In the Beginning

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Introduction

Huba and Freed (2000, p.8) define assessment as “the process of collecting and examining information to develop a clear understanding of what students have learned from educational experiences.” This process reaches its zenith when the findings are used to improve future learning and achievement.

Teachers are the primary directors of assessment. Recent studies have indicated that teachers are beginning to incorporate peer assessment into their overall evaluation procedures (Dyck, 2003). Black, Harrison, Marshal, and Williams (2004) state that peer assessment enhances learning because of placing the work at the behest of students. Consequently, teachers are given time to enhance their reflective assessments of student performance and achievement.

Purpose

Volumes of research have documented the implementation of peer assessment in higher education (Falchikov, 1986; Huba & Freed, 2000). The literature doesn’t denote the impact of peer assessment on teacher education students. This study filled that void by investigating first-year teacher education students’ views of peer assessment.

In particular, this study sought to determine if:

- Race, gender, and past achievement have a statistically significant effect on first-year teacher education students’ perceptions of peer assessment;

- Statistically significant relationships exist between first-year teacher education students’ perceptions of evaluating and being evaluated by their peers; and

- Statistically significant differences exist between first-year teacher education students’ perceptions of peer assessment.

Significance of Study

Teachers evaluate and are evaluated by other people. This study highlights the importance of helping aspiring teachers to develop these skills during their first year in higher education.

Literature Review

Conant (1997) indicates that peer assessment

- Emphasizes the use of higher-order thinking skills;

- Extends social skills; and
- Creates a sense of self-empowerment and responsibility.

Race (2000) states that peer assessment teaches students how to objectively evaluate information. According to Boud (1995), peer assessment is used to evaluate projects such as essays, reports, portfolios, and presentations. Black, Harrison, Lee, Marshal, and Williams (2004) explain that peer assessment is an asset to learning. They state the reason is that students are usually more receptive to receiving criticism from their peers than from their teachers. Bulman (2003) reports that some students are leery of participating in peer assessment procedures. The reason is that many students feel that peer assessment is a very time-consuming process. They add that peer assessment pressures them to adhere to and achieve certain expectations. The students further relate that they don’t want their grades to be contingent upon other students’ opinions and feelings.

Some researchers (Kaufman, Felder, & Fuller 2000) question the validity of peer assessment. They reason that some students conspire to provide identical scores for performances. They add that personal biases may distort students’ evaluation of their peers’ performance.

Race (2000) indicates that there is an interchangeable relationship between peer and self-assessment. According to him, peer assessment allows students to use other people’s performances to learn more about their own work. Bulman (2003) posits that when engaging students in peer assessment, the teacher should involve them in every phase of the procedures. She states that the students should assist the teacher with identifying the aims, goals, and assessment criteria for the project. She further notes that students must also be allowed to develop some or all of the criteria for meeting this standards.

These procedures add objective validity, reliability, and transparency to the procedures (Race 2000). That is, the assessment consists of well-defined standards and criteria. The assessment procedures produce results that directly relate to the standards and criteria. They are also independent of an assessor’s individual involvement in creating the standards and criteria.

Research indicates that when knowing they will evaluate and be evaluated by their peers, students become extremely committed to producing exemplary work (Bulman 2003). Van Duzer and McMartin indicate that examination, reflection, and improvement should be the primary purpose of peer assessment. Using pre-established criteria ground rules, students should be able to freely discuss their observations of each other’s performances. When punctuated with written and numerical results, the feedback helps students to maximize and address specific strengths and weaknesses.

Race (2000) argues that students naturally evaluate and compare themselves to their peers. By implementing this evaluation system into the classroom, teachers allow students to approach peer ratings from academic and constructive points of view. In recent years, peer assessment has become a widely used teaching tool in higher education (Toppings 1998). Falchikov (1986) and Boud (1988) were some of the first researchers to argue that peer assessment can effectively enhance undergraduate student achievement.

In his study on the relationship between students’ and lecturers’ assessments, Orpen (1982) found that both groups gave similar scores on the same presentations. He specified that the students and the lecturers collectively developed the criteria for evaluating presentations. Juwah (2003) found that peer assessment enhanced students’ abilities to use interpersonal and intrapersonal skills to negotiate
distance learning. Smith, Cooper, Lancaster (2003) created an action research project that built Britain’s Lancaster University’s students’ esteem towards evaluating their peers’ psychology posters.

In analyzing the Pearson Product Moment Correlation results from their study on problem based learning, Segers and Dochy (2001) found that there was a statistically significant relationship between peer and lecture ratings. They also learned that there was no statistically significant relationship between peer and self-ratings.

Habeshaw, Gibbs, and Habeshaw (1993) relate that peer assessment helps undergraduate students to develop mature, autonomous, and critical thinking skills. In Australia and other third world countries, colleges and universities require students to participate in peer assessment procedures (Boud & Falchikov 1989). According to Boud and Falchikov (1989), these collegiate officials affirm that this process connects and guides students to independent learning and unlimited academic achievement.

Some literature has indicated that peer assessment is not always well-received in higher education (Swanson, 1991). Swanson (1991) indicates that many professors despise these procedures. The reason is that they would spend too much time on helping inexperienced students to become experienced evaluators. Further research reveals that college students are very skeptical of peer assessment (Sher, 2001). Many of them have expressed that peer assessment should be completed only by the lecturer (Crockett & Peters, 2002). Bostock (2000) indicates that some students even decline to participate in these procedures. This study examined these theories and interpretations in relations to peer assessment’s impact on the researcher’s first-year teacher education students.

Case Study

At the beginning of the semester, the researcher informed his first-year teacher education students that they would collaboratively develop the skills to evaluate each other. The researcher then informed the students that they would be required to deliver a group presentation of the book First In Flight: Helping Children To Soar In Middle School to their peers. Afterwards, the researcher and the students then decided that they would collectively evaluate the presentations.

At the researcher’s request, the students created the instrument for evaluating the presentations. The instrument consisted of 18 characteristics that included items such as “Topic Adherence”, “Knowledge of Subject”, “Visual Aids”, and Originality/Creativity. The instrument also developed a 3-point Likert scale for evaluating the performances. They designated 1 for “Poor Performance”, 2 for “Average Performance”, and 3 for “Above Average Performance.” Appendix A presents a complete description of this instrumentation.

During the ensuing weeks, the students used the rubric to develop their presentations. At the end of the semester, the students delivered their presentations. During each presentation, they paid close attention to their peers’ performances. At the end of each presentation, the students quantified and submitted their evaluations to the researcher. The researcher then added and averaged individual scores within each group. Afterwards, the researcher added and averaged his and the groups’ collective scores.

Additionally, the researcher use descriptive statistical procedures to analyze the overall frequency of responses for each characteristic. The researcher use the Pearson Product Moment Correlation
procedures to determine if statistically significant relationships existed between responses to the characteristics. The descriptive statistics indicated that majority of the students strongly felt that their peers delivered original and creative presentations. They also noted that their peers displayed excellent eye contact and command of the subject. Finally, the students related that their peers should continue to develop overall presentation skills.

In reviewing the Pearson Product Moment Correlation results, the researcher found that there was a statistically significant relationship between the students’ perceptions of their peers use of visual aids and development of an original and creative presentation, \( r = .58, p<.01 \). The researcher also found that there was a statistically significant relationship between students’ views of their peers’ presentation skills and knowledge of subject matter, \( r = .29, p<.01 \).

At the beginning of the following class, the researcher assembled panels consisting of a student from each group. The students then provided each other with constructive feedback on their performances. The students also returned to their original groups to discuss the performances. The researcher then provided the students with the evaluations of their performances.

Methodology

Sample

This study consisted of the researcher’s 66 freshmen students. The racial demographics were comprised of 51 Caucasian and 15 African-American Students. Of this same population, there were 18 male and 48 female students. Three of the students were below average achievers. Fifty-seven of the students were average achievers. Six of the students were above average achievers.

Instrumentation

The researcher issued the students a questionnaire and survey that assessed their opinions on peer assessment. The questionnaire consisted of five open-ended questions and one open-ended position statement. The questions were “How did you feel about evaluating your peers’ presentations?”; “How did you feel about being evaluated by your peers?”; “How did you feel about the professor being able to evaluate your performance?”; “Do you feel that the other students’ fairly and accurately evaluated your group’s presentation?”; and “How did you feel about developing the criteria for the presentations?”. The position statement asked students to support one of the following statements: “I was happy to participate in a collective presentation of First In Flight: Helping Children To Soar In Middle School.” or “I would have preferred to deliver an individual presentation of First In Flight: Helping Children To Soar In Middle School.”

The survey was divided into two parts. One part consisted of a demographic questionnaire that contained the independent variables of race, gender, and past achievement. Race was classified as “Black” and “White”. Gender was coded as “Boy” or “Girl”. Past achievement was classified as “Above Average”; “Average”; and “Below Average”. This construct was center on the students’ American College Test (ACT) scores. This test quantifies students’ preparedness for college-level work. The students received “Above Average” ratings if they earned 20 and or more points on the ACT. The students received “Average” ratings if they earned between 17 and 19 points on the ACT. The students received “Below Average” ratings if they earned less than 17 points on the ACT.
The other part of the survey consisted of 42 Likert-type item response statements regarding peer assessment. The first set of statements evaluated students' level of comfort with participating in peer assessment procedures. Responses were rated on a Likert scale of 1 (Not Comfortable) to 5 (Very Comfortable). The second set of statements evaluated students' feelings on being evaluating by their peers. Responses were rated on a Likert scale of 1 (Not In Agreement) to 5 (In Absolute Agreement). The third set of statements evaluated students' feelings on evaluating their peers. Responses were rated on a Likert scale of 1 (Not In Agreement) to 5 (In Absolute Agreement). The overall scores ranged from 42 (Not In Agreement) to 210 (In Absolute Agreement).

The survey was piloted on 50 undergraduate students and college professors who participate in peer assessment procedures. The survey was also piloted on a panel of 25 teachers who incorporate peer assessment into their class activities and professional evaluation procedures. Both groups identified the characteristics that comprised the survey. Consequently, they confirmed the content and construct validity of the instrument. Appendix B describes this survey.

**Data Analysis**

The researcher used Statistical Package For Social Sciences (SPSS, 2000) procedures to analyze the descriptive results of the students' responses. The researcher used the Factorial Analysis of Variance (ANOVA) and Pearson Product Moment Correlation procedures to determine if the results contained statistically significant differences and relationships. The Alpha Level was placed at .05 for the ANOVA procedures. The Alpha Level was placed at .05 and .01 for the Pearson Moment Correlation procedures.

**Findings**

**Qualitative Questionnaire**

Question 1: How did you feel about evaluating your peers' presentations?

Responsive Analysis: The responses indicated that an equal number of the students were both comfortable and uncomfortable with evaluating and being evaluated by their peers.

Actual Statements: “I didn’t really have any problem evaluating my peers. I think that it is a fair way to help balance out the grades”. “I felt that they couldn’t grade me as well as just the teacher could, because some peers like to be unfair”.

Question 3: How did you feel about the professor being able to evaluate your presentation?

Responsive Analysis: A few students revealed that they were extremely comfortable with the professor’s evaluation of their peers’ performance. Most of the students indicated that they...
were not really comfortable with the professor being able to evaluate their performance.

Actual Statements: “I think I know what this professor expects, so I was very comfortable”. “I was wondering if he was going to grade everyone hard. That’s why I’m glad we got our peers to grade us also”.

Question 4: Do you feel that the other students provided a fair and accurate assessment of your group’s “First In Flight” presentation? Explain your answer.

Responsive Analysis: All of the students indicated that they believed their peers fairly and accurately evaluated their performances.

Actual Statements: “Yes, we developed the criteria. So being evaluated by all was fair”. “Yes because they knew that everybody was grading everyone's!”

Question 5: How did you feel about developing the criteria for the presentation?

Responsive Analysis: Majority of the students stated that they were very comfortable with developing the criteria for the presentations.

Actual Statements: “A little relieved-I felt that the standards were not so demanding just because my peers and I set them”. “I thought it was neat for us to set our own criteria rather than just the basic rules”.

Position Statement A: I was happy to participate in a collective presentation of First InFlight: Helping Children To Soar in Middle School to my peers.

Position Statement B: I would have preferred to deliver an individual presentation of First In Flight: Helping Children To Soar In Middle School to my peers.

Responsive Analysis: Responses indicated that nearly all of the students were very comfortable with and happy to participate in a group to deliver the presentation. One student preferred to deliver an individual presentation.

Actual Statements: “I like participating with my other colleagues. It let me get to know them better and helped me to work better in a group”. “I enjoy individual presentations more, because you don’t have to worry about what everyone else got done!”

Survey

Descriptive Findings-Level of Comfort

Slightly more than three fifths of the first-year teacher education students (77.3%) were comfortable with evaluating their peers’ performance. Nearly six of ten students (59.1%) were comfortable with being evaluated by their peers. Slightly more than six of ten students (63.7%) were comfortable with the professor conducting an evaluation of their performance. More than eight-tenths of the students (81.8%) were comfortable with developing the criteria for the presentations. Nearly nine of ten students (87.3%) were comfortable with participating in a group presentation.
Descriptive Findings—Being Evaluated By My Peers

After being evaluated by their peers, six of ten first-year teacher education students (59.1 %) stated that they learned more about their skills and abilities. Seven out of every ten students (72.7%) agreed that they developed a better project. Nearly nine of ten students (86.4%) confirmed that they were able to better understand their peers’ unique strengths and weaknesses. Slightly more than three-fourths of the students (77.3%) agreed that they developed a better understanding of how to work in groups. A little more than nine of ten students (90.9%) agreed that they developed a better understanding of evaluation. Six out of every ten students (63.7%) agreed that they were able to better analyze their presentations. Eight of ten students (81.8%) agreed that they enhanced their higher order thinking skills. One-half of the students (50.5%) agreed that they felt a sense of empowerment. Only three-tenths of the students (31.8%) agreed that they felt a sense of ownership. Nearly eight out of ten students (77.3%) agreed that they developed their social skills. Six out of every ten students (63.7%) concurred that they compared their work to other projects. All of the students (100%) agreed that they were better prepared to receive constructive feedback from other people. More than eight of ten students (86.3%) agreed that they recognized the value in receiving other people’s opinions of their performance. Eight of ten students (81.8%) agreed that they understood how assessment improves learning. More than eight-tenths of the students (86.3%) agreed that they learned more about cooperative learning. Nearly two of ten students (18.2%) agreed that they would have preferred to conduct a self-assessment of their performance. Nearly one of ten students (9%) agreed that they would have preferred the professor to only evaluate the presentations. Nearly three of ten students (27.2%) agreed that the peer assessment is a time-consuming process.

Descriptive Findings—Evaluating My Peers

After evaluating their peers, three-fifths of the first-year teacher education students (59.1 %) stated that they learned more about their skills and abilities. About seven out of every ten students (69.2%) agreed that they developed a better project. Nearly three quarters of the students (72.7%) confirmed that they were able to better understand their peers’ unique strengths and weaknesses. Slightly more than seven of ten students (72.7%) agreed that they developed a better understanding of how to work in groups. Eight of ten students (80.8 %) agreed that they developed a better understanding of evaluation. Seven out of every ten students (72.7%) agreed that they were able to better analyze their presentations. Slightly more than eight of ten students (81.8%) agreed that they enhanced their higher order thinking skills. A little more than three tenths of the students (34.4%) agreed that they felt a sense of empowerment. Fifty percent of the students (50%) agreed that they felt a sense of ownership. A little more than one-half of the students (54.6%) agreed that they developed their social skills. Six out of every ten students (63.6%) concurred that they compared their work to other projects. Almost seven out of every ten students (68.1%) agreed that they were better prepared to receive constructive feedback from other people. Seven out of every ten students (72.7%) agreed that they recognized the value in receiving other people’s opinions of their performance. Nearly nine of every ten students (86.4%) agreed that they understood how assessment improves learning. Eight of ten students (81.8%) agreed that they learned more about cooperative learning. Two of ten students (22.7%) agreed that they would have preferred to conduct a self-assessment of their performance. Slightly more than a tenth of the students (13.6%) agreed that they would have preferred the professor to only evaluate the presentations. Almost four out of ten students (36.3%) agreed that the peer assessment is a time-
consuming process. Overall, eight of ten students (81.8%) agreed that peer assessment is a positive experience.

**Comparative Findings-Level of Comfort**

Results from the Factorial Analysis of Variance (ANOVA) procedures indicated that neither race, gender, past achievement nor the interactive effects of these variables had a statistically significant effect on the first-year teacher education students’ comfort with evaluating or being evaluated by their peers.

**Comparative Findings-Being Evaluated By My Peers**

Results from the Factorial Analysis of Variance (ANOVA) procedures indicated that race (\(F=11.794, p<.05\)) and gender (\(F=4.585, p<.05\)) had a statistically significant effect on first-year teacher education students’ feelings about being evaluated by their peers. Further results showed that the interactive effects of race and gender (\(F=37.999, p<.05\)) had a statistically significant effect on students’ perceptions of being evaluated by their peers.

**Comparative Findings-Evaluating My Peers**

Results from the Factorial Analysis of Variance (ANOVA) procedures indicated that neither race, gender, past achievement nor the interactive effects of these variables had a statistically significant effect on the first-year teacher education students’ views on evaluating their peers.

**Comparative Findings-Overall Peer Assessment Procedures**

Results from the Factorial Analysis of Variance (ANOVA) procedures indicated that the interactive effects of race and gender (\(F=9.167, p<.05\)) only had a statistically significant effect on the first-year teacher education students’ views of the overall peer assessment procedures. The Pearson Product Moment Correlation results indicated that there was a significant relationship between students’ views on evaluating and being evaluated by their peers, (\(r=.48, p<.05\)). The findings also revealed that there was a significant relationship between students’ comfort with participating in peer assessment procedures and being evaluated by their peers, (\(r=.54, p<.01\)). There was an even stronger relationship between students’ overall views of the peer assessment and agreement with evaluating (\(r=.82, p<.01\)) and being evaluated (\(r=.88, p<.01\)) by their peers.

No significant relationship was found between students’ views of evaluating their peers and comfort with participating in the peer assessment procedures.

**Summary/Conclusions**

The descriptive findings from this study indicate that the first-year teacher education students held positive views about peer assessment procedures. The findings also indicate that these students preferred that they and their peers have either an equal or more prominent role in the evaluation procedures than does the lecturer. This outcome runs counter to research implicating students’ preference to refrain from participating in the peer assessment (Bostock 2000; Sher 2001; Crockett & Peters 2002). The outcome further denotes that people are natural evaluators of their peers (Race, 2000). The comparative findings strongly suggest that race and gender had significant individual and
collective effects on the students’ perceptions of peer assessment.

In all probability, the reason, as indicated by Healey (2002), is that race and gender shape our perceptions of a variety of experiences. The correlate findings revealed that there was a concomitant relationship among the students’ views on peer assessment. They also indicated that these relationships were stronger at the .01 level than they were at the .05 level. Both correlations show that first-year teacher education students can be very receptive to reciprocal, hands-on teaching learning experiences. They further reveal that peer assessment can become a reliable, valid, and transparent instructional tool for aspiring teachers during their first year in higher education.

As such, colleges and universities should include peer assessment in the curricula designed for first-year teacher education students. As indicated in this study, these may help them to arouse and sustain the academic leadership skills to accurately assess their and fellow students’ performances and achievement.

References


First In Flight Helping Children To Soar In Middle School Group Presentation Evaluation Instrument

Directions: Please circle that best represents your feelings.

Poor Average Above Average

1. Knowledge of Subject 1 2 3

2. Audience Inclusion 1 2 3

3. Originality/Creativity 1 2 3
Appendix B

Peer Assessment

Survey/Questionnaire

Directions: Please check the appropriate box.

1. I am _____African-American ____Caucasian American

2. I am _____Male ____Female
Directions: Please circle the number that best represents your feelings.

1=Not Comfortable  2=Not Really Comfortable  3=Somewhat Comfortable  
4=Comfortable  5=Very Comfortable

1. Evaluating my peers’ presentations  1 2 3 4 5
2. Peers evaluating my presentation  1 2 3 4 5
3. The professor evaluating my presentation  1 2 3 4 5
4. Developing the criteria for evaluating  
the presentations 1 2 3 4 5
5. Participating in a group presentation  1 2 3 4 5

Directions: Provide a response to each question.

1. How did you feel about evaluating your peers’ presentations?

____________________________________________________________________

2. How did you feel about being evaluated by your peers?

____________________________________________________________________

3. How did you feel about the professor being able to evaluate your presentation?

____________________________________________________________________

4. Do you feel that the other students provided a fair and accurate assessment of your group's “First In Flight” presentation? Explain your answer.

____________________________________________________________________

5. How did you feel about developing the criteria for the presentation?

____________________________________________________________________

Directions: Respond to one of the following statement.

Position Statement A: I was happy to participate in a collective presentation of First InFlight: Helping Children To Soar in Middle School to my peers because........

Position Statement B: I would have preferred to deliver an individual presentation of First In Flight: Helping Children To Soar In Middle School to my peers because......
1. I learned more about my skills and ability. 1 2 3 4 5
2. I was able to develop a better project. 1 2 3 4 5
3. I was able to better understand my peers' unique strengths and weaknesses. 1 2 3 4 5
4. I developed a better understanding of how to work in groups. 1 2 3 4 5
5. I developed a better understanding of evaluation. 1 2 3 4 5
6. I was better able to analyze my presentation. 1 2 3 4 5
7. I enhanced my higher order thinking skills. 1 2 3 4 5
8. I felt a sense of empowerment. 1 2 3 4 5
9. I felt a sense of ownership. 1 2 3 4 5
10. I developed my social skills. 1 2 3 4 5
11. I compared my work to other projects. 1 2 3 4 5
12. I am better prepared to receive constructive feedback from other people. 1 2 3 4 5
13. I am able to see the value in receiving other people's opinions of my performance. 1 2 3 4 5
14. I can see how assessments improve learning. 1 2 3 4 5
15. I learned more about cooperative learning. 1 2 3 4 5
16. I would have preferred to conduct a self-assessment of my performance. 1 2 3 4 5
17. I would have preferred that the professor only evaluate performances. 1 2 3 4 5
18. I believe that the peer assessment is a time-consuming process. 1 2 3 4 5

After evaluating my peers’ performance

19. I learned more about my skills and ability. 1 2 3 4 5
20. I was able to develop a better project. 1 2 3 4 5
21. I was able to better understand my peers unique strengths and weaknesses. 1 2 3 4 5
22. I developed a better understanding of how to work in groups. 1 2 3 4 5
23. I developed a better understanding of evaluation. 1 2 3 4 5
24. I was better able to analyze my presentation 1 2 3 4 5
25. I enhanced my higher order thinking Skills. 1 2 3 4 5
26. I felt a sense of empowerment. 1 2 3 4 5
27. I felt a sense of ownership. 1 2 3 4 5
28. I developed my social skills. 1 2 3 4 5
29. I compared my work to other projects. 1 2 3 4 5
30. I am better prepared to receive constructive feedback other people. 1 2 3 4 5
31. I am able to see the value in receiving other people’s opinions of my performance. 1 2 3 4 5
32. I can see how assessments improve learning. 1 2 3 4 5
33. I learned more about cooperative learning. 1 2 3 4 5
34. I would have preferred to conduct
   a self assessment of my performance. 1 2 3 4 5

35. I would have preferred that the professor
   only evaluate performances. 1 2 3 4 5

36. I believe that the peer assessment is
   a time-consuming process 1 2 3 4 5

Overall Opinion of Peer Assessments

37. I believe that the peer assessment
   is positive experience. 1 2 3 4 5