0.97), Self-efficacy in Assessing (7 items, α = 0.75), Quality of Summative Feedback (7 items, α = 0.83). For the three scales, the measurement is the average score on the items. Table 7 shows the descriptive statistics of these three scales.

<table>
<thead>
<tr>
<th>Scales</th>
<th># items</th>
<th>n</th>
<th>Mi</th>
<th>Max</th>
<th>m</th>
<th>sd</th>
<th>Skew</th>
<th>Kurt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessor competencies</td>
<td>19</td>
<td>33</td>
<td>1</td>
<td>5</td>
<td>4.23</td>
<td>0.78</td>
<td>-2.58</td>
<td>8.97</td>
</tr>
<tr>
<td>Self-efficacy in Assessing</td>
<td>7</td>
<td>33</td>
<td>1</td>
<td>5</td>
<td>3.86</td>
<td>0.66</td>
<td>-2.56</td>
<td>10.67</td>
</tr>
<tr>
<td>Quality of Summative Feedback</td>
<td>7</td>
<td>33</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>0.69</td>
<td>-2.6</td>
<td>10.99</td>
</tr>
</tbody>
</table>

The number in this sample is small. The Shapiro Wilk test indicates that the scores are not normally distributed. This means that in the discussion about the results some caution must be taken. The results on all scales are good in average (m = 3.86 to 4.23). Table 8 shows strong correlations between the three scales.
Predictable value of Education in Assessing and Experience on Assessor Competencies of lecturers

‘Education in Assessing’ significantly predicts assessor competencies, $\beta = 0.58$, $t = 3.91$, p < .0001. ‘Education in Assessing’ explains a significant section of the variance in Assessor Competencies, $R^2 = 0.38$, $F = 9.3$, df1 = 2, df 2 = 30, p < .001. Years of Experience in Assessing appears to be no predictor of assessor competencies.

**Predictable value of Assessor Competencies on Self-efficacy in Assessing**

Predictable value of Education in Assessing and Experience on Assessor Competencies, Self-efficacy in Assessing and Quality of Summative Feedback of lecturers ‘Education in Assessing’ significantly predicts assessor competencies by 62%, $\beta = 1.44$, $t = 6.48$, p < .001. Education in Assessing predicts Self-efficacy in assessing by 60%, $\beta = 1.47$, $t = 6.62$, p < .001. Education in Assessing predicts Quality of Summative Feedback by 63%, $\beta = 1.51$, $t = 7.12$, p < .001. Years of Experience in Assessing appears to be no predictor of the three scales. The summary of the regression analyses in Table 8 shows that ‘Assessor Competencies’ predicts ‘Self-efficacy in Assessing’. ‘Assessor Competencies’ predicts the Self-efficacy in Assessing by 88%. ‘Education in Assessing’ predicts ‘Self-efficacy in Assessing’ by 58% significantly. ‘Cognitively Complex Assessing’, ‘Domain Expertise’ and ‘Years of Experience in Assessing’ and ‘Gender’ do not predict ‘Self-efficacy in Assessing’.

**Predictable value of Assessor Competencies and Self-efficacy in Assessing on the Quality of Summative Feedback**

‘Assessor Competencies’ and ‘Self-efficacy in Assessing’ predicts the ‘Quality of Summative Feedback’ ($\beta = 1.51$, $t = 7.10$, p < 0.001). Years of Experience in Assessing appears to be no predictor of delivering Quality of Summative Feedback. Is there a difference in Assessor Competencies, Self-efficacy in Assessing and the Quality of Summative Feedback in Assessing based upon gender, age, domain expertise, experience in assessing, and education in assessing? The MANOVA test indicates that there are no differences on the scales Assessor competencies, Self-efficacy in Assessing, Quality of Summative Feedback based upon the variables ‘Gender’, ‘Experience in Assessing’ and ‘Domain expertise’. There are differences between the three scales because of the variable ‘Education in Assessing’, see Table 9.

### Table 9. ANOVA, Education in Assessing Schalen

<table>
<thead>
<tr>
<th>Scales</th>
<th>Between Groups</th>
<th>Sum of d f Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessor</td>
<td>Within Groups</td>
<td>18,593</td>
<td>31</td>
<td>.690</td>
<td>.600</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>19,283</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td>1,081</td>
<td>1</td>
<td>1,081</td>
<td>2,278</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15,786</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-efficacy in Assessing</td>
<td>Within Groups</td>
<td>14,705</td>
<td>31</td>
<td>.721</td>
<td>.474</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15,081</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Summative Feedback</td>
<td>Within Groups</td>
<td>14,360</td>
<td>31</td>
<td>.721</td>
<td>.463</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15,081</td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9 shows that the difference on the scales ‘Assessor competencies’, ‘Self-efficacy in Assessing’ and ‘Quality of Summative Feedback’ are explained by the variable ‘Education in Assessing’. The MANOVA Post Hoc test shows that assessors in the age category 20 – 41 years on ‘Quality of Summative Feedback’ (m = 3.21) score significantly (p < 0.01) lower than the older age categories; 41 – 50 years (m = 4.14), 51 – 60 years (m = 4.29) and 61 and older (m = 4.65).
Assessors with ‘Domain expertise’ score significantly higher if their domain expertise is ‘Education Technology’ ($m = 4.26, p < 0.01$) or their domain expertise is ‘Special Education’ ($m = 4.17, p < 0.00$).

**Conclusions and recommendations**

In this research three scales have been developed. These scales have a good to high reliability. The scales can be used to measure the assessor competencies, the self-efficacy in assessing and the quality of summative feedback of assessors. The assessors in this sample scored rather high on those three scales. The scores on the three scales are not normally distributed. It means that some restraint should be exercised in the conclusions to be drawn. Because of the great standard deviation, it can be concluded that the lecturers in this sample think differently about the items of these scales. This indicates that lecturers in this sample consider themselves well developed in these areas, but there are great differences between those lecturers. Moreover, it does not mean that the good scores on those scales that students are being perceived in the same way. For this further research is needed of the group of students. In further education of assessors in assessing of the students achievements these differences between assessors should be used by engaging dialogue with one another in the philosophy of assessing and the way assessors look upon the achievements of the students. It is strongly indicated that education in assessing highly predicts the assessor competencies. On the other hand, experience in assessing does not. It means that in order to obtain a high quality of assessing, education of assessing should have high priority in educational institutions. Self-efficacy in assessing is predicted by assessor competencies and not by other factors as years of experience in assessing, gender and domain expertise. In educating assessors, self-efficacy will be positively influenced by that education. Education in domain expertise is not a predictor of self-efficacy in assessing. Assessor competencies and self-efficacy in assessing are predictors of the quality of summative feedback. Delivering quality of summative feedback deserves a particular place in the education of assessors. In figure 3a, the education of assessors in delivering quality of summative feedback (VI) will be added to the model.

![Figure 3a. Adapted model of summative assessing](image)

There are found no indications that differences on the scales assessor competencies, self-efficacy in assessing, quality of summative feedback can be explained by the difference in experience in assessing and gender. Differences on the three scales are only explained by the variable ‘Education in Assessing’. These outcomes indicate that ‘Education in Assessing’ is a prevailing activity to enhance assessing to a higher standard in an educational institution. Further investigation is needed to determine the correlation between the opinion of assessors about their skills and the satisfaction of students on that matter.
References


