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Checklist for Assessing Graduate Student Competencies in Voice Disorders

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Abstract

Low-incidence clinical disorders such as voice, nasal resonance, and fluency present challenging areas for graduate-level speech-language pathology training programs to help students acquire necessary knowledge and skills. A checklist of competencies for fluency disorders exists in the literature. The authors are presently collecting pretest/posttest data on the fluency disorders checklist over several cohorts of graduate students to determine student level of proficiency and confidence regarding these competencies. Preliminary data analysis suggests significant student perception of growth as a result of completing course requirements. These data have been useful to the second author, who teaches a course in fluency disorders and utilizes the checklist for purposes of course design and case-based project development to help students gain competence. The authors observed that a similar checklist of competencies for voice disorders would be useful for training programs as well as for other reasons described throughout this paper. Consequently, the authors compiled a checklist for assessing graduate student competencies for voice disorders. This checklist provides academic and clinical faculty with a comprehensive tool to guide the education of graduate clinicians and assist in the assurance of educational quality for speech-language pathologists.

Graduate-level training programs in speech-language pathology are responsible for providing sufficient depth and breadth of curriculum that enables new professionals to be adequately trained to provide skilled clinical services for a wide range of communication disorders (Council for Clinical Certification. . ., 2012). However, there are challenges with training graduate students in the evaluation and treatment of low-incidence clinical populations, such as voice disorders. In fact, a recent survey indicated that new graduates and their employers reported perceiving voice disorders as a content area of preparation weakness (Tillard, Lawson, & Emmerson, 2011). The estimated prevalence rates of voice disorders are approximately 7% in school-aged children and 3% in adults (Andrews & Summers, 2002; Roy, Stemple, Merrill, &

Thomas, 2007; Verdolini & Ramig, 2001). To illustrate the relative disparity between the availability of low-incidence and high-incidence populations, only 22% of school-based speech-language pathologists serve children with voice disorders as compared to 93% who serve children with articulation and phonological disorders (American Speech-Language-Hearing Association [ASHA], 2012). Among the adult population, speech-language pathologists reported spending only 5% of their time treating voice and/or resonance disorders in comparison to 42% of their time with swallowing disorders (ASHA, 2011). Given this discrepancy, the clinical population of voice disorders is likely an area of struggle for many graduate training programs to provide adequate clinical preparation for student clinicians.

The difficulty of locating patients with voice disorders is not the only obstacle in graduate training programs. Unlike other speech disorders, advanced clinical instrumentation is often used during the assessment and treatment of dysphonia. Because voice testing equipment can be quite costly, it is often difficult for graduate training programs and clinics to budget for these expenses. In addition, interpretation of the clinical findings requires specialized training from individuals with expertise in voice disorders. Moreover, the lack of funding for hands-on practice, dedicated space for equipment, and faculty to provide proper training contribute to the challenges of graduate level training in voice disorders.

A creative solution to the inherent challenges with low-incidence clinical populations is the use of case-based learning. During case-based learning, the instructor presents students with a hypothetical clinical problem in addition to systematic processes and resources for solving it (Bloom, 2010). For example, case-based learning was implemented in the training of speech-language pathology graduate students in the area of ethical decision-making (Mantie-Koslowski, 2013). To demonstrate progress in ethical discussion and decision-making, students were required to discuss four case studies using online and face-to-face formats. Results indicated that evidence of knowledge and skill acquisition in the area of ethics was present. McLaughlin, Solberg, and Ness (2009) reported using case-based learning to teach efficient professional communication between students and supervisors. A medical model was used to teach students to clearly and concisely present weekly information on goals, treatment approaches, and measurement of progress. Over the course of a semester, the following gains were observed: more concise presentations, logical sequencing, and improved rationale. In addition, data from student self-evaluations indicated perception of improvements in professional communication and growth. Bellandese and McNamara (2007) used case-based learning by developing a clinical competency project for students to acquire skills in the assessment of voice disorders. Students were required to provide perceptual evaluations of voice quality from sound files, obtain objective measures through use of instrumentation from video examples, and generate a diagnostic report based on their findings. Results revealed that 84% of students strongly agreed or agreed that the project was worthwhile and that it facilitated the learning of clinical skills in the area of voice evaluation.

Whereas the Bellandese and McNamara (2007) project focused mainly on assessment skills, it would be advantageous to broaden the scope of competencies to include prevention and treatment. Gottwald, Amster, and LaSalle (2010) revised and updated a comprehensive competency checklist for fluency disorders based on an adaptation of the ASHA Guidelines for Practice in Stuttering Treatment (ASHA, 1995). Using this checklist and its associated Likert rating scale ranging from 1–5 (1 representing “incompetent” and 5 representing “very competent”), Klein and Amster (2010) compared graduate students’ perceived competency levels before and after completing a graduate level course in fluency disorders. Significant differences were observed between pretest and posttest data in student self-perception of competence to evaluate and treat people who stutter. This finding was used to support the continued inclusion of a fluency disorders course for a graduate-level program in communication disorders as part of a comprehensive curriculum. In addition, Amster, Klein, Ruiz, Kleinow, and Mancinelli (2004) reported on a program-wide Course Material Competency Checklist (CMCC). The fluency disorders competency checklist was included in the CMCC at LaSalle University. Their graduate-

level faculty used the CMCC as a seminal assessment plan developed to measure student-learning outcomes for all graduate classes. The present authors also collected unpublished predata and postdata from 59 graduate students using the same Likert scale and checklist for fluency disorders for four graduate level courses in fluency disorders. Preliminary data suggest that graduate students who completed a course in fluency disorders reported an increased self-perception of competency regarding their ability to evaluate and treat people who stutter.

A similar checklist of competencies in voice disorders should be beneficial when evaluating areas of student knowledge and skills. The proposed checklist for graduate student competencies in voice disorders could serve as a resource for instructing and evaluating graduate student clinicians in a variety of ways. Clinical and academic faculty could use this checklist as a teaching tool to identify and measure content-specific aspects requiring more or less emphasis in either the classroom and/or clinical practicum, recognizing that many clinical skills will need to be taught and/or sampled in the classroom due to small clinical caseloads. In addition, this checklist could help instructors determine appropriate remediation assignments for students lacking particular knowledge and skills in one or more areas. The checklist also may be useful in evaluating large-scale programmatic emphasis, such as to: (a) provide empirical support for the need to increase active recruitment of low-incidence clients to university clinic settings, (b) support the purchase of advanced instrumentation for comprehensive training in voice assessment and treatment, (c) justify the expansion of space and facilities dedicated to voice education, and (d) advance educational and research pursuits for instructors to maintain and/or expand expertise in voice disorders. In addition, individual instructors and/or supervisors could use the checklist to determine if additional methods are necessary for enhancing training in voice disorders such as developing partnerships with voice centers or otolaryngology offices or inviting guest lecturers to the classroom setting in order to offer multiple perspectives. Finally, the checklist could help guide a professional seeking continuing education in voice for evaluating areas of known deficit and planning continuing education activities accordingly.

As a precursor to the creation of this checklist, professional organizations have recommended modifications to standards for knowledge and skill acquisition in the area of voice disorders. For example, ASHA Special Interest Group 3: Voice and Voice Disorders and ASHA have responded to the need for expanded learning in the area of voice disorders. In 1998, the Ad Hoc committee on the revision of the Preferred Practice Patterns published revisions and updates of the ASHA Preferred Practice Patterns for voice assessment and treatment (ASHA, 1998). More recently, the authors of the current paper have added to this body of work by creating a checklist for assessing graduate students' clinical competencies in the area of voice disorders. We recommend that graduate students graduating from a program in speech-language pathology possess knowledge and skills related to voice disorders necessary to demonstrate a level of competence for the majority of the skills listed.

In order to determine the most essential competencies for voice and voice disorders, the authors adapted the organizational structure of the fluency disorders checklist (Gottwald et al., 2010). Specifically, the fluency disorders checklist provides an excellent structure and balance between prevention, assessment, and treatment skills. Terminology was adapted to be more specific to voice production and voice disorders, with additional disorder-specific issues added based on the Special Interest Group 3: Voice and Voice Disorders Graduate Curriculum on Voice and Voice Disorders (ASHA Special Interest Division 3, Voice and Voice Disorders, 2009). In developing the checklist, the authors aimed for each competency to measure and represent a discrete skill. The authors also asked colleagues who regularly teach and/or provide clinical services in the area of voice disorders to review and provide feedback regarding the checklist content. This process resulted in a checklist of 25 competencies across the prevention, assessment, and treatment of voice disorders.

We recommend utilizing this checklist as a pre- and post-test measure to assess graduate students' preparation in the area of voice disorders. Ideally, students ready to matriculate from a

graduate program to an entry-level position would report competency levels of at least 3 or higher on the majority of the items in the checklist. In addition, the checklist could be used for students who work with patients with voice disorders. We invite feedback from the readers of *Perspectives on Voice and Voice Disorders* regarding the checklist breadth, ease of use, and utility for academic and clinical programs. Please send comments to Amy Teten (ateten@unomaha.edu).

Voice Checklist

To use the following checklist, each item should be rated using a scale of 1–5 (1 = Minimally Competent; 2 = Somewhat Competent; 3 = Moderately Competent; 4 = Very Competent; 5 = Extremely Competent). Each item of the checklist is aligned with a Knowledge and Skills Acquisition standard as indicated in parentheses.

1. Identifies normal voice production by describing quality, pitch, loudness, and resonance (III-B, III-C).
2. Develops preventative strategies for maintenance of vocal wellness and hygiene (III-D, IV-G 1a).
3. Obtains a comprehensive case history by documenting information about psychological, psychosocial, developmental, occupational, medical, pharmacological, behavioral, and cultural variables that may influence voice production (III-D, IV-G 1b).
4. Performs auditory-perceptual evaluations of voice quality using parameters of roughness, breathiness, strain, pitch, loudness, and overall severity of the voice (III-D, IV-G 1c, IV-G 1d, IV-G 1e).
5. Considers environmental variables (e.g., emotional reactions, social pressures) that may impact the severity of the voice disorder (III-D, IV-G 1d, IV-G 1e).
6. Utilizes available and appropriate noninstrumental and/or instrumental diagnostic tools (e.g., physiological, acoustic, aerodynamic, and auditory-perceptual) to assess voice (III-D, IV-G 1c).
7. Differentiates etiologies of voice disorders (i.e., organic, functional, neurogenic) to make appropriate referrals and/or treatment decisions (IV-G 1b, IV-G 1e, IV-G 1g).
8. Identifies and describes anatomical and physiological sources of hyper- or hypo-function as they relate to voice disorders (III-C, III-D).
9. Attends to the needs, cultural values, gender roles, and linguistic backgrounds of the client and relevant family members when performing assessments and/or interventions for voice disorders (III-C, IV-G 2e, IV-G 3a, IV-G 3c).
10. Considers the development of voice disorders in a broader context that includes the potential presence of concomitant communication disorders such as motor speech and/or swallowing disorders (III-D, IV-G 3b).
11. Integrates developmental vocal milestones and expected changes throughout the lifespan during the assessment of voice disorders (III-B).
12. Displays flexibility in selecting appropriate facilitating voice techniques when assessing the client's stimulability for improved vocal quality at the time of the initial evaluation and during ongoing treatment (IV-G 1c, IV-G 1d, IV-G 2c, IV-G 2e).
13. Plans and implements a treatment program to address the individual needs of the client and communication styles of family members based on the results of

- comprehensive assessment and client and/or family consultation (IV-G 2a, IV-G 2b, IV-G 3a).
14. Clearly and effectively conveys information to clients and/or their family members regarding a variety of therapeutic choices and their evidence base (III-F, IV-G 2a, IV-G 3a, IV-G 3c).
 15. Demonstrates various therapeutic strategies for facilitating the restoration of normal balance between respiration, phonation, and resonance to achieve balanced voice production (IV-G 2c).
 16. Considers implementation of several different procedures to facilitate maintenance and generalization of vocal improvements achieved in the clinical setting (IV-G 2c).
 17. Recognizes procedures for implementing use of speaking valves with tracheostomized patients (III-C, III-D, IV-G 2c).
 18. Identifies and demonstrates various modalities of communication for alaryngeal speakers (III-D, IV-G 2a, IV-G 2c).
 19. Demonstrates knowledge of tracheoesophageal voice prosthesis management, hygiene, and placement procedures (III-D).
 20. Assists clients with developing and adhering to a plan for managing vocal hygiene (III-D, IV-G 2a, IV-G 2c, IV-G 2e).
 21. Uses appropriate counseling skills to adequately attend to client and family feelings, attitudes, and coping strategies (IV-G 3a, IV-G 3c).
 22. Demonstrates understanding of the roles of various professionals of the multidisciplinary voice team and makes appropriate referrals to other professionals as needed (IV-G 1g, IV-G 2g, IV-G 3b).
 23. Writes evaluation, therapy, and referral reports that adequately explain the nature of the client's voice disorder and treatment for the client and family (IV-B, IV-G 1f, IV-G 2f).
 24. Communicates ethical and professional issues inherent in providing services to individuals with voice disorders (III-E, III-G, III-H, IV-G 3d).
 25. Recognizes the potential handicapping nature of the voice disorder and educates the client and/or relevant family members accordingly (IV-G 2a, IV-G 2b, IV-G 3a).

Future Directions

The present authors' intent for the voice disorders competency checklist is twofold. First, we will be using this checklist and its associated Likert rating scale to measure and compare graduate student perceived competency levels before and after a graduate course in voice disorders. We invite other academic faculty to utilize the checklist in this manner for possible multi-university collaboration to report perceived student learning outcome data. Second, we intend to employ the checklist as part of a survey of practicing clinicians in various clinical settings to investigate the perception of competency levels over time for practicing clinicians. We plan to examine potential differences in perceived competence associated with variables such as number of years post-graduation, primary clinical setting, previous academic coursework in the area of voice disorders, amount and type of continuing education, and access to patients with voice disorders. In conclusion, this paper proposes a 25-item competency checklist for voice disorders. This checklist is intended to provide a means of addressing the challenges for graduate level speech-language pathology training programs to document the acquisition and maintenance

of necessary knowledge and skills in the assessment and treatment of voice disorders. We welcome feedback regarding the checklist's content, use, and outcomes.

Comments/questions about this article? Visit SIG 3's [ASHA Community](#) and join the discussion!

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