# Reflections on Reflections: Learning Processes in Speech and Language Pathology Students' Clinical Education

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## Supervision

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## Reflections on Reflections: Learning Processes in Speech and Language Pathology Students' Clinical Education

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## Abstract

The investigators' goal was to study the early clinical education processes of students enrolled in a speech-language pathology program by analyzing content of their written reflections. In this study, the authors propose and apply a method of analyzing written reflections of the students during the first stages of their clinical education. Forty written reflections taken from the observation reports submitted by the students were compiled from the first and second year students of the Communication Disorders Department. A quantitative (number of words and clauses of the entire report and its content categories) and a qualitative analysis (based upon the three qualitative levels of reflections suggested by Boud, Keogh, & Walker, 1985) were performed. Results show that text length of reflections increased with learning. Students use different content categories at different stages of the learning period. The level of reflection used most frequently by the students is "returning to experience." The content categories raised by the students reflected complexity of the task, acquired knowledge of the students, and their ongoing experience. Written reflections may be used to evaluate the performance of students in the clinical education process.

## Introduction

Speech-language pathology university programs prepare students to provide effective clinical services. An essential component of these programs is to evaluate the clinical performance of the student (Brueggeman, 2006; McAllister, Lincoln, McLeod, & Maloney, 1997; Mendel, 2006). The traditional method for evaluating students' clinical performance is through judging the quality of their performance by the clinical supervisors or by consumers (Pershey & Reese, 2002).

Evaluation of performance by others is better applied during the later stages of clinical training, when students are working under the direction of a supervisor. Self-evaluation, however, has been described as a learning process in which individual students set goals for their clinical work and evaluate their progress toward reaching these goals. The self-evaluation tool can be used from the onset of clinical education through advanced levels of clinical

education. It should be noted that this tool is not only intended for use in clinical education, but can also be applied throughout one's lifelong professional experience.

The investigators' goal was to study the early stages of student self-evaluation in the clinical training process by analyzing the content of their written reflections. Motivation for the study arose during the development of a new speech-language pathology program. The results of this study may provide data for evaluation of both the performance of the students and of the program.

The ability of an adult learner to reflect on his/her own performance is an essential component of the learning process (Brookfield, 1995; Knowles, 1980). Lincoln, Stockhausen, and Maloney (1997) have stated that self-evaluation is essentially reflection about the adequacy of personal clinical skills and professional conduct. Boud (1992) suggested that self-evaluation provides a tool for students to evaluate their performance, monitor their progress, and set meaningful learning goals.

The process of achieving skills for self-evaluation has been described as a continuum of supervision (Anderson, 1988; Bingham 1993). This continuum of supervision involves three developmental stages: evaluation-feedback, transition, and self-supervision. Bingham argues that reflection is a learned process. Bingham suggests that, before reflective processes can be effective, the student must have a good knowledge base and observation skills in order to be able to store key information into memory.

The clinical education process aims to develop students' clinical observational skills from naive natural observers to clinical observers capable of making inferences and reflecting on clinical issues (Epstein, 2008; Gillam & Gillam, 2008; Pena & Kiran, 2008).

In the speech-language pathology program presently studied, students are required to observe individuals in different clinical settings and to report their observations. During the first year, students observe typically developing children in their natural environment. During the second year, students observe non-typically developing children in clinical and special education settings. Students are required to submit a written report for one case during each observation day. The report format differs according to the level of the students. First year reports include a brief description of the contexts observed; a description of the child; and a description of her/his motor, language, social, and emotional behavior. Second-year reports add to the above a description of the interaction between the child and the clinician and the tasks performed during the observation. In addition, all students are required to write a reflection at the end of each report.

The observations take place once a week, for one semester during the first year and for two semesters during the second year. Students participate in structured group supervision meetings that prepare them for the tasks they are required to observe. Peer supervision is encouraged during this process. The supervision meetings are held before, during, and after the observation sessions. The supervisors read and comment on the observation reports. Supervisors may need to meet with some of the students individually for additional tutoring.

It should be noted that, although students are not performing a physical activity during the observation process, they are performing a mental "action" (Kolb, 1984; Kolb & Fry, 1975) that is mediated by language and inner feelings. The product of this action is expressed in students' written reflections indicating how observations are interpreted (Clarke, 2003; Parkinson, 2008). Thus, the reflection becomes the medium by which the student delivers the interpretative process (Usher, 1993). This process involves reviewing experiences, connecting with the feelings of the observer, and relating to previous knowledge. Schön (1983) described these activities as "reflection-in-action," and "reflection-on-action." According to Schön, this activity entails building new understandings to inform our actions of the situation that is unfolding.

Dewey (1993) defined reflective thought as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and further conclusions to which it tends" (p. 118). In every case of reflective activity, a person is confronted with a given, present situation from which the individual has to arrive at, or conclude to, something that is not present. According to Dewey, this process of arriving at an idea of what is absent on the basis of what is at hand is an inference. The authors propose to apply content analysis to the written reflections. This analysis will determine students' focus of interest based on the aspects of the observation they chose to reflect.

Boud et al. (1985) added to the work of Dewey and addressed the issue of emotions, stating that reflection is an activity in which people "recapture their experience, think about it, mull it over and evaluate it" (p. 19). These authors described three aspects of reflection:

- Returning to experience—recalling or detailing salient events
- Attending to (or connecting with) feelings—includes two aspects: using helpful feelings and removing or containing obstructive ones.
- Evaluating experience—involves re-examining the experience in light of personal intent and existing knowledge. It also involves integrating new knowledge into the personal conceptual framework.

(Boud et al., 1985, pp. 26-31)

Boud et al. (1985) argued that aspects of reflections can be used to determine the qualitative level of the reflections—recalling or detailing attending to feeling, and evaluating experience. These three qualitative levels of reflections will be applied to determine the students' level of written reflections.

The aim in this study is to determine whether those tools (content analysis and qualitative level analysis) are effective in evaluating the learning that occurs during the clinical education process. Based on Bingham (1993), it is assumed that the content discussed in the reflections will reveal the complexity of the task, the acquired knowledge of students, and their ongoing experience.

### Methods

#### Participants

The analysis was applied to 40 written reflections. The texts were compiled from the reports of first and second year students of the Communication Disorders Department (all the first and second years students gave approved consent to the anonymous use of their texts in the study). Ten students from each year (first and second year students) were selected randomly. Two reflections were obtained from each student, one at the middle and one at the end of the year. The students were all female between the ages of 21-25 years.

#### Procedure

Students were required to complete a report after the observations had been performed. The task included two parts: a descriptive and a reflective one. For first year students, the descriptive portion included the following categories: description of the contexts observed; description of the child; and description of motor behavior, language behavior, and social and emotional behavior. For second year students, the following categories were added: description of the interaction between the child and the clinician, and the activities performed during the observation. The 'Other' category was included to describe all other content referred to by the students in their reflections that were not previously included in the report. Other categories included: general, expectations, disorder, cognitive, and clinician.

For the reflective portion of the report, the students were given these guidelines:

- Summarize the observation.
- Introduce an issue or a problem that is of special interest to you and discuss the issue
- Write about your thoughts and feelings aroused by the observation.
- Describe what you would choose to do differently in a future observation.

The analysis was performed on the reflection portion of the report. The above-described categories of the descriptive portion of the report constituted the basis for the content categories analysis from category 1 to category 7. Five additional categories that were not included in the original report format were retrieved from the students' reflections (from number 8.1 to number 8.5).

The following categories were found in the texts:

- 1. Context—this category included descriptions of the place and activities performed during the therapy session. For example: "During the gathering, the children talked about two subjects: the holidays and the autumn" [Y., first year/first reflection].
- 2. Child—this category included general descriptions of the child being observed. For example: "M. a four year old boy shows remarkable difficulty in almost all language areas" [T., second year/second reflection].
- 3. Motor behavior—this category included descriptions of the motor behavior of the child. For example: "In spite of the delicate and meek behavior exhibited by the child, I was able to observe a large range of movements that she performed well" [N., first year/second reflection].
- 4. Language—this category included descriptions of the language behavior of the child. For example: "She is at the two word utterance stage of development" [S., second year/first reflection].
- 5. Social/emotional—this category included descriptions of the social and emotional behavior of the child. For example: "Y. is a friendly girl, and most of the time she takes the leadership role" [R., first year/first reflection].
- 6. Interaction—this category included descriptions of the interaction between clinician and child during the therapy session. For example: "The SLP gave an immediate explanation of the words C. did not understand, or articulated the words he could not recall" [Y., second year/first reflection].
- 7. Tasks—this category included descriptions of the tasks performed during the therapy session. There were no examples of this category in the reflections.
- 8. Other—this category included all the additional categories that were found in the students' reflections and were not included in the original report format.
- 8.1 General—this category included general statements about the observation. For example: "I participated in almost all the activities performed during the observation" [D., first year/first reflection].
- 8.2 Expectations—this category included descriptions of the expectations of the students regarding future observations and future professional expectations. For example: "In a future observation I would like to observe U. interacting with her mother" [M., first year/second reflection].
- 8.3 Disorder—this category included descriptions of the disorders demonstrated by the child. For example: "SLP explained that S. shows a decrease in attention span and she reported that S. is being assessed for a possible hearing impairment" [T., second year/second reflection].

- 8.4 Cognitive—this category included descriptions of the cognitive behavior of the child. For example: "My impression was that compared to his peer group, Z. was cognitively more developed and more mature" [R., first year/second reflection].
- 8.5 Clinician and other staff—this category included descriptions of the clinician or other staff. For example: "The clinician shows a very good relationship with all the children and she is attached to them and they all love her a lot" [E., second year/first reflection].

The reflective portion of the report was also analyzed using three levels suggested by Boud et al. (1985):

- 1. Returning to experience—this category includes descriptions of details and salient events observed by the students (see examples in the content categories).
- Attending to (or connecting with) feelings—this category includes two aspects: using helpful feelings and removing or containing obstructive ones. For example, "Sometimes during the observation I felt as if L. knows that I was observing her and it gave me an unpleasant feeling" [M., first year/first reflection].
- 3. Evaluating experience—this category includes re-examining experience in the light of personal intent and existing knowledge. It also involves integrating this new knowledge into a personal conceptual framework. For example: "G.'s language problem is probably caused by a combination of factors hearing loss, reduced linguistic stimulation and her cultural background. I think that even though the SLP has put a lot of effort into working with the child, the language improvement will not reflect her capabilities because of the lack of family support." [E., second year/second reflection].

## Analysis

Two kinds of analysis were performed: quantitative and qualitative analysis.

In the quantitative analysis, within each content category, the number of words used were counted. Each of the two authors independently analyzed the texts and disagreements were discussed to resolve differences.

In the qualitative analysis, within each one of the three levels suggested by Boud et al. (1985), the number of words used was counted. Each of the two authors independently analyzed the texts and disagreements were discussed to resolve differences.

#### Results

Sample sizes and partial dependence (same subjects within years, different subjects between years) exclude formal multi-period statistical analysis. Thus, analysis was performed and reported for feasible pair-wise comparisons (reflections within and between years).

#### **Quantitative Analysis**

The text length of the reflections generally increased with time: differences between students' first and second reflection during the first year were significant (t=2.50, df=9, p-value= 0.017). Differences between the students' first and second reflections during the second year were not significant (t=1.05, df=9, p-value=0.16). Differences between first and second year reflections were significant (t=1.856, df=18, p-value=0.04).

The students used different content categories depending on whether they were first or second year students, as shown in figure 1. In this figure, the categories have been ordered by decreasing overall frequency of use. The bar corresponding to each category displays the percentage of use of this category for first and second year students. All figures display the distribution of categories (by percentages). The categories are displayed by numbers as described above: (1) Context, (2) Child, (3) Motor, (4) Language, (5) Social/emotional, (6) Interaction, (7) Tasks, (8) Others, (8.1) General, (8.2) Expectations, (8.3) Disorder, (8.4) Cognitive, (8.5) Clinician and other staff.

Figure 1 shows that the first and second year students chose to reflect on different content. Figures 2 and 3 split the year totals of figure 1 by the first and second reflection. The distribution is shown by the percentage of words used in each category in ranking order.



Figure 1: Distribution of categories by year

Figure 2 shows that first year students chose to refer primarily to three content categories: (5) Social/emotional, (4), Language, and (8.1) Other–General. The Language category increased from the first to second reflection while the categories Social/emotional and Other-General decreased in use.





Figure 3 shows that second year students chose to refer primarily to six content categories: Disorder (8.3), Clinician and other staff (8.5), Interaction (6), Language (4), Social/emotional (5), and Other–General (8.1). The Language, Interaction and Clinician and other staff category increased in use from the first to second reflection. Social/emotional, Other-General and Disorder categories decreased in use.



#### Figure 3: Distribution of categories in 2nd year reflections

#### **Qualitative Analysis**

The use of the three levels of reflection for all reflections during first and second years was consistent. The level "returning to experience" was mostly represented in the students' reflections, the level 'evaluative experience' was partly represented and the level 'attending to feelings' was rarely represented (Table 1).

Table I shows the percentage of words for each level taken from the total number of words in each group of 10 students:

Table I. Three levels o	f reflection	for first and	second year reflections	(In percentages of words)
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	Returning to Experience	Attending to Feelings	Evaluating Experience
1 <sup>st</sup> year Rep 1:	65	5	30
1 <sup>st</sup> year Rep 2:	54	2	44
2 <sup>nd</sup> year Rep 1:	57	0	43
2 <sup>nd</sup> year Rep 2:	72	1	27
Average:	62	2	36

"Returning to experience" was the most prominent level used by the students (62% of the words, averaged over all students), 'Evaluating experience' was less prominent (36% of the words) and 'Attending to feelings' was used the least by the students (2% of the words).

## Discussion

The results of the quantitative and qualitative analysis show that the written reflection may be a useful tool to evaluate students' performance in the clinical education process. The content discussed in the reflections demonstrated the complexity of the task, the acquired knowledge of the students, and their ongoing experience.

Comparison of text length within and between years showed there was a development in the acquired skills of the students. The growth of text length within the first year and between first and second years suggests that students learned to observe and report their observation. Furthermore, students were able to apply newly acquired knowledge in their reflections. The students' learning process was indicated by the distribution of categories within each year (Figures 2 and 3). According to Bingham (1993), reflections improve with the knowledge acquired. For example, the increment in the Language category (4) from first to second reflection in both sets of students may be related to increased knowledge in the area of Language.

Another example of students' learning to focus on relevant categories was seen in the significant decrease in the number of words used in the Social/emotional category (5). Sixty percent of the words were dedicated to this category in the first reflection of the first year, then decreased to 35% for the second reflection of the same year, and further decreased to 5% at the end of second year. These results showed that when students first began the program, they relied on their personal experience and knowledge in this area and then later learned to focus on newly acquired knowledge and experiences that were specific to the profession (Cox & Lum, 2004).

Differences in length of first and second reflections within second year students were not significant. It is possible that the text length reached an adequate level demonstrating the students' ability to focus on specific categories and ignore other categories. For example, students chose to focus on the Interaction (6) and the Clinician and other staff (8.5) categories showing the shift in relevancy for the students in the clinical process. These categories increased between first and second reflections. The amount of text content dedicated to a category may reflect the points of relevancy to the students at a certain stage in their learning process.

An interesting result was that in spite of being included in their report, the second year students ignored the Task category (7). It may be that students at this stage of their education were not able to reflect on the hidden purposes of the clinical tasks. Alternatively, it may be that the students relate to the tasks as concrete activities and therefore did not find it necessary to reflect upon them.

The analysis of the three levels of reflection showed that the most prominent level used by the students was "returning to experience," with the level "evaluating the experience" following. Students rarely used the level "Attending to feelings." First year students' observation skills were limited by their contextual and theoretical knowledge. This was demonstrated by the prominent use of the level "returning to experience." Second year students were able to reduce their information load because they learned what was relevant and they could rely on inference. According to the results, students did not increase the use of the level "evaluating the experience" or the level "attending to feelings" as was expected. Bingham stated, "the teaching of thinking, such as reflection, does not require huge changes in what we teach but it may require a change in emphasis and some change in how we directly teach thinking skills" (1993, p. 13). Following his suggestion, the authors intend to change the focus of the second year training program in a manner which will provide more emphasis to the levels that were used less frequently by students.

The amount of text content dedicated by the student to each category may reflect the level of the student in the continuum of his/her learning process. This method of analyzing written reflections may be used to evaluate students during their clinical education process.

The supervisor may grade students according to the content categories and levels of their reflections. Moreover, during the supervisory session, the supervisor may provide feedback to the supervisee based on the content and level of the reflection. For example, if a first year student writes a reflection that focused primarily on the content category "motor behavior," the supervisor may point out that there are other content categories to reflect upon. Likewise, if a second year student writes a reflection without relating to the level "feelings," the supervisor may request this level of reflection be included in the next observation report. It is well accepted that the ability of students to integrate theoretical knowledge with clinical observation is critical to the clinical education process (McAllister & Rose, 2000). The inclusion of writing a reflection after each observation may contribute to the learning process by encouraging students to analyze their written reflections for the purpose of self-evaluation. Thus, the written reflection may be an effective tool for supervisors to use during the clinical education process.

There are several limitations to this study. First, the number of texts analyzed is limited, and future studies will include a larger sample size. Second, the study should also follow the same student each year in order to better describe the changes in the educational process. Additionally, the results of this study should be compared to the analysis of written reflections produced by students from other clinical education programs in Speech-Language Pathology.

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