

- **An action learning experience for speech-language pathology students: On the experience of having dysphagia for a day**
- **Un apprentissage pratique pour les étudiants en orthophonie : faire l'expérience de la dysphagie pendant une journée**

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Abstract

The purpose of this study was to give graduate students in speech-language pathology an opportunity to experience texture-modified foods and therapeutic swallowing strategies from the viewpoint of a patient.

Over the course of 4 years, 95 speech-language pathology students participated in a daylong learning experience. At breakfast time, the students fed each other porridge and thickened coffee. At lunchtime, the students ate a meal of pureed food and thickened liquids using the Supraglottic Swallow and the Mendelsohn Manoeuvre. Following each meal, the students gave feedback about their experiences using a self-administered survey containing both open and closed response options.

The student feedback was highly consistent across the 4 years. Students reported dislike of the modified food textures and had difficulties employing the swallowing techniques. In all 4 years, the students had feelings of discomfort and loss of control. Nevertheless, the overall assessment of the daylong experience was very positive. Students endorsed the experience and recommended that the workshop be repeated for future students. The students considered the experiential learning experience useful to supplement the academic teaching of dysphagia therapy. The students reported that the experience had meaningfully added to their learning and that it would help them become more caring and empathetic clinicians.

Abrégé

La présente étude visait à offrir aux étudiants en orthophonie l'occasion de faire l'expérience d'aliments à texture modifiée et de stratégies de thérapies de déglutition du point de vue du patient.

Au cours de quatre années, 95 % des étudiants en orthophonie ont participé à une expérience d'une journée. Au déjeuner, ils se sont fait mutuellement manger du porridge et boire du café épaissi. Au dîner, ils ont utilisé la déglutition supraglottique et la manœuvre de Mendelsohn pour manger de la purée et des liquides épaissis. Après chaque repas, les étudiants ont donné leurs impressions en remplissant un sondage volontaire contenant des choix de réponses ouvertes et fermées.

La réaction des étudiants a été très uniforme au cours des quatre années. Ils ont signalé leur aversion de la texture modifiée des aliments et ont rapporté avoir de la difficulté à employer les techniques de déglutition. Les étudiants ont éprouvé un sentiment d'inconfort et de perte de maîtrise. Néanmoins, ils ont dans l'ensemble évalué de manière très positive leur journée. Les étudiants ont appuyé l'expérience et ont recommandé que l'atelier soit répété pour les futurs étudiants. Les étudiants ont jugé que leur apprentissage par l'expérience était utile pour enrichir

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leur formation théorique sur la thérapie de la dysphagie. Les étudiants ont signalé que l'expérience avait été valable et qu'elle les aiderait à devenir des cliniciens plus compatissants et compréhensifs.

Keywords: dysphagia, swallowing disorders, speech-language pathology, action learning, experiential learning

INTRODUCTION

It is common practice to adjust food textures and to use special swallowing techniques to prevent or reduce swallowing impairments in patients with dysphagia (Langmore, 1999; Logemann, 1999). In patients in whom the swallowing disorder becomes a longer-term problem, eating may lose its pleasure. It has been shown that swallowing disorders are a major component contributing to loss of quality of life in patients with various etiologies, including stroke, head and neck cancer and progressive degenerative diseases (Schliephake, Neukam, Schmelzeisen, Varoga, & Schneller, 1995; Schliephake, Ruffert, & Schneller, 1996; Tibbling & Gustafsson, 1991; Ward, Bishop, Frisby, & Stevens, 2002). Recent research has started to evaluate not only the physiological safety but also the acceptability and pleasurability of texture-adjusted dysphagia diets (Ballou Stahlman, Mertz Garcia, Hakel, & Chambers, 2000; Cassens, Johnson, & Keelan, 1996; Kemp, 2001; Stahlman, Garcia, Chambers, Smit, Hoag, & Chambers, 2001). Personal food preferences have been referred to as important components of an individual's 'lived history', and any patient who has to follow a new dietary regimen has to adjust and relearn his or her preferences (Ferzacca, 2004).

The swallowing experience from the patient's perspective is not well studied in the literature. There is recent evidence that a great disparity exists between clinicians' and patients' perceptions of swallowing complications (Martino, 2004; Martino et al., 2006). While the focus of clinicians tends to be on swallowing safety and biomedical outcomes, patients with dysphagia perceive psychosocial issues, such as isolation, embarrassment and depression, as the most relevant. One reason for this disparity is that clinicians have historically been trained to focus on the disease and less on the patient as a complex being with individualized needs. The current paradigm shift in the health professions to a more patient-centred model of care demands that clinicians think beyond only the curative intentions of their actions and also consider patient expectations and perceptions when making their treatment decisions.

In Canadian universities, speech-language pathology is taught in intensive graduate programs, which vary between 2-3 years in duration. The focus of the academic programs is on theoretical knowledge and there may be little opportunity for students to learn about the patient perspective. To be effective and competent speech-language pathologists, students need to develop an appreciation for the possible psychosocial implications of their therapeutic interventions. A standard teaching approach would not have enabled our students to gain a life-like experience. We therefore augmented our conventional classroom learning with the alternative pedagogical model of Experiential Learning, also often called 'Action Learning' (Kolb, 1976). The concept of Experiential Learning is modelled on the way in which learning will occur spontaneously throughout the lifespan. Kolb (1976, 1984) postulates that a learning process begins with an experience ('concrete experience'), which is digested through reflection ('reflective observation'). The experience and reflection are then synthesized into a new individual theory ('abstract conceptualization'). This theory can be generalized to other life situations and corresponding hypotheses can be generated and tested ('active experimentation').

We devised a one-day experience that gave our students the chance to experience a texture-modified diet and to employ feeding and swallowing techniques. Throughout the day, two key elements of the experience were surprise and reflection. This paper reports on the practical organization of the day and discusses both quantitative and qualitative feedback from the students.

METHODS

Participants

During the 4-year period from 2001 to 2004, 95 students were enrolled in the professional Master of Health Sciences program in the Department of Speech-Language Pathology at the University of Toronto. Eighty-nine students were female and six students were male. This gender distribution is normal for a professional speech-language pathology program in North America. The learning experience took place halfway through the fall term of the second year of the professional program. During this term, the students took concurrent courses on Aphasiology (60 hours), Motor Speech Disorders (60 hours), Craniofacial Syndromes and Cancer (45 hours), Swallowing Disorders (30 hours) and Neurodegenerative Communication Disorders and Traumatic Brain Injury (30 hours).

Structure of the experience and data collection

The Ethics Review Board at the University of Toronto reviewed the events and procedures that were planned and implemented during the experience day. The students were not given any information about the contents of the experience day other than the date and time and the information that all meals and drinks would be provided. The students, who were all in their second year in the program, were asked not to share any information about the learning experience with the current first-year students in order to preserve an element of surprise.

The dysphagia experience was designed to occur during two meals, breakfast and lunch. For breakfast, the students were served oatmeal, thickened coffee (honey consistency) and thickened fruit juice (honey and nectar consistency). The students were paired up in teams of two and took turns feeding each other for 10 minutes. After breakfast, all students independently completed a self-administered questionnaire about their experience. The students rated different aspects of their experience relating to their role as the feeder and as the person being fed. For the rest of the morning, the students participated in another experiential activity related to different methods of augmentative and alternative communication but no details of this activity will be reported here.

At lunch, the students were served a pureed meal, accompanied by thickened fruit juices. Over the 4 academic years, the structure and components of the experience day were held constant. The only difference between the years was the pureed food served at lunchtime. In the first year, the students were served pureed pizza. The crust and the toppings of the pizza were blenderized separately and served as a two-tiered puree. In the second year, all students were given a can of high-energy liquid formula food to which they added thickener powder to achieve a honey-thick texture. In the third and fourth year, the students were served pureed potatoes, vegetables and meats that were provided by a professional hospital food provider.

Before they started their meal, the students were instructed how to use the Supraglottic Swallow and asked to eat and drink with this manoeuvre. About halfway through the meal, the students were instructed on the use of the Mendelsohn manoeuvre and instructed to finish the meal using this swallowing technique. Immediately after completing the meal, the students independently completed a self-administered questionnaire about the lunchtime meal experience.

Following the completion of the lunchtime meal and the questionnaire, the students shared their breakfast and lunchtime experiences in a semi-structured group discussion facilitated by the instructors. Following the discussion, all students independently completed a final questionnaire that summarized their opinion about the overall value of the daylong learning experience.

Student feedback and analysis

All students gave independent feedback using the

same self-administered questionnaires for all 4 years. The questionnaires had quantitative as well as qualitative components. The quantitative components required students to rate their agreement or disagreement with a statement along a five-point Likert scale. Terminal descriptors ranged from *strong agreement* to *strong disagreement*. The qualitative components of the questionnaires were open-ended questions asking students to share their impressions of various aspects of the learning experience.

The quantitative feedback was summarized in a statistical spreadsheet software and the mean values and standard deviations for the responses were calculated and reported. In order to probe for statistically significant differences in the responses of the 4 years of students, we calculated non-parametric Kruskal-Wallis tests with Mann-Whitney U-tests as the post-hoc measure. The level of significance was set at $p = 0.05$. In order to avoid any type II error (deeming meaningful differences statistically insignificant), no Bonferroni adjustment of the p was made (Perneger, 1998). The qualitative feedback was summarized according to the most frequently recurring topics and common themes were identified.

RESULTS

Breakfast - Quantitative feedback

The breakfast evaluation questionnaire was subdivided into two parts. The first part of the questionnaire evaluated the experience of the feeder, and the second part evaluated the experience of the person being fed. All students switched roles during the task; therefore they all had experience with both roles. The questions and the bar graphs of the results can be found in figures 1 and 2.

For their role as feeders, the majority of students reported a good level of comfort (questions B1 and B2) and awareness of the importance of eye contact while feeding their colleagues (questions B3 and B4). Students in Years 1 and 2 were less concerned than Years 3 and 4 about the length of the feeding session (question B5). With the exception of year 4, approximately half of the students asked about the feeding preferences of the person they were feeding (question B6). The students were neutral on the question of whether they had been tempted to end the feeding session prematurely (question B7).

In their role as the person being fed, the students reported lower initial comfort levels but became more comfortable with the experience over time (questions B8 and B9). The students reported satisfactory eye contact with the feeder (question B10) that did not fluctuate much over time (question B11). Again, students were neutral on the length of the feeding session (question B12). The students felt that their personal feeding styles were reasonably met (question B13). However, many students were tempted to refuse feeding before the portion was fully eaten (question B14). In the overall evaluation of the breakfast task, a high number of students reported that the breakfast task helped them to develop more empathy for their patients (B15).

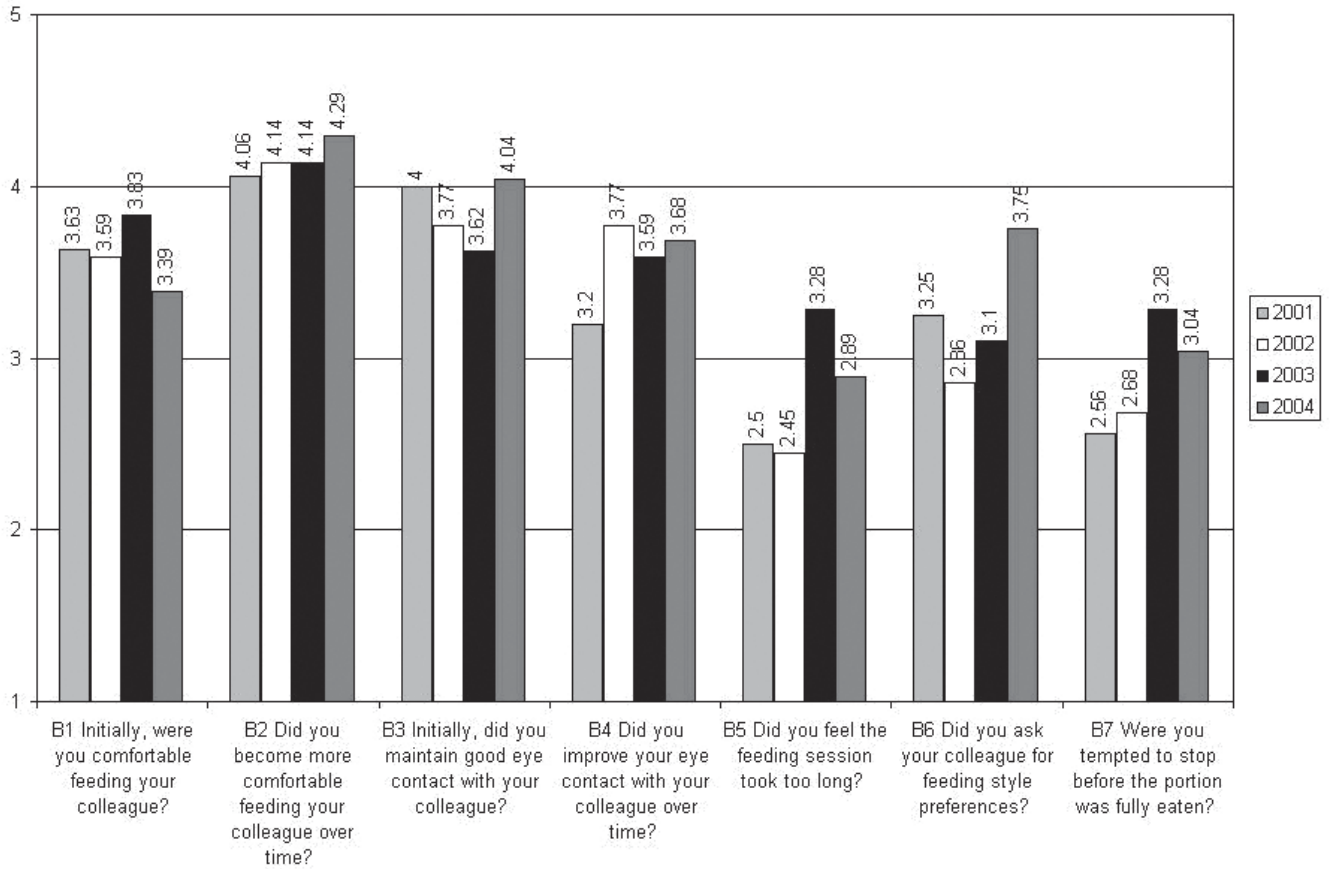


Figure 1. Results for the first part of the breakfast questionnaire: Feeder experience. (1 = Strong disagreement; 2 = Disagreement; 3 = Neutral; 4 = Agreement; 5 = Strong agreement).

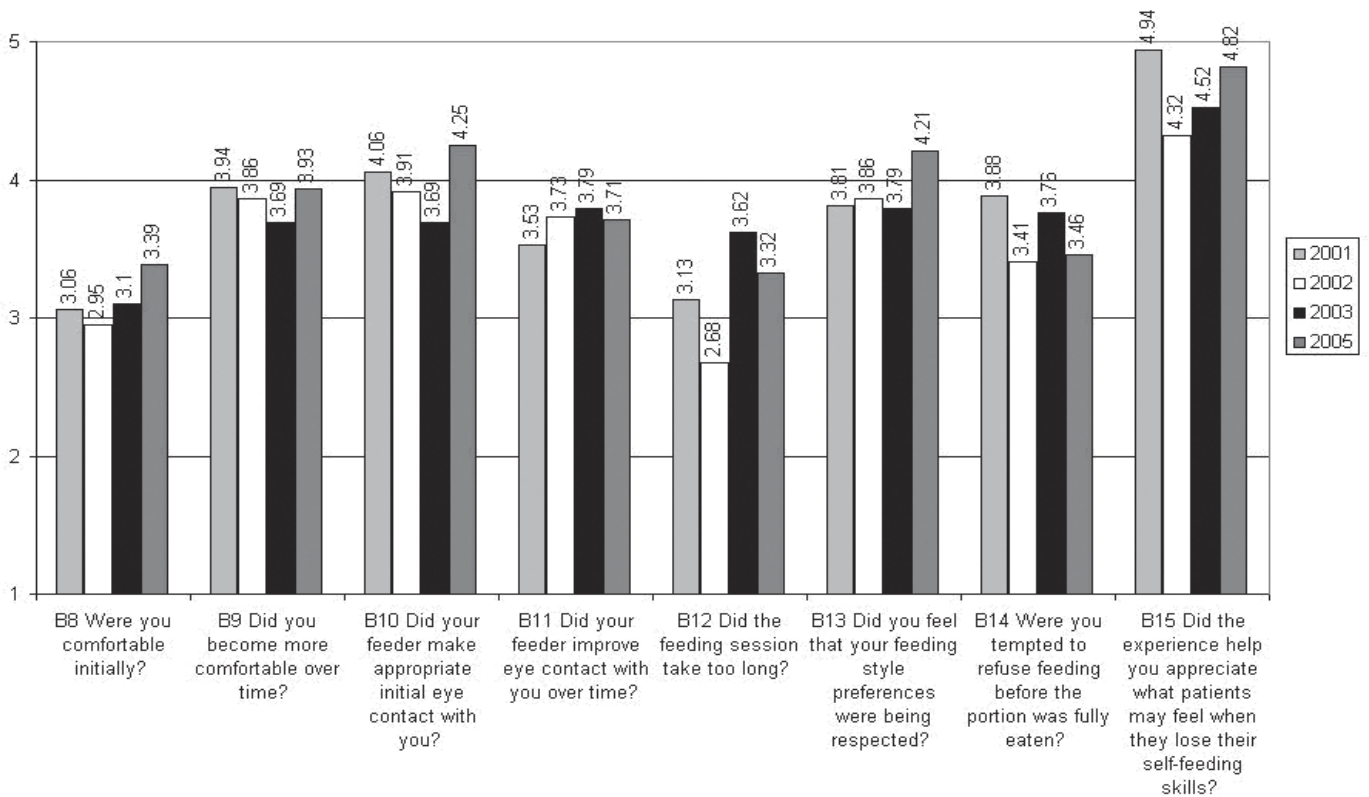


Figure 2. Results for the second part of the breakfast questionnaire: Experience of the person being fed (1 = Strong disagreement; 2 = Disagreement; 3 = Neutral; 4 = Agreement; 5 = Strong agreement).

In order to evaluate the consistency of the student feedback for the breakfast questions across the 4 years, we calculated Kruskal-Wallis tests for all questions. No statistically significant differences were found among the 4 years of students.

Breakfast - Qualitative feedback

The qualitative analysis of the student's written comments provided additional insights. Most students felt reasonably comfortable in their role as feeders, and a number of students commented that they had previous experiences feeding children and relatives. A concern voiced by a number of students related to the feeding speed and the portion sizes when feeding another person:

"I tended to give only very small portions because I was not sure how much she could handle. I slowly increased the amounts of oatmeal on the spoon. I also was not sure when and how often to give her the juice."

Other concerns focused on the textures of the food that was fed. In particular, many students found that the thickened dairy and coffee products held little appeal.

"I would confidently feed a patient oatmeal and thickened juice but not the thickened dairy or coffee."

In their role as the person being fed, the students reported feelings of loss of control and helplessness. Many students commented that they were only able to eat very little food.

"This experience really illustrated the loss of control that is experienced by the patient."

"I hated being fed, even though my colleague did her best to make me feel comfortable. I was full after just a few bites."

The other common theme focused on the texture and the taste of the oatmeal breakfast and the thickened liquids. In particular, many students commented negatively on the thickened liquids.

"I had an awful feeling of gagging while trying to swallow. The food was visually unappealing, and being fed with a spoon was unpleasant."

"NO WAY. The liquids are DISGUSTING. My stomach turned each time I tried to drink the 'delicious ready-to-serve' thickened juice."

Lunch - Quantitative feedback

The questions and bar graphs of the results for the lunchtime questionnaire can be found in Figures 3 and 4. The students reported that neither the pureed food nor the thickened liquid were enjoyable (questions L1 and L2). While feeding themselves was easier than being fed during breakfast (question L3), students reported that they took in lesser quantities than they would have during a typical normal meal (question L4) and that they were still feeling hungry and thirsty after lunch (question L5). While students were neutral on the question of eating a similar meal in front of friends (question L6), they were apprehensive about eating it in a restaurant (question

L7). In terms of swallowing techniques, the students consistently reported that the Supraglottic Swallow was much easier than the Mendelsohn manoeuvre (questions L8 and L9). However, the students also commented that it would have been very hard to use either of the techniques for the whole meal (question L10). Overall, the students agreed that the surprise element added to the quality of the experience (question L11) and that the experience was helpful for their understanding of the patient perspective (question L12).

In order to evaluate the consistency of the student feedback for the lunch questions across the 4 years, we calculated Kruskal-Wallis tests for all questions. No statistically significant differences were found among the 4 years of students.

Lunch - Qualitative feedback

The qualitative student feedback for the lunch task indicated that the students felt disappointed with the meal. Many students reported that they were still hungry, mostly because they had not been able to eat regular sized portions.

"I really couldn't do it. I lost my appetite completely."

"I was very thirsty but the thickened liquids did not quench my thirst. If I was faced with the prospect of having to eat this food all the time, I really would not consider eating an enjoyable activity anymore."

Some students reflected on their own preferences regarding food textures. In particular, a number of students commented that pureed or overly soft foods could make them gag.

"I can't handle textures that don't have to be chewed. I had to chew the liquid and the puree. I am so hungry!"

However, even though many students felt hungry and unsatisfied by the meal, the overall evaluation of the experience was highly positive.

"I still feel very hungry – but it has been a good experience. It helps me appreciate the solid food types that I am able to eat and the frustrations of an individual who cannot eat the foods he or she prefers."

"This experience was great because I can better relate to preferences and dislikes of my patients. There is a hunger factor that comes into effect when you restrict foods."

Overall evaluation - Qualitative feedback

The final questionnaire consisted of four open-ended questions related to the students' overall impression of the day. To the question whether a similar experience should be offered to future years of students, the students responded unanimously with 'yes'.

"Yes, definitely. It was good to have the experience of trying to understand what some of our patients may experience."

"I think this whole experience was extremely helpful in allowing me to feel what patients may feel."

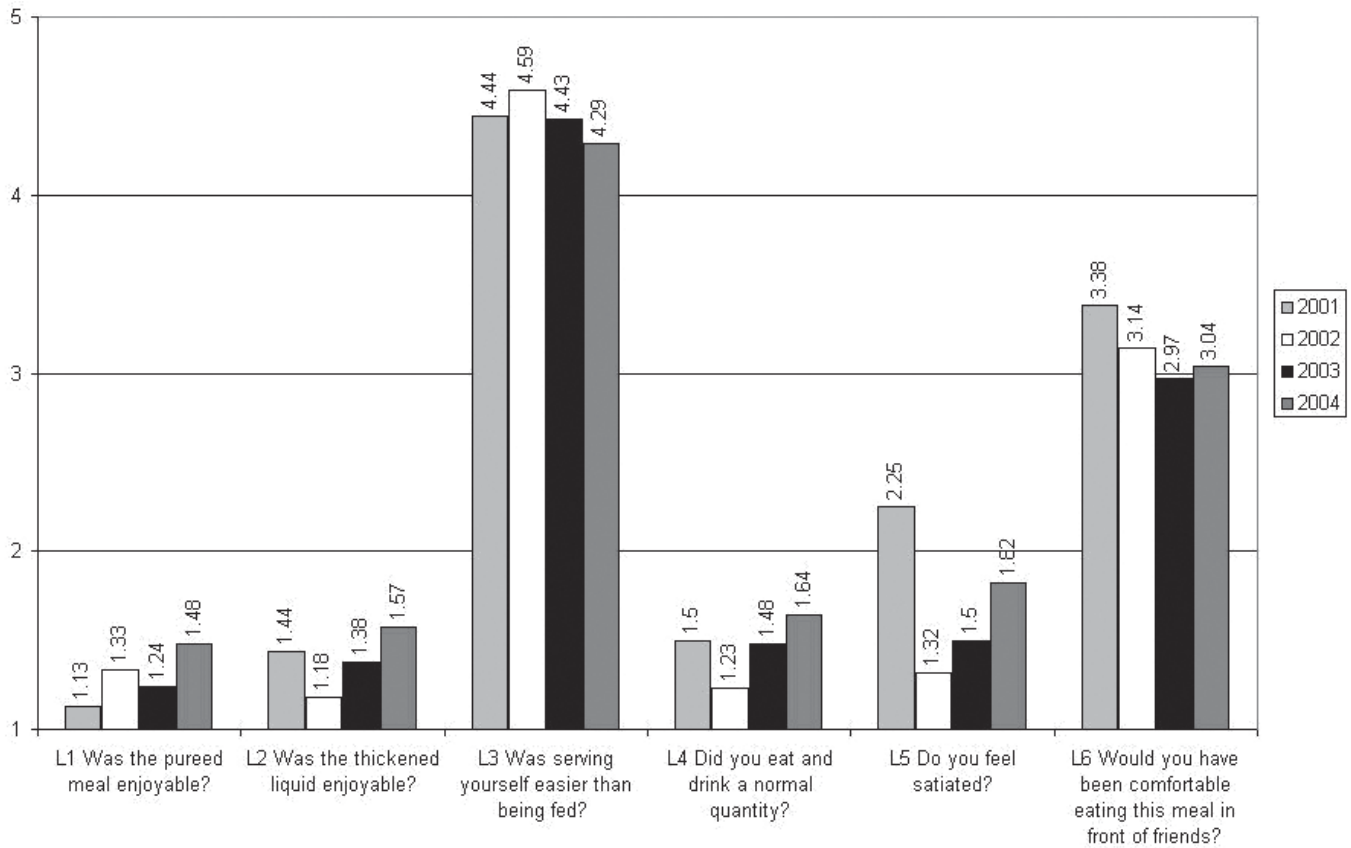


Figure 3. Results for the first part of the lunch questionnaire. (1 = Strong disagreement; 2 = Disagreement; 3 = Neutral; 4 = Agreement; 5 = Strong agreement).

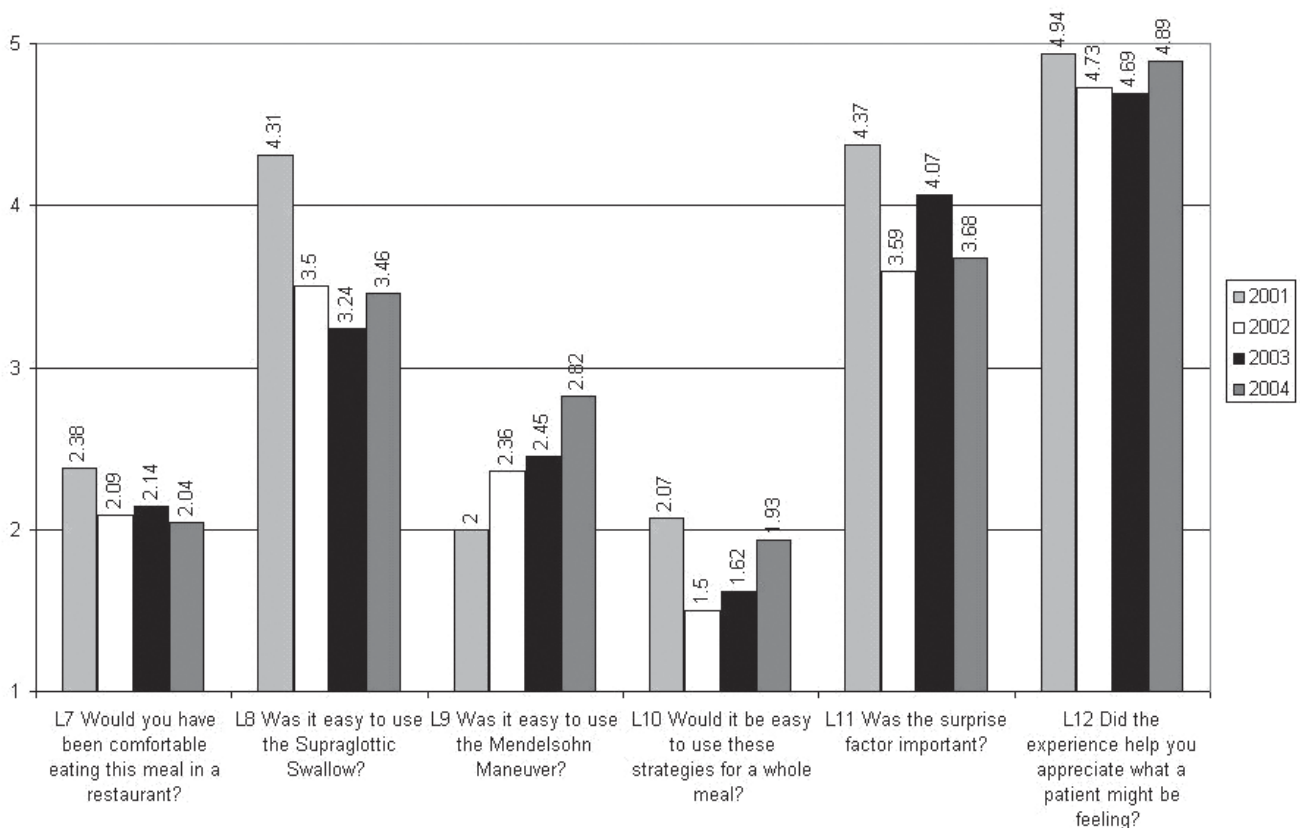


Figure 4. Results for the second part of the lunch questionnaire. (1 = Strong disagreement; 2 = Disagreement; 3 = Neutral; 4 = Agreement; 5 = Strong agreement).

When asked whether changes should be made to the experience day, most students answered that no changes should be made. A number of students suggested that the instructors should serve 'real' food and drinks after the experience, although the same students also conceded that this would probably detract from the realism of the experience.

"I think there will invariably be people [students] who are angry or upset, but I think this was an essential experience for developing empathy. We only have to deal with these 'hardships' for half a day but many of our patients may have to contend with this for life."

To the third question about things that should be kept the same, most students answered that everything should be kept the same. When asked in the fourth question whether the element of surprise was necessary for the experience, the overwhelming majority of the students agreed that the element of surprise had added to the realism of the experience. All students agreed not to divulge any information about the experience day to the students in the next year's class so as to not spoil the experience for them.

"I think it is the surprise that made it much more 'real'. It was much easier to appreciate and a valuable experience."

Discussion

Overall, the experience was successful and all students across the 4 years agreed that it was worthwhile and enlightening. A number of students commented in additional personal testimonials that the experience had increased their understanding of the experiences of dysphagic patients and that this increased understanding would make them more compassionate therapists. The consistently positive student feedback across the 4 years of students confirmed the usefulness of the learning experience.

The students, who were all in their second year in the program, were asked not to share the particulars of the learning experience with the current first-year students in order to preserve the element of surprise. While the authors had no means of monitoring how well the secret was kept, none of the incoming groups appeared to be in any way oriented to the tasks and the surprise appeared to be genuine. This cooperation of the students to not spoil the surprise for future generations of students may be taken as a further indicator that the students did value the learning experience.

In all 4 years, an interesting but unexpected detail was that many students used the opportunity to reflect on their own food and eating preferences. Specifically, some students commented on a general dislike of any kind of pureed or soft food textures. It is unlikely that graduate students of speech-language pathology are more particular about food textures than the general population. Rather, this finding can serve as a reminder to the practicing speech-language pathologist that some people will not be able to eat even small quantities of texture-adjusted food.

In conclusion, the experience served as a valuable reminder to both our students and to us, the teaching faculty, that a caring speech-language pathologist will have a professional understanding that goes beyond purely academic knowledge. Assuming the role of the patient for a day is an enlightening experience that will help a student develop a personal work ethic that is guided by an appreciation of the patient's perspective.

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