

Models/Concepts/Proposals

Introduction of a competency-based evaluation framework to assess clinical skills in undergraduates of BSc (Hons) in speech and hearing sciences in audiology

L. D. Ileperuma*, & M. D. K. de Silva

Department of Disability Studies, Faculty of Medicine, University of Kelaniya, Sri Lanka.

**Corresponding author: dinukshi13@kln.ac.lk*

Background

Implementation of Competency-Based Curricula (CBC) and the use of valid and reliable methods in assessing clinical competence have taken the attention of medical educationalists in the last few decades. This system is known to promote the acquisition of knowledge and the development of necessary skills and attitudes for practising in relevant fields to meet the demands in the labour market (Santos, 2011).

Audiology is a multidimensional field involving carrying out evidence-based and client/family-centred audiological practices, health promotion and wellbeing through appropriate communication and collaborations, lifelong learning, maintenance of ethical and professional behaviour, and advocacy. Audiology education programmes are offered at varying levels according to the requirements and resources available in different countries. In Sri Lanka, holders of the certificate of diploma issued by the Ministry of Health and graduates of the BSc (Hons) in Speech and Hearing Sciences in Audiology offered by the University of Kelaniya work as audiology technicians and audiologists, respectively in public and private audiology settings. The BSc (Hons) degree programme consists of four years of full-time study with a total of 120 credits on par with the Sri Lanka Qualification Framework (SLQF) level 6.

The graduate profile of Audiology graduates is based on the three cardinal areas; (1) Audiologist as a clinician, (2) Audiologist as a researcher, and (3) Audiologist as a professional, all of which are compatible with the SLQF level 6 learning outcomes and level descriptors. The general competencies of the programme include knowledge, clinical skills, application, interpersonal skills, community health engagement and health promotion, evidence-based practice, professional ethics and integrity, and reflective practice.

The curriculum includes theoretical modules and clinical practica across the four years. In the curriculum implemented from 2008- 2015, the clinical practica consisted of 21 credits contributing to 945 hours. These included clinical teaching, observations, supervised sessions, documentation, and

independent work. The assessment of practica consisted of a set of summative examinations; Objective Structured Clinical Examination (OSCE), portfolio, case presentation, and *viva voce* (Table 1).

Table 1: Distribution of Assessment Methods of Clinical Practica Across the Years

		Clinical practicum			
Year		1	2	3	4
Previous	Credits (Supervised hours)	2 credits (90 hrs)	3 credits (135 hrs)	4 credits (180 hours)	12 credits (540 hrs)
	Assessment methods	OSCE*, Portfolio	OSCE* Portfolio Viva	OSCE* Portfolio Viva	OSCE* Case conference
Revised	Credits/ Supervised hours	2 credits (100 hrs)	4 credits (200 hrs)	4 credits (200 hours)	18 credits (900 hrs)
	Assessment methods	Summative assessment: OSCE*	Summative assessment: OSCE*	Summative assessment: OSCE*	Summative assessment: OSCE*, Case conference
		Continuous assessment: ACC*, Clinical Diary, Workbook	Continuous assessment: ACC*, Clinical diary, Workbook	Continuous assessment: ACC*, Clinical diary, Workbook	Continuous assessment: ACC*, Clinical Diary

OSCE* (Objective Structured Clinical Examination), ACC* (Assessment of Clinical Competence)

With the introduction of CBC in 2016, the focus of the examinations was shifted to *assessment for learning*. Emphasis was given to formative feedback through direct observation and providing an environment for learning and assessment to foster active participation in learning while assessing their readiness to progress.

Methodology

Competency-based evaluation

To choose the most appropriate assessment method(s), the instruments developed for the purpose of clinical assessments were reviewed by module committees. Based on the characteristics of the tool, such as relevance, validity, ability to cover multiple elements, acceptability of stakeholders, impact on education, and cost-effectiveness (Hager, 1993), the most appropriate assessment tools were introduced (Table 1).

Although the psychometric properties of the OSCEs are questionable, assessment through OSCE was retained, as it is a highly recommended approach to assess performance in medical and paramedical

fields (Walsh, Bailey & Koren, 2009). Portfolios were intended to capture learning over time through documenting clinical experiences and self-reflection. However, a considerable rate of plagiarism was observed in portfolios, turning down its intended outcome. Hence, clinical diary and workbook were introduced as an alternative formative assessment. These two methods are intended to reflect the application of audiological processes and the clinical decisions made.

Due to the holistic nature of the competencies, a rubric with skill competencies was developed referring to the Growth Mindset model by Dweck (2006). The rating scale, “Assessment of Clinical Competence” (ACC) consists of competencies expected from a student which were categorised into seven broad areas in audiology; (1) Assessment, (2) Assessment interpretation, (3) Treatment planning, (4) Treatment delivery, (5) Professional conduct, (6) Communication, and (7) Learning & reflection. These areas were established based on the audiology competency standards of several countries. The ACC incorporated six competency levels (Table 2). The expected competency level for each year and each competency was explicitly specified. Students refer to the competency levels and prepare a list of objectives to track their progress. Clinical supervisors provide weekly/ monthly feedback to encourage the students to reach the expected competency level. The average score on the rating scale at the end of the clinical placement is considered for the grade of that particular practicum.

Annual workshops have been conducted for the clinical supervisors on the implementation of the ACC to ensure smooth supervision. Any variation in examiner rating is controlled by these workshops that include training on observation and documentation of learner behaviours, and competencies being assessed. The outcome of the new assessment framework was assessed through individual feedback obtained by interviewing clinical supervisors and students. Braun and Clarke’s (2006) six step approach in thematic analysis was used as the method for data analysis.

Table 2: Competency Level Descriptors of Assessment of Clinical Competence

Competency level	Descriptor
Independent (5)	Students are able to perform the majority of their work independently and competently with well-developed and consistent skills, without guidance and/or consultation unless presented with situations/clients not previously experienced.
Competent (4)	Students are expected to function effectively, take initiative, work without directives, and make changes when appropriate, within the consultative style of supervision whereby the supervisor provides minimal supportive cues.
Consolidating (3)	Students are expected to function effectively and display the target competency/skill but requires further development with a low to moderate degree of collaborative supervision dependent on the complexity of the client, workplace environment and student’s previous experience.

Competency level	Descriptor
Emerging (2)	Students are skilful in parts of behaviour and are able to perform competently when the supervisor provides frequent guidance, demonstration or modelling in combination with collaborative student participation.
Novice (1)	Students demonstrate basic clinical skills but the supervisor actively provides a high level of specific direction for the student to alter performance and make changes in clinical behaviour.
Not evident (0)	Not observed/ not applicable/unable to assess.

Results

Feedback on assessment methods of clinical practica indicated the following. Clinical supervisors stated that students were motivated to complete the clinical diary and workbook as the guidelines and expectations were clearer. Having clear and common ratings from all clinicians was favourable to students. All areas of clinical audiology were adequately covered through the ACC. They mentioned that the Likert scale for rating each component was user-friendly. They suggested the introduction of an e-version of the form instead of hardcopies and making the form concise. Feedback from the students highlighted that the assessments were adequate and effective, and feedback given at the end of each day/ week was beneficial to improve their clinical skills. They suggested that mock exams for OSCEs be provided and requested the continuous assessment format to remain.

Outcome

Implementing a CBC is a challenge in speech and hearing sciences as clinical supervision is mandatory and involves a considerable amount of documentation. However, this method hopes to enhance student engagement and provide a meaningful learning experience to warrant that audiology graduates are prepared to meet the professional requirements and the accountability to the public. Further research into the outcomes of the CBC is necessary to ensure best practice.

References

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