

Vocal pedagogy: Goals, objectives, scope and sequencing for undergraduate students

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Abstract

The aim of this study was to investigate the content, organisation and outcomes of undergraduate vocal pedagogy modules. Goals and objectives guide outcomes which in turn will facilitate the delineation of the content or scope of the modules. The organisation of content will involve the sequencing of study units appropriate for beginner, intermediate and advanced levels of undergraduate vocal pedagogy studies.

A qualitative research method was chosen to direct the empirical investigation. Primary data collection was conducted through semi-structured interviews. Certain participants opted to reply in writing and similarly structured open-ended questionnaires were sent electronically to them. Purposive sampling was used to select South African respondents by virtue of their knowledge and expertise in the field of vocal pedagogy. A degree of snowballing also followed and valuable data was collected from participants in Canada and the USA.

The investigation regarding the restructuring of vocal pedagogy modules was viewed from a multi-disciplinary and holistic perspective. Establishing the underlying principles that direct the goals, objectives, scope and sequencing of undergraduate vocal pedagogy modules guided the study.

Goals direct the bringing together of relevant and mutually supportive disciplines essential to undergraduate vocal pedagogy modules. The demands of prospective careers for students dictate what knowledge and skills they need to be equipped with. Moreover, the judgement of lecturers based on institutional level descriptors as well as knowledge and experience of appropriate content designation for beginner, intermediate and advanced students further guides the formulation of goals and objectives.

The rich and diverse body of vocal pedagogy literature provides the material that informs the scope of undergraduate modules. Sequencing of content for a vocal pedagogy offering is directed by the scientific base of knowledge, feedback from students, the tried and trusted traditions of established lecturers and authors, as well as the intuitive teaching talent of lecturers.

Scaffolding (the gradually diminishing role of a lecturer as students gain independence) emerged as an important component of creating a balanced undergraduate pedagogy offering. Lecturers should have a reflective and deep knowledge of vocal pedagogy in order to successfully integrate it with vocal practice. This is the hallmark of a holistic approach that will effectively equip students for a career after tertiary training.

From the information received from participants it can be concluded that a vital requirement for organising content is that learning and therefore also teaching should be a gradual and ongoing process. The basic building blocks of vocal pedagogy (posture, breathing, phonation, resonance and articulation) should be supplemented by auxiliary disciplines (historical background of vocal pedagogy, psychology and ethics, comparative pedagogies, and elements of performance) that support and further inform vocal pedagogy studies.

Keywords

Scaffolding

Vocal pedagogy

Vocal pedagogy curriculum

Vocal pedagogy curriculum development

Vocal pedagogy curriculum evaluation

Vocal pedagogy goals

Vocal pedagogy objectives

Vocal pedagogy outcomes

Vocal pedagogy programme

Vocal pedagogy scope

Vocal pedagogy sequence

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Chapter 1: Introduction

1.1 Background to the study

This study is firstly inspired by a passionate interest in both the science and art of singing. As voice and vocal pedagogy lecturer training students at the University of Pretoria and previously at North-West University, Potchefstroom, both tertiary institutions in South Africa, the challenge lies in facilitating individual students to achieve their full potential in voice production and artistic performance underpinned by theoretical knowledge provided through the study of vocal pedagogy.

As lecturer and designer of a set of undergraduate vocal pedagogy modules (MME 100, 200 and 300) at the University of Pretoria since 2006, continued research made me aware of the complexity of the process of educating voice students to meet career challenges and to be fully functional in a multi-faceted arts environment after their university studies.

At the beginning of 2010, budget and time constraints at the University of Pretoria necessitated the condensation and restructuring of the undergraduate vocal pedagogy modules, mainly impacting upon matters of content and organisation. Since the aforementioned matters are guided by clearly stated goals and objectives, this set in motion the process of redefining and reformulating goals and objectives that ultimately reshape the scope and sequence of the programme.

1.2 Aims of the study

The focus of this study is to investigate the content, organisation and outcomes of undergraduate vocal pedagogy modules. Outcomes will be guided by goals and objectives, which in turn will facilitate delineating the content or scope of the modules. The organisation of module content will involve the sequencing of study units appropriate for each study year. Certain findings of the research have already become the foundation according to which the current modules presented at the University of Pretoria have been restructured.

1.3 Research questions

The restructuring of vocal pedagogy modules offered at the University of Pretoria presents the need for a clear outline of the goals, objectives, scope and sequencing of an undergraduate programme in vocal pedagogy. This need, coupled with my personal experience of the intricacy of designing and adjusting a programme that will answer the questions of accountability and legitimacy, motivated me to investigate solutions to these practical problems.

Based on a dictionary description, 'accountability' refers to the rationale, responsibility or answerability (Tulloch, 1994, p. 12) for teaching the selected material. The meaning of 'legitimacy' relates to correctness and established practice or principle (Tulloch, 1994, p. 827) in respect of what is taught. More so, when used in the context of designing a set of modules, 'legitimacy' refers to that which is regarded not only as beneficial, but as essential for the education of singers.

The investigation of curricular aspects will be guided by research questions.

1.3.1 Main research question

In order to investigate the problem stated above, the main research question is formulated as follows:

- What are the underlying principles directing the goals, objectives, scope and sequencing of undergraduate vocal pedagogy modules?

1.3.2 Secondary research questions

The answer to the main research question necessitates an investigation of the following secondary issues:

- What should be key considerations in the formulation of goals and objectives for a set of undergraduate vocal pedagogy modules?
- How should appropriate content be selected for a set of undergraduate vocal pedagogy modules?

- Which elements are key components of a balanced set of undergraduate vocal pedagogy modules?
- Which aspects should be considered when planning the sequencing of curricular content in vocal pedagogy?

1.4 Research design and method

In order to find answers to the research questions posed, a qualitative research method was chosen to direct the empirical investigation. Primary data collection was conducted through semi-structured interviews. Similarly structured open-ended questionnaires were sent electronically to participants who opted to reply in writing.

Purposive sampling was used to select respondents who, by virtue of their knowledge and expertise in the field of vocal pedagogy, assisted me to answer the research questions. A degree of snowballing also followed and valuable data was collected from participants in Canada and the United States of America. Details of these participants and their contributions are included in chapters 3 and 4.

1.5 Delimitations of the study

The focus of this study is on Western tradition and practice pertaining to vocal pedagogy. The choice of repertoire that forms an integral part of an undergraduate vocal pedagogy programme will consist mainly of Western art music. However, where folksongs and operas are concerned, examples from indigenous African languages and composers may also be included. Aspects of lyric diction will primarily focus on languages such as Italian, German and French.

As far as aspects of the curriculum are concerned, this study will not focus on issues such as determining teaching strategies or planning for student assessment. Specific objectives derived from broader goals will receive only cursory attention. It is envisaged that the more comprehensive breakdown of long-term goals into short term objectives will form part of future studies.

An in-depth study of curriculum, curriculum development and evaluation does not form part of this investigation. Although selected participants are involved in qualitative research, this is not a typical group deliberation to produce or develop a national curriculum for vocal pedagogy to be used at South African universities.

1.6 Problems encountered during the study

The first challenge I encountered in this study was to formulate an appropriate topic that concisely describes the scope and pinpoints key aspects of the process whereby vocal pedagogy modules are systematically designed and developed.

Finding a suitable framework in which to describe the vast and varied scope of vocal pedagogy posed another problem. Central to the study of vocal pedagogy, or classical vocal pedagogy – referring to the style and repertoire of Western classical music (Sell, 2005, p. 1) – is a variety of aspects which all need consideration. Sell (2005, p. 4) describes the interdisciplinary nature of vocal pedagogy as comprising of the history and current literature of vocal pedagogy; science including anatomy, physiology, physics and vocal hygiene; psychology, vocal technique; ethics; aesthetics; interpretation and performance. The various disciplines are visually represented by the diagram that follows which is based on a flow chart constructed by Sell (2005, p. 4):

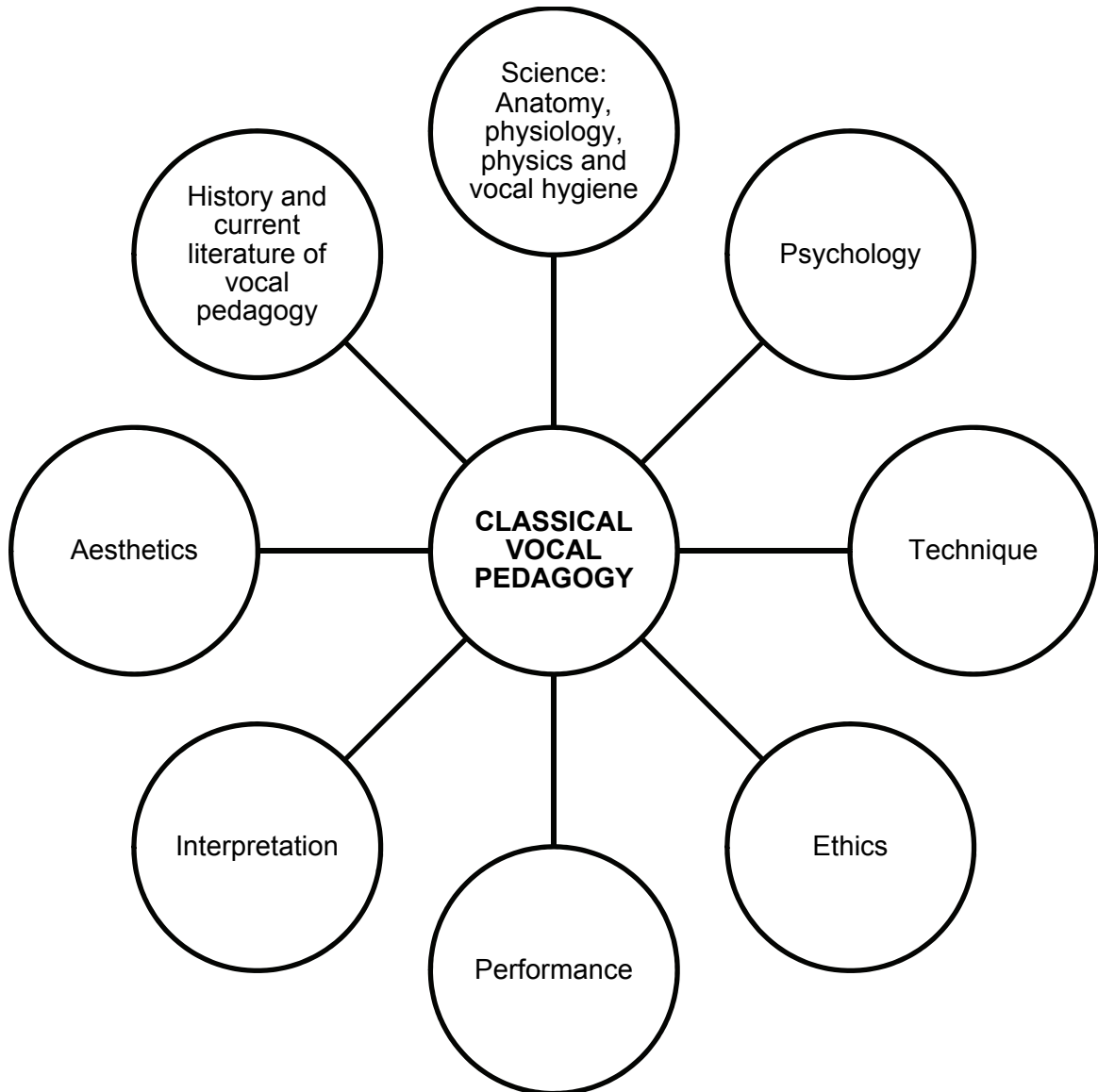


Figure 1: Interdisciplinary nature of vocal pedagogy (based on Sell, 2005, p. 4)

Providing accurate definitions for the two main concepts in this study, namely *vocal pedagogy* and *curriculum*, proved to be a task of singular complexity and difficulty. At best, I have succeeded in constructing adequate descriptions which pinpoint relevant ideas related to key aspects of both these concepts. A brief historical perspective summarising the views of foremost authors who describe the nature and development of both concepts and, in some instances, provide definitions, proved to be valuable.

Correct terminology posed some more difficulties. In ‘Notes to the reader’ I endeavour to shed some light on preferred usage of terms. While the term *voice method* is an inherited term in the Department of Music at the University of Pretoria, the term *vocal pedagogy* seems to be favoured in literature from the United Kingdom as well as the vast body of publications from foremost authors in the United States of America. Similarly, goals and objectives are preferred terms as opposed to general and specific outcomes. The usage of terms such as *course*, *programme* and *curriculum* (in the sense of ‘learning content’) for the various modules for various year groups also needed careful enquiry.

The practical development of the modules as currently presented at the University of Pretoria depended on continuous assessment as far as the needs of both the Music Department and the students were concerned. Not only did the Department’s needs regarding budget and time constraints impact on the process, but also the varied needs and skill levels of students annually. Their various backgrounds, cultures and secondary training influenced both the content and assessment for the various modules. These continuous adjustments shaped the development of the modules on an on-going base.

In order to find a working structure within which to implement content, scope and sequencing, I had to constantly evaluate my own praxis while improving, eliminating, or adjusting certain ideas. In this process, trial and error formed part of the intricate and sometimes tedious process of evaluating, redesigning and redeveloping modules. This impacted directly upon the outcome and results of this study, as well as the time structure within which it was completed.

Lastly, the importance of a structured and approved listening discography to support the identification of various vocal styles, repertoire familiarity and general knowledge of famous singers and conductors cannot be overstated. However, the scope and completion timeframe of this mini-dissertation precludes the inclusion of such a discography and its supplementary notes. The scope of work required for this endeavour justifies a separate research project. Recommendations in this regard are made in chapter 5.

1.7 Outline and organisation of the mini-dissertation

In chapter 1 I have given an overview of the background to the study, its aims, value and limitations as well as notes to the reader where the use of certain terms are justified and explained. Chapter 2 presents a review of the pedagogical structure underlying vocal pedagogy modules. Furthermore, the nature of vocal pedagogy is described and important disciplines that comprise vocal pedagogy are introduced. These disciplines are discussed in terms of essential elements that are suitable for inclusion in undergraduate work. This chapter and chapter 4 is mutually informing since the study of literature directed the compilation of the interview questions in a similar way that the praxes of the respondents enhanced my own praxis and offered guidance in the literature review.

The research method is clarified in chapter 3 where a justification of the choice of qualitative research methods is provided, as well as a brief outline of research methodology that will assist in answering the research questions. This includes a discussion of the sampling method to select respondents as well as data collection methods and instruments.

Chapter 4 provides an outline of the respondents, a description of the degree of snowballing that followed and of a dissemination and analysis of the data that was collected. The answers to research questions are mainly offered in chapters 2 and 4 where, respectively, statements and arguments from literature are presented and the various views of experts in the field are analysed. Although statements pertaining to the value and importance of vocal pedagogy, the involved nature of vocal development and the necessity of the coordination of basic vocal aspects (breath management, body alignment, phonation, resonance and articulation) seem to be superficial or much repeated, they reflect the strong sentiments of the respondents in this regard. In chapter 5 a summary of findings and recommendations is posited, as well as suggestions for further research.

1.8 Value of the study

The challenge posed by the intricate processes of designing and developing undergraduate vocal pedagogy modules, as well as the continuous need for the evaluation and improvement of such modules, makes this study relevant, if not vital. Internationally, the design and development of vocal pedagogy curricula have received attention in the publications of American and British authors of which Clifton Ware (*Basics of Vocal Pedagogy: The Foundations and Process of Singing*, 1998) and Karen Sell (*The Disciplines of Vocal Pedagogy: Towards an Holistic Approach*, 2005) are representative examples.

Furthermore, the value of vocal pedagogy and research receive constant attention in foremost journals such as the *Journal of Singing* – a publication of NATS (National Association of Teachers of Singing) in the USA. In this journal a series of articles entitled ‘Voice Pedagogy’ attests to the relevance of the subject matter.

During my participation at an international symposium of singing in Canada during 2011, the relevance of research in the field of vocal pedagogy curricula came to my attention. One of the keynote speakers, Scott McCoy, a respected author, previously president of NATS and resident professor in vocal pedagogy currently at Ohio State University, mentioned that NATS’s Pedagogy Committee focused on research in vocal pedagogy curricula which culminated in the documentation of research findings during the period 2008–2009. Contact with the chairperson of the Pedagogy Committee – Dr Kathryn Barnes-Burroughs (Director, Southern Institute for the Performing Voice) – led to her sending electronic documents to me containing findings of the Committee. These documents comprise of the following: and will receive more attention in chapter 4:

- NATS Pedagogy Curriculum Development Summary (2008–2009);
- NATS Undergraduate Pedagogy Curriculum (2008–2009); and
- Dr Clifton Ware’s Recommendations for Voice Pedagogy Courses, Undergraduate and Graduate (2009).

A shortened version of the Curriculum Development Summary is provided in chapter 4, as well as certain recommendations made by Dr Clifton Ware. With the kind permission of Drs Barnes-Burroughs, McCoy and Ware the Recommendations for Voice Pedagogy and the Undergraduate Pedagogy Curriculum are included as Appendices A and B of this study.

National and international networking with colleagues at various tertiary institutions, foremost vocal pedagogy authors and researchers not only stimulates debate and promotes the exchange of ideas, but may set the stage for possible future collaborative research.

1.9 Notes to the reader

The usage of terminology needs to be explained in order to enhance the reader's understanding of concepts and to clarify the specific meanings attached to terminology.

1.9.1 The concepts of pedagogy and methodology

For the purposes of this study, *vocal pedagogy* is the preferred term used to label the subject field in question. This choice of terminology is in line with international tendencies where the concept of *vocal pedagogy* is used by both American and British authors whose publications form the basis of my investigation of the literature in the subject field.

Ely and Rashkin (2005, p. 324) define pedagogy or pedagogical content knowledge as teaching knowledge associated with a particular discipline that is necessary to impart the content knowledge of that discipline. They further identify both the knowledge of the subject matter, as well as that of the processes involved in activities associated with it, as important components of pedagogy. Typically, pedagogy modules offered at tertiary level focus on what the authors call the 'nuts-and-bolts' aspects of music (Ely & Rashkin, 2005, p. 324). In the case of this particular study, the focus is narrowed to the specific field of vocal pedagogy.

In education, methodology refers to an orderly and systematic process of imparting information based on philosophical beliefs in a manner which is

purposeful and specific, and usually associated with prominent personae who devised these beliefs (Ely & Rashkin, 2005, p. 265). Furthermore, in the establishment of any kind of methodology, factors such as teaching techniques, curricular content and design, styles of teaching, types of activities and pedagogical approaches play significant roles.

In my view, various methodologies may form part of vocal pedagogy. This study is an investigation of vocal pedagogy literature and the various views and methodologies of teaching vocal pedagogy by respondents as well as my own praxis in order to establish the nature of goals and objectives, scope and sequencing typically associated with vocal pedagogy for undergraduate students.

1.9.2 Usage of the terms goals, objectives and outcomes

In this study I opted to use the terms *goals* and *objectives* as opposed to the term *outcomes*. However, in a few instances in chapter 2 the term *outcomes* are used selectively. Amongst educators in South Africa consensus still needs to be reached about whether outcomes-based education (OBE) has proved to be successful in producing the intended results. Research in the USA also suggests certain gaps in the OBE system and its outcomes (Marsh, 2009, pp. 47–48).

Marsh, a foremost author in the field of curriculum, describes outcomes or outcomes statements as broad descriptions of students' competencies that reflect long-term learning of significance beyond school (Marsh, 2009, p. 47). These competencies have a higher status than the details of any particular curriculum content, sequence or pedagogy (2009, p. 47). He lists points of critique aired in the 1990s against OBE in the USA in terms of the following (Marsh, 2009, p. 48):

- Overemphasis on outcomes rather than on processes;
- Values inflicted by schools which conflict with parental values;
- Fears that OBE may lead to lower standards;
- Concerns that content may become obsequious; and

- Outcomes achieved by students difficult and expensive to assess.

The concept of *outcomes* seems to be specifically related to OBE, and therefore it is a loaded term. For this reason I chose to use similar but more neutral terms – goals and objectives – frequently encountered in publications by foremost authors such as Ely and Rashkin (2005), Oliva (2009) and Petty (2009).

1.9.3 The term scaffolding

The concept of *scaffolding* is frequently used where a facilitating teacher breaks down goals into behavioural objectives which are attainable units for students. This term was coined by Vygotsky in 1978 and refers to the phenomenon that learning occurs best within a cooperative and collaborative context in which a more experienced person guides or facilitates learning (Ely & Rashkin, 2005, p. 481). Ely and Rashkin formally define scaffolding as the process during which teachers provide support, guidance and structure for student learning and then gradually remove the support as students become self-reliant and ideally continue to develop skills and acquire knowledge (2005, p. 391).

1.9.4 Usage of the words teacher and lecturer

In many of the sources that I have consulted, the word *teacher* is used regardless of the level (secondary or tertiary) at which instruction is given. I prefer to use the word *lecturer* as far as teaching at tertiary level is concerned. In certain instances – to accommodate an author's specific usage – I have opted for both words, namely *teacher/lecturer*.

In the discussion of the history of vocal pedagogy the terms *singer-teacher* and *artist-teacher* are retained according to an author's specific usage. As far as *singing teacher*, *voice teacher* or *teacher of singing* are concerned, I have also opted to retain usage according to the specific author's preference. In chapter 4, *lecturer* and *voice lecturer* is used consistently to refer to a person providing tertiary instruction.

1.9.5 The concept of national schools of singing

In Western classical singing, national schools (or pedagogies) of singing developed based on distinct tonal ideals, unique cultural and linguistic influences, as well as aesthetic and temperamental proclivities. The main schools of singing are the English, French, German and Italian schools. Sell (2005, p. 101) mentions the existence of an Eastern European school as well as a Scandinavian school due to distinctive tonal ideals reflected in their pedagogies. In this study, reference to national schools will be limited to the first four schools listed above.

1.9.6 The concept of group voice instruction

This term is used in chapter 4 and pertains to a practice employed by Dr Clifton Ware. *Group voice instruction* or *group voice class* refers to a method of instruction that is applied when teaching more than one person, usually more than three persons and ideally 6 to 8 students that participate in a group. When voice instruction is offered to a choral group, or any group of people it is considered 'group voice'. Such a voice class is more structured according to a specific time frame, instruction content, and specific outcomes, and is usually presented at an academic institution. The fundamentals of voice production and performance are taught according to the needs and parameters of the group, whether it be three singers, a choir, or an audience of inquisitive people. *Group voice* may be considered a more generic term, whereas *class voice* designates a more structured approach.

1.9.7 The concept of voice practicum

The term is primarily used by Dr Clifton Ware, but also describes the contact sessions with pedagogy students and their voice pupils that are monitored by a lecturer in order to hone didactic skills (chapter 4). *Voice practicum* refers to a supervised and/or observed opportunity for a voice pedagogy student to teach voice to a singing pupil that has been recruited for this purpose. It also presents an opportunity for the pedagogy lecturer or instructor to observe and work with both the pedagogy student and his/her voice pupil(s) in a practical, hands-on

teaching situation. A *practicum* is more of a practical approach to learning than an academic one, though both are compatibly combined.

1.9.8 Terminology designating various levels of vocal pedagogy study

I have opted to use *beginner*, *intermediate* and *advanced* in the designation of any aspect pertaining to the levels at which vocal pedagogy is studied, instead of referring to first, second and third year which may be confusing since various tertiary institutions introduce vocal pedagogy during various stages and/or study years of a degree or diploma in music. At some institutions, the first study year of undergraduate vocal pedagogy is introduced during the first year of the degree or diploma, at others during the second or third year. The duration of vocal pedagogy studies also differs from institution to institution; studies seem to be structured over a period of one, two or three years.

1.9.9 The terms module, course and programme

The terminology used in the Department of Music, University of Pretoria, will be adhered to in this study. The terms are as follows:

- *Module* refers to a subject or discipline lectured for either a semester or an entire year.
- At the University of Pretoria, the term *course* has been replaced by *programme* to refer to the combination of subjects and disciplines to be completed in order to obtain a degree.

1.9.10 Citation and sources

As advised by Mouton (2001, p. 228) the American Psychological Association (APA) system of referencing is used throughout this study. All citations in the text have a standardised format which concurs with the comprehensive list of sources at the end of this study.

Primary data was obtained through personal communication that primarily consists of interviews and email correspondence. A detailed list of the respondents' personal communications is provided separately from the list of

sources since interviews and email correspondence are not considered as recoverable data (APA Style, 2010).

1.10 Summary

This chapter was an endeavour to outline the genesis of my research – the background to as well as the aims and value of this study. The main and secondary research questions lead to the investigation of pertinent literature, qualitative research and data analyses that will follow. In the discussion of problems encountered during the study and the notes to the reader I hope to have given some insight into the train of thought and use of terminology that permeate this study.

In the next chapter the focus is on an investigation into literature pertaining to vocal pedagogy as well as to certain aspects of curriculum development, namely the goals, scope and sequencing of the modules offered to undergraduate vocal pedagogy students.

Chapter 2: Literature review

2.1 Introduction

To guide this study and determine key factors which impact on the restructuring of vocal pedagogy modules, the following literature review provides a framework for organising central concepts. The focus is on two main fields of study, namely aspects of curriculum development and vocal pedagogy.

Aspects of curriculum development that are discussed comprise of a description of the concept of curriculum as well as the nature of goals, objectives, scope and sequencing of topics that form part of the design of a set of modules of vocal pedagogy for undergraduate students.

Vocal pedagogy is discussed in terms of various views to describe the concept as well as the 'constellation of complementary disciplines' (Sell 2005, p. 4) of vocal pedagogy which needs to be included in a set of modules for undergraduates. The discussion is guided mainly by the opinions of foremost international authors in the field. They inform and guide my praxis and are reflected in the views and praxes of participants in this qualitative study – the details of which may be found in chapter 4. Furthermore, the discussions and investigation underline the notion that the practice of applied vocal teaching and the scientific principles and theories of singing taught in a vocal pedagogy class are mutually informing.

2.2 Curriculum development and evaluation

In order to produce well-structured and balanced vocal pedagogy modules, clarity is needed about the guiding goals and objectives, scope and sequencing of undergraduate vocal pedagogy modules to educate singers.

The premise of this study is that the design of such vocal pedagogy modules form part of a particular case of the more general process of curriculum development (Posner & Rudnitsky, 1994, p. 12) and involves certain principles of curriculum evaluation as proposed by Ely and Rashkin (2005, p. 119).

Processes in restructuring modules that form part of a programme may be linked to those used in curriculum development which, according to Ely and Rashkin (2005, p. 118), entails changes in the content and design of curricula. Purposive and constructive changes necessitate a process that involves the gathering and analyses of information pertinent to curricular programmes.

The authors mentioned refer to this process as curriculum evaluation (Ely & Rashkin, 2005, p. 119). The principles of curriculum evaluation seem best suited to provide a framework for a systematic approach to the restructuring of the modules of vocal pedagogy for undergraduate students. Ely and Rashkin (2005, p. 119) assert that curriculum evaluation typically focuses on the following issues:

- The material that should be taught and learned;
- The reasons why this material should be taught and learned;
- How this material should be taught;
- When this material should be taught; and
- The ways in which students can be assessed.

For the purposes of this study the following issues will be investigated:

- Goals and objectives – the reasons and the manner – or 'why' and 'how' material should be taught;
- Content or scope – programme material – or 'what' is to be taught in undergraduate vocal pedagogy modules; and
- Sequencing – organising of content into a relevant order – or 'when' this material should be taught.

To place the concepts of programme design as well as curriculum development and evaluation in context, the wide-ranging term called *curriculum* and related key concepts need to be investigated.

2.2.1 The curriculum

From literature it becomes clear that defining the concept of curriculum is a task of singular difficulty and perplexity. Authors like Jackson (1992, pp. 5–10) and Bradford Wing (1992, p. 196) remark on the definitional variety of the concept of curriculum that reflect the different perspectives from which these definitions originated. A brief historical perspective on curriculum from the 1960s to the most recent definitions not only indicates how views have developed, but also how some aspects have remained relevant. The following authors' ideas on curriculum share fundamental characteristics and will inform this study. They are listed chronologically:

2.2.1.1 Taba

According to Taba (1962, p. 10) curriculum contains statements of aims and specific objectives; it indicates content selection and organisation, as well as an evaluation of the outcomes of a programme.

2.2.1.2 Inlow

Inlow (1973, p. 4) sees curriculum as a body of 'value-goal-oriented' learning content which will result in changed student behaviour when put into practice by instruction.

2.2.1.3 Posner and Rudnitsky

These authors describe the curriculum as an indicator of the material to be learned as well as a guide to instructional planning (1994, pp. 8, 16).

2.2.1.4 Walker

Walker (2003, p. 5) defines curriculum as a particular way of ordering content and purposes for teaching and learning. Content is seen, amongst others, as topics to be covered. Purposes are the reasons for teaching specific content. Fine-grained purposes are stated as goals and objectives. Content and purpose may be ordered in many ways such as a hierarchical, linear or thematic sequence.

2.2.1.5 Ely and Rashkin

These authors note that one of the various ways in which curriculum is used, is to state the content of a particular course or programme (2005, p. 118).

2.2.1.6 Hewitt

For Hewitt (2006, pp. 404, 406) curriculum represents the central purpose of schooling or the presentation of particular content for learning. He further identifies curriculum fundamentals as scope, sequence, continuity and balance.

All of the above definitions refer partly, directly or indirectly, to the following concepts associated with and forming an integral part of a curriculum that will ultimately guide an instructional plan, programme or modules:

- goals and objectives;
- scope (or content); and
- sequence.

These concepts will form the foundation of the investigation of the modules of vocal pedagogy for undergraduates proposed in this study.

2.2.2 Goals and objectives ('Why' and 'how?')

The statement or embedding of goals and the construction of objectives give direction or guide the lecturer how to teach subject matter. However, curriculum development, programme and module planning are all planning processes which do not result in learning – only the instruction process effects that (Posner & Rudnitsky, 1994, p. 8). Instruction is the means of making the curriculum operational (Oliva, 2009, p. 16). Clearly formulated instructional goals and objectives direct the process of instruction, and are usually specified by a classroom teacher/lecturer, sometimes assisted by other teachers/lecturers or local curriculum groups (Oliva, 2009, p. 310).

Goals may be defined as an end-state or condition towards which students work and refer mainly to what a teacher/lecturer hopes to achieve at the end of modules or the curriculum. They are characteristically long-ranged and broad-

based, and are achieved when specific objectives are met by students (Ely & Rashkin, 2005, p. 184). Oliva (2009, p. 329) describes instructional goals as statements written in non-behavioural terms which do not contain criteria of mastery and which provide direction for specifying instructional objectives. Objectives are also referred to as the learning 'product' and the manner in which students experience the learning 'process'. The quality of this process depends on the high-order thinking skills that are developed during learning (Petty, 2009, p. 418).

Petty (2009, p. 419) remarks that how you teach is more important than what you teach. He emphasises that it is not topics, but what students **do** that ultimately decides which skills they learn. Typical examples of goals in vocal pedagogy may be structured as follows:

- Students should be guided to develop knowledge and understanding of breathing for singing;
- Students should be facilitated to gain knowledge and skills of the correct pronunciation of Italian; and
- Guided opportunities for students to teach a beginner singer should be created.

Goals may be compared to a compass indicating a teacher's/lecturer's general direction (Petty, 2009, p. 410) and are mainly derived from the following:

- a needs analysis;
- a task analysis; and
- negotiations with students.

Negotiation forms an effective scaffolding strategy (supporting and facilitating to foster self-reliance) to involve and empower students. This ultimately leads to their independence in thought and task execution.

Petty (2009, p. 411) warns that goals in themselves do not guarantee learning. The bridge, sometimes abyss, between teaching and learning is gapped by

objectives or learning outcomes. Objectives shift the focus from teaching (where goals are set) to learning (where objectives are attained).

Ely and Rashkin (2005, p. 307) define objectives, or behavioural objectives, as short-range steps to accomplish long-range goals. They characteristically state what students should learn, the level of mastery and the estimated period of learning. According to Beane, Toepfer and Alessi (1986, p. 229), instructional objectives define specific and immediate outcomes of particular teaching-learning situations and serve the following purposes:

- Clear direction is given to the programme or modules;
- Guidelines are provided for design and selection of meaningful content; and
- Guidance is provided for measuring student progress.

Petty (2009, p. 411) creatively uses the acronym **SMART** to describe the nature and advantages of an approach focusing on objectives or learning outcomes.

S	Specific	Stipulated precisely in concrete terms
M	Measurable	Written so as to determine whether achieved or not
A	Agreed	Drawn up to suit resources, teacher/lecturer and student
R	Realistic	Circumstances under which achievement of an objective is demonstrated and that which constitutes achievement
T	Time-bound	Usually in the short-term.

Petty (2009, p. 417) emphasises the important role of objectives or learning outcomes by saying that devising objectives is no easy matter, but that the process of elucidation it encourages is vital to effective teaching.

Outcomes of a programme or of modules will be influenced by the values underlying the reasons for teaching selected material. Bradford Wing (1992, p. 212) remarks that values play a crucial role in curriculum and determines the integrity of the content to be taught. Ely and Rashkin (2005, p. 316) qualify

outcomes as general or specific, and describe this concept as referring to the results and consequences of teaching.

To give structure to objectives or learning outcomes, Bloom's taxonomy – proposed by a committee of educators chaired by Benjamin Bloom in 1956 – classifying learning into three domains still proves to be a valuable guide in the 21st century (Bloom, Engelhart, Furst, Hill & Kratwohl, 1956). A simplified version of this taxonomy is provided by Petty (2009, p. 413) and table 1 below is an adapted version illustrating the three domains of learning. Objectives are bulleted in bold type and examples of directives to students are printed in italics:

Table 1: A simplified version of Bloom's taxonomy of learning domains (based on Petty, 2009, p. 413)

Cognitive domain	Affective domain	Psychomotor domain
Objectives are categorised in order of progressive difficulty:	Objectives are concerned with the following:	Objectives include motor or physical skills, including the following:
<ul style="list-style-type: none"> ● knowledge <i>to be able to – state, recall, recognise, select, reproduce, draw...</i> ● comprehension <i>to be able to – explain, describe reasons for, identify causes of, illustrate...</i> ● application <i>to be able to – use, apply, construct, solve, select...</i> ● analysis <i>to be able to – break down, list component parts of, compare and contrast, differentiate between...</i> 	<ul style="list-style-type: none"> ● attention ● interest ● awareness ● values ● aesthetic appreciation ● attitudes (moral, aesthetic and others) ● opinions ● feelings <i>to be able to – appreciate the importance of, listen to, have an awareness of, respond with personal feelings to, have an aesthetic appreciation of, have a commitment towards, recognise the moral dilemmas involved in, believe in your own ability to...</i> 	<ul style="list-style-type: none"> ● sense perception ● hand-and-eye coordination ● voice-body integration (specifically for singers) <i>to be able to – coordinate breath flow and sound production, feel your muscles, and experience free sound production</i>
<ul style="list-style-type: none"> ● synthesis <i>to be able to – summarise, generalise, organise, design, explain the reason for...</i> ● evaluation <i>to be able to – judge, evaluate, give arguments for and against, criticise...</i> 		

Typical examples of objectives or learning outcomes may be formulated as follows in tables 2, 3 and 4:

Table 2: Sample goal and objectives for beginner vocal pedagogy students

Beginner vocal pedagogy students
Sample goal:
<ul style="list-style-type: none"> Students should be guided to develop knowledge and understanding of breathing for singing.
Sample objectives:
<ul style="list-style-type: none"> At the end of the third contact session, students should be able to name the four stages of breathing for singing. At the end of the semester, students should be able to explain the concept of <i>appoggio</i> breathing and discuss its benefits for singers. At the end of the semester, students should be able to demonstrate their ability to practically apply knowledge of correct breathing by teaching breathing principles to a peer during a workshop.

Table 3: Sample goal and objectives for intermediate vocal pedagogy students

Intermediate vocal pedagogy students
Sample goal:
<ul style="list-style-type: none"> Students should be facilitated to gain knowledge and skills of the correct pronunciation of Italian.
Sample objectives:
<ul style="list-style-type: none"> After the third contact session, students should be able to recognise and use phonetic symbols from the IPA (International Phonetic Alphabet) to transcribe parts of the song text. After the fourth contact session, students should be able to use phonetic script to transcribe the texts from the following <i>arie antiche</i>: <i>Caro mio ben</i> (Giordani), <i>Per la Gloria</i> (Bononcini) and <i>Le Violette</i> (A. Scarlatti). At the end of the semester students have to give an aesthetic appreciation focusing on the interpretation of selected repertoire from the pre-1750 period.

Table 4: Sample goal and objectives for advanced vocal pedagogy students

Advanced vocal pedagogy students
Sample goal:
<ul style="list-style-type: none"> Guided opportunities for students to teach a beginner voice student should be created.
Sample objectives:
<ul style="list-style-type: none"> After the third contact session, students have to summarise common technical problems encountered by novice singers. At the end of the semester, students have to study and evaluate given repertoire and provide a justification of the repertoire selection for a beginner voice student.

In order to place objectives or learning outcomes within the reach of all students, a further refinement of objective types may prove useful, namely mastery and developmental objectives (Petty, 2009, p. 415). Whereas mastery objectives are relatively easy to attain, developmental objectives require higher-order thinking skills to accomplish. Petty (2009, p. 415) classifies mastery objectives as straightforward learning tasks of which the achievement relies on the time spent executing them. Far from being trivial, these objectives guarantee success, motivation and reinforcement for all students – also for those with more limited abilities. They represent the minimum requirements for passing a module.

Developmental objectives on the other hand, are dependent on factors such as time and effort spent to achieve them, as well as a student's innate abilities. According to Petty (2009, p. 415) continuous development rather than complete mastery forms the focus in developmental objectives which stimulate and challenge the more gifted student and maximise individual development. The ideal process of formulating objectives involves a combination of mastery and developmental objectives which will maximise the development of all students, while taking into account their varying abilities (Petty, 2009, p. 415).

2.2.3 Goals as tools of scaffolding

The term *scaffolding* has already been described under 1.9.3 of this dissertation as a term coined by Vygotsky in 1978. This term may be defined more formally as the process during which teachers/lecturers provide support, guidance and structure for student learning and then gradually remove the support as students become self-reliant and ideally continue to develop skills and acquire knowledge (Ely & Rashkin, 2005, p. 391).

As far as the practical aspects of vocal pedagogy is concerned, Sell (2005, p. 127) remarks that to a great extent singers have to teach themselves. Therefore the role of the teacher/lecturer should be to develop the traits of independent criticism and reflection in the student. Three self-help principles or 'proprioceptive stratagems' (Sell 2005, p. 129) may be seen as goals that every

student, performer and teacher/lecturer of the voice should set out to achieve, namely:

- Hear differences in differently produced sounds;
- Feel differences in differently produced sounds; and
- See what is happening physically resulting from various technical exercises and applications (Sell 2005, p.127).

Objectives or learning outcomes stated clearly by the lecturer are excellent scaffolding tools that entrench the lecturer as the facilitator, empowering the student to take ownership of course material and to set about an internal motivational process that ultimately leads to continued independent learning. Applied to vocal pedagogy, a lecturer's goal would typically be stated as follows:

- Students should be facilitated to develop knowledge and understanding of breathing for singing.

The above example may be broken down into more detailed objectives or learning objectives with each objective's domain(s) of learning indicated in brackets. Accordingly, students should be able to:

- Recognise, list and describe the anatomy and physiology of the breath mechanism (cognitive domain);
- Identify what breath support and control entail (cognitive domain);
- Accurately describe their awareness (cognitive domain) and physical experience of appropriate body sensations (psychomotor domain);
- Describe and demonstrate the concept of *appoggio* breathing (cognitive domain); and
- Appreciate the importance of the correct bodily sensations as well as the anatomical knowledge that precedes a positive response (affective domain).

From the above example it becomes clear that all domains were included in the stated objectives or learning outcomes for the student. Not only will the student's voice-body integration skills (psychomotor domain) demonstrate progress after internalising and practically applying all the knowledge, but phonation and resonance will also benefit considerably.

When all domains of learning are stimulated and integrated, one may appropriately refer to a student experiencing the so-called 'aha-effect'. This effect refers to the phenomenon whereby students will recall concepts, for which work had to be done to enable initial comprehension, more easily than concepts which were understood from the outset or that remained incomprehensible (Auble, Franks & Soraci, 1979, p. 426).

2.2.4 Embedding goals and objectives

Petty contends that experienced teachers/lecturers often do without lesson plans; they begin to define objectives in a less formal manner but more fully. He refers to a process of embedding objectives in a comprehensive set of learning activities, worksheets, assessments and practical activities, for which students are expected to receive a minimum mark in order to pass (Petty, 2009, p. 417).

A word of warning is extended by Petty that, although an embedding system may be successfully implemented, responsibility cannot be handed over entirely to it. The completion of a learner-centred task does not guarantee learning, for students may not fully understand what they have done (Petty, 2009, p. 418).

For this reason I believe that clearly stated objectives, especially for entry level students, fulfil an important role. As the student becomes more independent, embedding of objectives may be used increasingly to introduce carefully considered skills and techniques.

2.2.5 Scope (What?)

The material to be taught may be referred to as the body of knowledge; it characteristically involves relevant subject matter. Oliva describes material in terms of scope, or the 'what' of curriculum organisation (2009, p. 428). Scope constitutes the content of any programme, set of modules or grade level

identified (amongst others) as the topics, learning experiences, or organising centres (Oliva, 2009, p. 417).

An investigation of the scope of vocal pedagogy follows later in this chapter and will be continued in the data analyses in chapter 4.

2.2.6 Sequence (When?)

Ely and Rashkin (2005, p. 405) maintain that teaching and learning efficiency is directly dependent upon a teacher's/lecturer's ability to organise information or content in a logical or appropriate manner. Oliva (2009, p. 428) refers to sequence as the 'when' of curriculum organisation which answers the question of when and where focal points of the programme will be placed. The difference between understanding and confusion lies in appropriate sequencing and pacing, or the rate at which information is transmitted to students (Ely & Rashkin, 2005, p. 319).

2.3 Vocal pedagogy

Several perspectives of what vocal pedagogy comprises of may be found in literature. Appelman (1967, pp. 2, 4) describes vocal pedagogy as the analysis of a complex psychophysical act which by necessity is both scientific and aesthetic. Kiesgen (2005, p. 44) shares the opinion that vocal pedagogy is both art and science, and concludes that it consists of scientifically based discussions focusing on the working of the voice combined with the application of that information to improve singing.

Ware defines vocal pedagogy as a process of training by means of a prescribed course of study including a combination of principles, rules and procedures relating to the development, exercise and practice of the art of singing (1998, p. 255). He also quotes the pre-eminent voice scientist Ingo Titze who coined the term *vocology* referring to the area of study concerned with both the science and the art of voice (1998, p. ix).

In my view, the key motivation of a voice lecturer is to provide students with knowledge and skills that will enable them to achieve the ultimate goal where natural talent is nurtured into a perfect fusion of artistry and technical prowess.

In this process of imparting knowledge and skills to students, not only minds (science) are engaged, but also hearts and emotion as well as the desire to communicate through music (aesthetics):

Motivated students nurtured by competent, dynamic, holistically oriented teachers tend to experience personal development in addition to vocal improvement (Ware, 1998, p. viii).

In a recent publication, the author Karen Sell (2005, p. 177) convincingly argues her rationale behind a broader scope of work. She postulates that there is more to educating singers and singing teachers than simply training their voices (Sell, 2005, p. 1). Her holistic view of educating singers, performers and teachers alike, as well as her advocacy of the inclusion of certain auxiliary and supporting disciplines provide not only a rich learning environment but also a highly functional model for developing or restructuring the modules of vocal pedagogy for undergraduates. Traditional and newly related disciplines advocated by Sell appear as follows in her table of contents (2005, p. v):

1. A History of Vocal Pedagogy
2. Ethics, Psychology, and Vocal Pedagogy
3. Science and Vocal Pedagogy
4. Voices, Tonal Ideals, Classification, and Technique
5. Performance

Sell describes her framework as an endeavour to contain all relevant disciplines into a single study in order to show how these involved and mutually informing disciplines contribute to classical singing in a variety of supporting ways (2005, p. 177). In his comprehensive introductory text for tertiary level education – *Basic Vocal Pedagogy: The Foundations and Process of Singing* (1998) – Clifton Ware included much of what Sell proposes as disciplines of vocal pedagogy. Ware (1998, p. viii) designates his book primarily for prospective teachers of singing, but believes that users ranging from vocal educators at secondary level, choir directors and intermediate-to-advance level singers will benefit by using it as text book, training manual and general reference book.

The integrated nature of phenomena in vocal pedagogy points to the concept of *gestalt* in psychology which may be described as an organised whole that is perceived to be more than the sum of its parts (Tulloch, 1994, p. 626). Doscher

(1994, p. 211) describes the singing mechanism also in terms of a *gestalt* and the study of its parts as an artificial separation for the purpose of instruction.

In practice many processes are interdependent; therefore, rich resonance cannot be achieved without clear diction and free sound production which rely on efficient articulation and breath management as well as on the mastery of dynamic body alignment. The continuum in which these processes exist and develop indeed makes for an artificial separation of units. The challenge for each lecturer lies in providing knowledge in a sequence organised in such a manner that best will equip students to eventually attain independence and be fully functional in a multi-faceted career.

Topics or phenomena representing the scope of vocal pedagogy will now be discussed. The views of a variety of authorities informing my praxis are reflected.

2.3.1 An overview of the scope of vocal pedagogy history

The views of the authors cited in this discussion inform my own praxis and are important to provide a historic basis for vocal pedagogy. Ware remarks that a voice teacher's pedagogy is mostly a synthesis of methods and techniques gleaned from many sources from the past and present which inevitably include one's own teachers' viewpoints (1998, p. 249). Sell adds that the variety of methodologies and variants necessitates a teacher's ability to make informed and intelligent choices about methods, thereby encouraging vocal efficiency and freedom (2005, p. 38).

Knowledge of certain traditions (for the purpose of this study: traditions of Western vocal pedagogy) is useful as part of the equipment of a teacher to help a singer in distress and to detect damaging techniques that have been passed on from certain schools of thought or the legacy of certain pedagogues. Furthermore one can avoid the indiscriminate teaching of technique and distinguish between the use of imagery which may prove suitable for interpretation but meaningless for teaching technique (Sell, 2005, p. 177).

The history of vocal pedagogy inevitably includes the history of singing which again is integrated with the history of the development of the folk song, the art song, the opera as well as the oratorio. Each of these areas of study is a specialisation field in its own right and will not receive attention due to the limited scope of this study. However, reference should be made to research published by John Koopman, *A Brief History of Singing* (1999), in which an overview of the highlights of the history of singing is given from antiquity to 1590; the development of opera (1590–1680); the standardisation of opera (1680–1770); cultural and political influences on expressivity (1790–1850); Wagner, Verdi and continuous music (1850–1920); as well as influences of modernism from 1920 to the present day.

2.3.1.1 Vocal pedagogy in antiquity to pre-16th century

In this era the foundation of vocal pedagogy was established. Ware (1998, p. 249) believes that theoretically, the roots of vocal pedagogy in Western civilization can be traced to ancient Greece and Rome and specifically to the philosopher/scientist Aristotle (384 BC – 322 BC) and one of the first laryngologists, Galen (129 AD – circa 200 AD). Current vocal performance practice is generally thought to have their foundations in the legacies of the Hebrew synagogue's ecclesiastical and the Catholic Church's liturgical chants which were both influenced by Mediterranean culture (Ware, 1998, p. 249). The pedagogical writings prior to the 16th century did not contribute to the canon of vocal pedagogy literature and were mostly descriptions of singers' tone qualities (Ware, 1998, p. 249)

2.3.1.2 Vocal pedagogy in the 16th century

Vocal practice that is still adhered to today hails from the 1700s. Ware identifies emerging trends such as increased vocal ornamentation (first half of the 1500s) and the rise of the female singer (second half of the 1500s) to be factors that gave rise to various pedagogical writings, and most significantly to an Italian physician, singer and lutenist, Giovanni Camillo Maffei (fl. 1562–1573), whose discourse is considered to be the earliest complete singing method (Ware, 1998, p. 249–250).

Sell remarks that all these teachings were empirical and not concerned about technical detail on how to teach the voice. Most pedagogues were more concerned with embellishments, the recognition of vocal registers, noble posture and when to breathe. Moreover, vocal quality characterised by lightness, flexibility and softness were the tonal ideal of the time (Sell, 2005, p. 10–11). These qualities, especially lightness and flexibility of the voice, are still regarded today as an essential part of healthy vocal technique.

2.3.1.3 Vocal pedagogy in the 17th and 18th centuries

The 17th and 18th centuries may be considered as the time during which vocal technique became a focal point in the early study of singing. Sell (2005, p. 13) regards vocal pedagogy in the 18th century to be the cornerstone for vocal technique upon which much of today's international historic Italianate teaching is based. Ware distinguishes three important vocal trends emerging at the turn of the 17th century that shaped the development of singing, namely:

- The continuing rise of the professional opera singer, specifically the *castrato*;
- The formation and spread of the Italian singing style *bel canto* (beautiful singing) focusing on complete vocal control; and
- The virtuosic cultivation of vocal ornamentation (1998, p. 250).

The two most important Italian schools of singing were the Bolognese school founded by the castrato Francesco Antonio Pistocchi (1659–1726) and the Neapolitan school founded by Niccola Porpora (1686–1768) who was revered as voice teacher rather than great singer (Sell, 2005, p. 13; Ware, 1998, p. 250).

The emergence of national schools of singing was already evident with authorities in vocal tuition hailing from Italy, Germany and France (Sell, 2005, p. 15–20; Ware, 1998, p. 250). Notably Luigi Cherubini (1760–1842) and Bernardo Mengozzi (1758–1800) worked towards publishing a famous treatise on vocal method in 1803 answering to the request of French authorities of the

Conservatoire Nationale de Musique (established in Paris, 1795) to produce a systematic method of teaching singing (Sell, 2005, p. 19).

According to Ware, most vocal authorities in the Baroque era seem to be in agreement on four essential technical and artistic aspects of good singing, namely:

- good intonation;
- reliable breathing technique;
- clarity of diction; and
- appropriate textual expression (1998, p. 250).

These technical and artistic aspects are still regarded as essential for vocal performance of a high standard today.

2.3.1.4 Vocal pedagogy in the 19th century

This era may be considered as the genesis of scientific methods in singing and technology supporting it. Ware (1998, p. 250) notes that the 19th century marks the advent of profound changes in singing partly due to scientific discoveries that gave momentum to vocal research in the fields of anatomy, physiology and acoustics. He cites the invention of the laryngoscope which is followed by the auto-laryngoscope, the discoveries in acoustics through research by laryngologists on vocal hygiene as significant contributions to scientific developments of the century (Ware, 1998, p. 251).

Sell (2005, p. 21) highlights the transition from *bel canto* to *verismo* which occurs in this century and remarks that the new realistic/naturalistic style in opera calls for a darker and heavier sound as opposed to the clarity and agility of the *bel canto* style. Ware ascribes the changes in singing to the dramatic demands on the voice by composers such as Verdi and Wagner (1998, p. 250).

The increasing Germanic influence spanning from composition to voice training contributed towards the new vocal aesthetic and trends which may be summarised by the following:

- The decline of the art of improvisation and ornamentation due to the new style in opera and song;
- The need for larger performing halls to accommodate increasingly larger and diverse audiences and more powerful voices;
- The extension of orchestras;
- The gradual rise in concert pitch;
- The need for a wider range of voice classifications as opposed to standard voice types; and
- The romantic ideal of richer emotional expression (Sell, 2005, p. 31; Ware, 1998, p. 251).

Noticeable in this era is the increase in scientific approach to vocal pedagogy. Aspects in modern vocal pedagogy have its genesis in this century. Influential teachers of the time include Manuel Patricio Garcia II (1805–1906) who came from the famous Spanish family of voice teachers. He and his sisters, Maria Felicita Malibran (1808–1836) and Pauline Viardot Garcia (1821–1910), both renowned performers, received Italianate voice training from their father Manuel del Pópulo Vincente Garcia (1775–1832), the great tenor and teacher for whom Rossini composed *Il Barbiere di Siviglia* in 1816 (Radomski, 2000).

Garcia II taught at the *Conservatoire de Paris* (1830–1843) and at the Royal Academy of Music, London (1848–1875). He is credited for various treatises and the invention of the laryngoscope (1854), but controversial for his teaching of the *coup de glotte* (stroke of the glottis) and the alleged usage of science to provide shortcuts in voice training. From his school however, came fine artist-teachers such as Mathilde Marchesi (1821–1913), a famous German mezzo-soprano who taught women only; Julius Stockhausen (1826–1906), a German baritone and *Lieder* specialist famous for his linguistic approach (anticipating the phonetic work of Appelman and Coffin in the 20th century); Charles Amable Battaille (1822–1872), a leading French bass and medical student, credited for the invention of the auto-laryngoscope; and Charles Santley (1834–1922), an English baritone and teacher (Sell, 2005, pp. 21–29; Ware, 1998, p. 251).

Of the most important pedagogues in the 19th century was the father-son duo Francesco (1811 or 1813–1892) and Giovanni Battista Lamperti (1839–1910) whose legacy would inform pedagogues like Richard Miller (1926–), the doyen of Northern American vocal pedagogy, who received training in Lamperti's method. This method is based on the fundamentals of powerful breath energy, trueness and ease of tonal production and clear diction with a focus on aspects such as individuality, body-mind connections, ethics and aesthetics (Sell, 2005, p. 25; Ware, 1998, p. 251).

Other well-known pedagogues include the Italian Enrico Delle Sedie (1822–1907), an early Verdi baritone and famous for his publication of a vowel chart clarifying modifications of the French [a] vowel; and Emma Seiler (1821–1887), a German singer-teacher who became known for her research into vowel formation and specialisation in the registers of the female voice.

Pedagogues such as Giovanni Sbriglia (1832–1916), a Neapolitan tenor, and the German soprano Lilli Lehmann (1848–1929) departed from the historic Italianate school and provided advice that was of variable quality (Sell, 2005, pp. 30, 31). Some vocal pedagogues and their teachings became known for the wrong reasons, an example being the ill-reputed Frenchman Louis Mandl (1812–1881) who incorrectly equated low abdominal breathing with diaphragmatic breathing. The so-called 'down and out' method of low abdominal breathing is unfortunately taught to this day. According to this method, students were taught to breathe by pushing down the diaphragm and protrude the lower abdomen (Sell, 2005, pp. 25, 29). McKinney (1994, pp. 59–60) classifies this breathing phenomenon as an incorrect breathing method called 'belly breathing' which has the effect of locking the diaphragm in its lowest position. It limits the upward movement of the diaphragm during exhalation; results in a sunken chest and protruding abdomen; severely limits breath support for the upper voice; and can result in problematic tone colour and vibrato.

According to Ware (1998, p. 251), the scientific base established in the 19th century would positively affect vocal pedagogy well into the 20th century and beyond.

2.3.1.5 Vocal pedagogy in the 20th century and beyond

Vocal experimentation, new developments in opera and technological advances in enhancing vocal sound are important characteristics of the century under review. Ware (1998, p. 252) distinguishes the following important vocal trends:

- Increased vocal experimentation, such as *Sprechgesang* (speech song) and *avant garde* music;
- Technological progress such as electronic amplification and sound recording;
- The Wagner cult (purists retaining the authenticity and accuracy of style and performance practice of Wagner's operas) of the 1920s and 1930s;
- Development of Italian *verismo* (realistic/naturalistic) opera; and
- The performance of early music in an historically informed style.

Besides the still flourishing Italianate school of singing, other tonal ideals were beginning to be embraced in France, Germany, Northern Europe and Britain and peculiarities of language began to emerge, such as French nasality, German hard consonants and the Spanish aspirate.

Nationalism prevailed and in Germany an individual liturgical style in the Lutheran tradition developed, song recitals were established and German culture is glorified in the operas of Weber, Marschner and Wagner. In Russia composers such as Glinka, Mussorgsky and Borodin preferred to use indigenous history and literature for their operas (Sell, 2005, p. 32).

Sell identifies various influential teachers of the time. William Shakespeare (1849–1931) was a tenor and follower of the Lampertis who also embraced aspects of the English school. Herbert Witherspoon (1873–1935) was also a product of the Lamperti school and became a founder member of one of the oldest voice teacher associations in the world – *The American Academy of Teachers of Singing*. Harry Plunket Greene (1865–1936), an English tenor also trained in the Italian school, published a seminal work in 1912 – *Interpretation in*

Song which is still used today. In Germany, Franzisca Martiessen-Lohmann (1887–1971) was an important figure who published significant works and criticised certain German practices such as heavy covering of the voice, too much head voice usage and the low positioning of the larynx (Sell, 2005, pp. 33–35). Lohmann's views are still relevant for today's practices.

Damaging approaches abound in the century under review and Sell identifies some of these pedagogues and their dubious ideas. From Germany come the teachings of such a pedagogue, namely Georg Armin (1871–1963) who promoted the cultivated grunt or sudden release of glottal tension at phrase endings. The Polish tenor and teacher Jean de Reszke (1850–1925) promoted personal ideas about the art of singing and favoured the collapsed chest and rounded shoulders as a more 'relaxed' breathing technique. Another pedagogue who was born in the USA but taught mainly in Germany, Frederic Husler (1889–1969), lamented the decline of the traditional empirical method and expressed fallacious ideas about the so-called 'placement' of sound which he tried to justify by all kinds of physical manoeuvres to effect what is known today as resonance balancing (Sell, 2005, pp. 34–35).

Three English school pedagogues, E.G. White (1863–1940), E. Herbert-Caesari (1884–1969) and Douglas Stanley (1890–1958), form the focus of Sell's discussion. She highlights White's preoccupation with sinusoidal resonance and Caesari's endeavours to promote the blending of natural singing with mechanical methods. It is speculated that two of Stanley's publications promote the application of scientific findings to vocal pedagogy, because of this author's damaged voice allegedly due to British teaching (Sell, 2005, p. 36).

Sell (2005, pp. 36–37) concludes her discussion of voice teachers by listing noted pedagogues from the United States: William Vennard (1909–71), who wrote the influential treatise *Singing, the Mechanism and Technic* (1967); Berton Coffin (1910–87), world renowned pedagogue, versed in the historic Italianate school and an expert in vocal repertoire; Ralph Appelman (1908–1993), renowned singer and theorist; and Richard Miller hailed for developing a pedagogical *lingua franca* with his writings.

Ware remarks that a vibrant international economy after World War II spurred educational expansion which produced growing numbers of music programmes as well as tertiary institutions, and also promoted research. The vast range of publications on vocal pedagogy by academicians during this period is testimony to these developments. Various prominent vocal pedagogues of the second half of the 20th century are identified, but Ware regards the works of William Vennard, Ralph E. Appelman, Barbara Doscher (1922–1996), Meribeth Bunch (1938–) and Richard Miller as standard reference books on vocal pedagogy. Furthermore, medical perspectives by laryngologists and voice specialists also form part of the body of indispensable reference works in vocal pedagogy (Ware, 1998, p. 252).

The different views expressed and theories postulated by vocal pedagogues are indicative not only of various methodologies but also of continued research to provide new technology and information to promote diagnosis and correction of vocal challenges. In my praxis I strive to stay abreast of new developments. Research in and circulars from the music library of the University of Pretoria, regular updates about new sources from online retailers such as ABE Books, Amazon and Google Books, as well as attending national and international symposiums and conferences are important means to stay abreast of new literature and developments in vocal pedagogy. Furthermore, academic journals keep me informed about ongoing discourse and new ideas in my subject field. The following academic journals (in alphabetical order) may be accessed via the University of Pretoria's library website:

- Journal of Laryngology and Voice;
- Journal of Singing;
- Journal of Voice;
- New Voices in Classical Reception Studies;
- San Francisco Classical Voice;
- Sing Out; and
- Voices.

2.3.2 Comparative pedagogies: Approaches and styles

Chapman (2006, p. 2) believes that all good teaching is informed by a philosophy that underpins its practice. What may begin as an unconscious philosophy may in time develop into a conscious and systematic working method which is not static but ever developing and refining in an ongoing learning process. Sell (2005, p. 183) appropriately remarks the following about the lifelong educational journey of both students and teachers of singing: 'When the initial training is complete the learning process is barely begun.'

Ware (1998, pp. 252–253) summarises various teaching philosophies into three fundamental contrasting approaches to singing that can be categorised as the holistic, mechanistic and eclectic pedagogies – the latter being an effective integration of the two aforementioned approaches.

The holistic approach may be described as evoking psycho-physical or 'whole person' responses that are more intuitive. Chapman (2006, p. 3) describes the act of singing as holistic involving the body, mind, spirit, emotion and voice of a person. This approach involves mental imagery and metaphors as well as using methods based on *Gestalt* Psychology such as inspiration and praise to cater for the psycho-emotional needs of students. The so-called 'progressive school' of teaching popularised by John Dewey, an educational philosopher, may be cited as an example where the holistic approach is employed by encouraging students to define their own goals and even select their own solo repertoire (Ware, 1998, p. 253).

The mechanistic approach relies on scientific and realistic references where the teacher uses more direct control in exerting physical effort to habituate new body-mind responses. Chapman (2006, p. 8) describes this teaching approach as 'physiological', basing it on the law of anatomy, muscular function and the effects of muscular interactions which implies that the approach relies on fact rather than myth. This approach typically employs methods such as demonstration-imitation to teach and learn technique, the phonetic or the 'sing as you speak' dictum by means of heightened language expression and behavioural psychology whereby appropriate stimuli are used to condition

reflexes that will move from the conscious to the subconscious (Ware, 1998, p. 253).

In my own praxis an eclectic teaching method has proven to be the most appropriate since it includes useful and supportive aspects of different schools of thought. Ware (1998, p. 253) supports this notion that most teachers tend toward an eclectic approach since teaching individual students demands flexibility of method. Chapman (2006, p.10) emphasises the importance of an incremental approach to the teaching process which means that singing can be broken down into manageable components which have a natural hierarchy of effect. This notion closely links up with Barbara Doscher's *gestalt* view of the study of the various parts of singing having to be artificially separated in order to be instructed properly and systematically (1994, p. 211).

Teachers should be aware of their own basic style and mode of teaching and Ware identifies two contrasting models – the didactic and the critical thinking models. The former tends toward the mechanistic, fundamental instructional methods and techniques whereby knowledge is based on acquiring information and skills and is best learnt sequentially. The latter is associated with abstract, holistic, liberal, experimental instructional methods and techniques whereby students are taught how to think by concentrating on significant subject matter stimulating assimilation, analysis and assessment of knowledge (Ware, 1998, p. 260). My own view is that elements of both these models contribute towards a holistic approach in teaching voice.

The eclectic style of teaching preferred by most teachers combines the methods of didactics and critical thinking. Whereas there is educationally enough justification for learning specific facts such as essential musical or vocal terms, the basics of vocal anatomy and so forth, it is of vital importance for the singer's creative capacity and appreciation of aesthetics to be stimulated as well. This would characteristically involve background information about composers, poets and the texts of songs and arias (Ware, 1998, pp. 260–261).

Miller (1986, pp. 209–212) discusses pedagogical attitudes and identifies four different kinds of teachers that may typically be found in the profession:

- The technically intense teacher, who focuses on the diagnosis and correction of challenges in vocal technique;
- The interpretation-oriented teacher, who avoids technical specifics and focuses on musical and interpretative matters;
- The technique-mystique teacher, who relies on intuitive technical revelations unavailable at any other school or studio; and
- The one-aspect teacher, who bases the method on a single facet of the technical complexity of training the voice, such as 'resonance', 'agility', 'posture' and a host of other isolated features.

The ultimate goal for vocal pedagogues is balance in pedagogical attitude.

Miller (Miller, 1986, p. 213) distinguishes three important principles that may ensure this desired balance and which will impact positively on the vocal teaching profession:

- Stability, which results from possessing a constant body of factual, scientifically based information;
- Growth, which is the willingness to incorporate new, verified concepts and information and a willingness to change; and
- Artistic imagination and musicianship.

2.3.3 Philosophy of singing

Although more research is required to explain the exact process of the impulse to sing, the neurological origin of sound is described as a passage of neural impulses by two branches of the *vagus* nerve to the larynx (Sell, 2005, p. 110).

Despite eloquent arguments provided by philosophers and research by imminent neurology scientists, the singing gesture essentially remains a mystery (Ware, 1998, p. 1). Appelman's definition of singing in *Science of Vocal Pedagogy* (1975) is cited to give a better understanding of the gesture:

Psychophysically, artful singing and speech is the dynamic (ever-changing) act of coordinating instantaneously the physical sensations of respiration (the will to breathe), phonation (the will to utter a sound), resonance (the will to form a particular vowel position), and articulation (the will to communicate by forming both vowel and consonant) into a disciplined [and expressive] utterance (Appelman in Ware, 1998, p. 1).

The above definition guides Ware's investigation where he briefly outlines the following aspects: singing and speech as ancient human traits; the fascinating evolutionary history of the larynx; and the evolution of socio-cultural forces and its impact upon singing.

He highlights the 'supra-natural' gesture of singing which requires training and development of a range of complex skills as well as the remarkable accomplishment of the exploration and exploitation of the human voice within the span of merely four centuries (Ware, 1998, pp. 2–3).

Important aspects in Ware's discussion are the complexity of cultural influences on different views of aesthetics in singing, as well as prevailing cultural attitudes and views for what constitutes tonal preferences. Because of an increasing importance of including non-classical music in secondary school curriculums it is worthwhile for aspiring teachers of voice to gain knowledge of the status of popular versus classical singing (Ware, 1998, pp. 3–11).

In my praxis I have witnessed the therapeutic value of vocal instruction for students. Ware supports this notion by discussing the physical, psychological and spiritual benefits of voice study and singing. He describes these benefits in terms of a process of gaining self-awareness that involves self-exploration, self-discovery, self-development and self-actualisation (Ware, 1998, pp. 11–12).

2.3.4 A basic approach to vocal sound

McKinney's discussion (1994, pp. 20–30) of a basic approach to vocal sound begins with a short exploration of the nature of sound and musical instruments, and the characteristics of a musical tone. It culminates in the nature of vocal sound which is made up of four physical processes, namely respiration, phonation, resonance and articulation, as well as a brief classification of vocal sounds as vowels, diphthongs, triphthongs and consonants.

An additional angle towards the understanding of sound is provided by Doscher (1994, pp. 85–102) who discusses the physical nature of sound and focuses on the characteristics of a sound wave and the properties of musical sound. Under the latter she highlights frequency, amplitude and timbre; resonance as a phenomenon; aspects of vocal resonance; acoustical damping; as well as the laws concerning resonance cavities.

2.3.5 Ethics and psychology

Sell emphasises that an understanding of the basic principles of ethics equips the teacher to make sound moral judgements in relationships with students, parents, professional performers as well as colleagues and other professionals (Sell, 2005, p. 178). Furthermore, she asserts that the value of a basic knowledge of general psychology has important practical applications for the singing teacher in his/her relationship with students of all age groups, parents of students and professionals (Sell, 2005, p. 178).

Adding to Sell's focus on general psychology, Ware (1998, pp. 14–31) identifies and discusses key aspects of the psychology of singing for singers and teachers of voice. The mutually informing roles of ethics and human psychology highlight the responsibility that a voice teacher should accept in order to not only honour, but do the occupation justice.

2.3.5 1 Business ethics

Students in the 21st century need to be equipped for the demands of a multi-faceted career after graduation. They therefore need basic guidelines to create their own career opportunities and manage their own voice studios. Sell discusses business ethics and highlights matters such as initial advertising, the setting of professional fees, policies on exam and competition participation as well as progress reports on students (Sell, 2005, p. 42). In her 2003 treatise, Joan Frey Boytim gives wide-ranging advice on mission statements for a private studio (p. 2), studio policy (p. 13), audition requirements (p. 23), the decision-making process for accepting new students (p. 24), lesson and revenue records

(p. 17–19), guidelines for establishing repertoire readiness and the selection of suitable repertoire for the beginner student (pp. 37–40).

2.3.5.2 Pedagogical ethics

Vocal pedagogy students should be made aware of the importance of relationships which they will encounter during their professional teaching careers such as the teacher and the student, the teacher and the parent, the teacher and other musical colleagues, as well as the teacher and other professionals (Sell, 2005, pp. 43–46). As far as general pedagogical ethics are concerned, Sell (2005, p. 43) states that accountability to students and colleagues is of vital importance in an unregulated profession where tuition is often regarded as subjective and even shrouded in mystery. In my experience as vocal pedagogue I have unfortunately encountered many students who were misguided by former vocal teachers' lack of scientific knowledge and experience of the subject field.

I believe that the integrity of imparted knowledge is as important as the establishment of professional rapport which Miller (1996, p. 7) regards essential to any climate of learning. Establishing trust and conveying respect for a student's ability and achievement, however small, is of the utmost importance. Miller states that once a student is assured that his/her lecturer is convinced that there is something of merit in what he/she does, encouragement will be brought about to try harder to achieve the desired optimal sound. A willingness in the student to accept almost any degree of specific criticism and advice will be created and ultimately a comradeship is born between student and lecturer (Miller, 1996, p. 7).

2.3.5.3 Psychology

The vocal instrument is part of the human body and mind and is therefore predisposed to function not only at a physical but also at a psychological level as far as musical expression is concerned. Ware (1998, p. 30) believes that learning to sing involves a psychological component and refers to it as 'the foundation upon which we construct our personalities and voices.' He deems it

so important that the entire second chapter of his treatise is devoted to the psychology of singing.

Sell (2005, pp. 46–48) echoes the thought and provides an introduction to various relevant branches of psychology and focuses on cognitive, educational, developmental and behavioural psychology. She explains how this background of psychology influences and enriches student/teacher relationships, and discusses phenomena such as learning, memory, motivation and learning plateaus (2005, pp. 48–54). Sell (2005, p. 55) further contends that a solid pedagogical structure is based on domains of psychology, namely the cognitive, affective and psychomotor domains. These domains were discussed in more detail earlier in this chapter.

Sell (2005, pp. 56–65) deems it important for potential voice teachers to have a broad background of the specific psychological traits and pedagogical responses of potential pupils/students and identifies four age groups, namely pre-school children, children aged 5–12, adolescents and adults. An understanding of these age groups will enable voice teachers/lecturers to adapt teaching methods, and knowledge about applied psychology will enhance insight about personality, learning and problematic behaviour (Sell, 2005, pp. 64–65).

I believe that formal vocal tuition should commence later and that the focus should primarily be on adolescent and adult students. While this view is shared by many experts, advocacy in favour of early vocal instruction also exists. According to Gray Atha (2004) various cultural, psychological and developmental reasons justify early vocal instruction. Furthermore, there seems to be consensus that early vocal instruction methodology and repertoire should be approached with extreme caution and be done by qualified and experienced vocal instructors.

In my experience, caution should not only be applied in terms of early vocal instructional methodology and repertoire; care should also be taken not to push a child to fulfil perceived vocal potential but to allow for willing, joyful and enthusiastic participation in a stimulating environment. Alternatives to individual

vocal instruction exist in the form of excellent children's and youth choirs where healthy vocal production, as well as musical skills such as sight reading and phrasing are developed and promoted. Locally, many universities offer youth choir programmes and at provincial level, children's and youth choirs offer opportunities for children and adolescents to participate in structured programmes and tours locally and abroad. Internationally, the Carnegie Hall Royal Conservatory Achievement Programme provides an invaluable opportunity for young singers, as well as a research resource for repertoire and pedagogical issues pertaining to young singers.

Early vocal instruction should be directed at avoiding vocal abuse and toward gradual development of vocal musculature and control, the latter introduced from the adolescent stage onwards. Gray Atha (2004) quotes respected authorities such as Sataloff and Spiegel who warn against voice abuse, specifically in the form of 'belting' associated with musical theatre shows such as *Annie*, that may injure the delicate mucosa lining of the vocal folds (Gray Atha, 2004). Belting is normally a vocal technique by which a loud sound is produced in the upper middle voice range, but in young children it often presents as an untrained imitation of this technique and/or a natural preference to sing in a similar pitch range as the speaking voice.

In addition to the elements of singing that should inform vocal instruction for singers of all ages, namely breathing, phonation, resonant tone production, diction and expression, general aspects pertaining to healthful early vocal instruction include the following (Gray Atha, 2004):

- Limiting the duration of singing, pitch range and dynamic levels;
- Taking into account a child's natural breathy voice quality (mutational chink);
- Promoting healthy vocal registration not limited to their (often preferred) speaking voice range. Children mostly sing around C4 or D4 and will only access their higher ranges when instructed to do so.

These aspects highlight what seems to be the most important principle in early vocal instruction, namely the understanding of the limitations of this age group.

In the psychology of singing, Ware (1998, pp. 14–16) focuses on the singer gaining psychological insight by becoming aware of native endowment, developing a realistic self-image, and cultivating a positive mental attitude which he supplements with vocal and self-image exercises.

The roles of perceptual and conceptual processes as well as mental imagery in singing are very important. In this regard, Ware (1998, p.18) refers to Horst Günter's interpretation of the term *imitation* which incorporates both hearing and observing technical and artistic skills of model singers. These aural and visual perceptions serve as 'ideal mental image[s]' or 'psychological model[s]' for students.

As far as perception or the assimilation of information through the senses and mind goes, I agree with Ware (1998, p. 18) who views the *kinaesthetic* mode (own italics) to be invaluable to the singing student who needs to learn how correct vocal production and other physical sensations during singing should feel. Conversely, conceptions – the result of how perceptions are used – include the complex act of mentally combining various ideas, notions and opinions into a unified whole. Ware (1998, p. 19) describes one of the major challenges of learning to sing as finding an equilibrium in a multitude of tendencies, characteristics and factors, combining them into a 'central position' where extremes are balanced.

Ware (1998, p. 23) continues to discuss coping with complexity and contradiction as extremes of reality to be balanced and integrated into all human endeavours and highlights the following dual types that bear upon the art and craft of singing:

- The synergistic *two-part brain* concept and Orstein's (1977) modes of knowing – the analytical/rational versus the holistic/intuitive;
- The two types of intelligence – intelligence quotient (IQ) and Goleman's (1995) emotional intelligence (EQ); and

- The two aspects of self – external and internal lives – whereby the minimisation of internal conflicts can lead to greater external achievement of goals.

The importance of the unity of goal and journey for a singer is underlined in Ware's discussion (1998, p. 24). He believes that the greatest reward lies in the focus on the process (journey of learning and experiencing) rather than product (the goal), the latter eventually being technical and artistic mastery. Ware (1998, p. 24) states that effective learning requires willingness to make constructive personal changes, and highlights practice, persistence and patience as crucial points of focus for the serious learner. Finally, aspects of risk-taking, flow (where challenge becomes pleasurable), self-motivation and the setting of realistic goals and expectations are valuable guidelines for voice students on a personal vocal journey (Ware, 1998, pp. 25–31). I believe that these aspects highlighted by Ware will mentally prepare voice students for the journey of learning complex and integrated skills necessary for mastering their instruments.

This limited study allows but a cursory look at the role of psychology in singing. However, mention must be made of the extensive research on this topic in Thurman and Welch's three volume treatise *Bodymind and Voice: Foundations of Voice Education* (2000) about the integration of body and mind, learning and self-expression (book I, volume 1) and voice development during the various stages of a lifespan (book IV, volume 3).

2.3.6 Science and vocal pedagogy

A question frequently asked by teachers is what science really has to offer the profession. Paul Kiesgen (2004, p. 41) exemplifies the rethinking and justification of the value of science for vocal pedagogy. He comes to the conclusion that vocal pedagogy is as much an art as it is a science, and defines it as a combination of discussions focusing on how the voice works and how this information may improve our own singing as well as that of students (2005, p. 41).

Kiesgen (2005, p. 43) further argues that the body of literature comprised in the study of vocal pedagogy is extensive and varied so that no single approach to teaching can be followed. The vast and diverse body of vocal pedagogy research and literature makes for a combined effort of ideas not only passed on from one generation to another, but also tested by vocal teachers to affirm the proven effectiveness of ideas. I agree with this argument and have experienced in my own praxis that a variety of methods may contribute towards imparting essential scientifically based knowledge of the subject field.

2.3.6.1 Anatomy and physiology

For the purpose of clarity, I am discussing anatomy and physiology separately from those aspects of vocal technique (in 2.3.9) which they inform. Given the serious vocal health repercussions that may arise from a lack of knowledge and incorrect application of the physical and physiological bases of the singing instrument, Sell (2005, p. 70) believes that voice teachers must have a solid knowledge of vocal anatomy and physiology. Based on Sell's discussion (2005, pp. 71–80), the following three important mechanisms are distinguished:

- Posture or, *body balance alignment* according to Thurman and Welch (2000, p. 333);
- The breath mechanism (actuator or energiser); and
- The vocal mechanism.

As far as articulation and resonance are concerned, basic anatomy also forms part of discussions, but are not as detailed as the mechanisms mentioned above. From a selection of sources, I compiled the following tables 5, 6 and 7 in order to provide a simplified outline to guide discussions imparting basic knowledge of the anatomy of the mechanisms involved in singing:

Table 5: Anatomical outline of posture (based on the discussion by Brown, 1996, pp. 18–20)

Posture (body balance-alignment)	
Basic skeletal structure:	Vertebrae consisting of 7 cervical, 12 thoracic, 5 lumbar vertebrae, a sacrum and a coccyx
	Pelvis
	Lower limbs attached to pelvis
Important muscles:	Diaphragm, <i>psaos major</i> and <i>minor</i> , <i>gluteas maximum</i> and <i>quadratus lumborum</i>

Table 6: Anatomical outline of the respiratory system (based on Doscher's discussion, 1994, pp. 3–17)

Breath mechanism (respiratory system)	
Lungs:	Trachea (windpipe), bronchi, alveoli
Thorax (rib cage or chest cage):	Spine, clavicle, sternum, scapula, ribs
Muscles of inhalation:	Diaphragm, external intercostals muscles
Muscles of exhalation:	Internal intercostals muscles, abdominals consisting of the <i>rectus abdominus</i> , external oblique abdominals, internal oblique abdominals and transverse abdominals
Auxiliary respiratory muscles:	<i>Pectoralis major</i> and <i>minor</i> , <i>serratus anterior</i> and <i>posterior</i> , <i>trapezius</i> , <i>latissimus dorsi</i> , <i>transverse thoracis</i>

Table 7: Anatomical outline of the vocal mechanism (based on the discussions of Doscher, 1994, pp. 31–53; McKinney, 1994, pp. 66–76)

Vocal mechanism	
Framework of the larynx:	Cartilages , including the thyroid, cricoid, 2 arytenoids and epiglottis. One bone , the hyoid
Intrinsic muscles of the larynx:	Thyro-arytenoid of which the lower set comprises the true vocal folds and the upper set the false vocal folds; crico-thyroid; posterior and lateral crico-arytenoids consisting of the transverse arytenoids and a pair of oblique arytenoids
Extrinsic muscles of the larynx (suspensory mechanism or strap muscles):	Supra-laryngeal muscles , originating above the larynx (elevators) including the geniohyoid, hyoglossus and mylohyoid. Infra-laryngeal muscles , originating below the larynx (depressors) including the sternohyoid, sternothyroid, omohyoid and crico-pharyngeal muscles as well as the trachea (which is not a muscle but a depressor of the larynx)

Both anatomy and physiology are important aspects of vocal pedagogy to be imparted to students in order to gain an understanding of the integrated working of the voice and the body. The physiology of posture, breathing and phonation will not be discussed given the limited scope of this study. Standard reference works provide a variety of illustrations of anatomy and detailed discussions of the physiology of each mechanism and apparatus involved in singing.

Equally important for students is a summary of anatomical terminology in order to understand descriptions of positions, processes and functions of various mechanisms in the human body. Table 8 below is based on Ware's outline of anatomical planes, terms and definitions (1998, p. 96):

Table 8: Terminology associated with anatomy (based on Ware's discussion, 1998, p. 96)

Anatomical terminology	
Planes	Description
Frontal (coronal)	Vertical field divides body from side to side, separating body into anterior (front) or posterior (back) positions
Sagittal	Vertical field divides body from front to back, separating body into left and right halves
Transverse	Body divided into upper and lower portions
Positions	Description
Anterior	Toward the front
Posterior	Toward the back
Superior	Toward the top; also supra (above)
Inferior	Toward the bottom; also infra or sub (below)
Medial	Toward the middle
Lateral	Toward the outside
Bilateral	On both left and right sides of the body
Unilateral	On only one side of the body
Intrinsic	Interior (within)
Extrinsic	Exterior (outside)

As an important extension of the scientific basis of singing, I will now investigate the contribution of technological instruments as tools of the objective measurement of vocal function.

2.3.6.2 Vocal science and technological instruments

Throughout history voice teachers have relied on memory, external observation and skilful listening to assess the voice and to diagnose and correct vocal challenges. Although good results are still obtained by these methods, the 21st century offers various types of instruments and technologies which may add scientific objectivity to the process of assessing the voice (Sell, 2005, pp. 81–82).

Sell emphasises the fact that scientific analysis cannot substitute the input of competent teachers, but may serve as a tool for objective voice analysis. She describes phenomena that may be measured as well as instruments varying from ordinary audio and video equipment used in the studio to highly specialised instruments which, in some instances, may only be used by medical practitioners. In summary, the phenomena and measuring instruments below are printed in bold, followed by a short description (Sell, 2005, pp. 82–84):

- **Phonatory (sound production) ability:** A stopwatch may be used to measure maximum phonation time, while a good voice recording device may measure the physiological frequency range (lowest and highest pitches), the musical frequency range of phonation (lowest and highest musically acceptable notes) as well as the limits of vocal registration. With the aid of a computer programme a spectral analysis can be done giving the student the opportunity to link ear with eye analysis.
- **Acoustic analysis:** A spectrograph may visually aid the ear as acoustic analyser. This instruments quantifies data and can measure the following: a sound's onset and release, resonance balancing, vowel tracking, vowel modification, the presence or absence of *legato*, vocal stability, vibrato, pitch accuracy, and formants (specifically the singer's formant).
- **The vowel chart:** This tool measures resonance in the singing voice which may then be compared to the speaking voice.

- **The nasometer:** The amount of nasality may be measured with this device which is particularly helpful when French texts are rehearsed.
- **The electro-glottograph (EGG):** By fastening electrodes externally around the laryngeal area and passing a high frequency electric current between them, the efficiency of vocal fold closure may be measured.
- **Psycho-acoustic evaluation:** This process describes how sound and acoustics are perceived. As yet, no standardisation of psycho-acoustic evaluation protocols and interpretation exists.
- **Laryngeal examination:** Various ways of examining the larynx exist of which only a few will be enumerated: an indirect laryngoscopy by means of a mirror or laryngeal telescope, stroboscopic examination, rigid endoscopy, examination by using an operating microscope plus camera, magnifying laryngeal mirrors, as well as more sophisticated systems of fibre-optic stroboscovideolaryngoscopy. Video equipment ensures that permanent record may be kept which is useful for reassessment and discussion with singer and teacher and/or other professionals. The examination of the larynx is undertaken by a medical doctor.
- **Aerodynamic measures:** These tests measure lung capacity. Furthermore, testing of airflow rate will show the extent of glottal efficiency and will reveal either breathy or pressed phonation. Airflow may also be measured by a spirometer, pneumotachograph or respitrace which traces a singer's inhalation, exhalation and general breath management. These instruments are invaluable in the appraisal of breathing technique and the tests mentioned will be undertaken by a qualified physician.
- **Laryngeal electromyography (EMG):** This process is an invasive technique administered by a medical practitioner. It involves the continuous recording of the electrical activity of a muscle by means

of the insertion of electrodes into the muscle fibres. The readings are displayed on an oscilloscope and are used for the diagnosis of complex laryngeal disorders.

Although much of the technology is not easily accessible in South Africa, students and teachers/lecturers should be aware of its existence and application. Increased access and utilisation of technology will greatly improve the quality of vocal instruction. Together with knowledge of technology and instrumentation, basic principles of vocal health and hygiene should be incorporated into the scope of vocal pedagogy for undergraduate students. Important aspects of the topic will forthwith be discussed.

2.3.7 Vocal health and hygiene

Miller (1986, pp. 218–219) discusses the advantages of an open attitude towards awareness and preservation of health for a singer, but also warns against compulsive fear and worry about general health and its negative psychological impact upon a singer. He focuses on positive and proactive attitudes and discusses pertinent issues such as the following (Miller, 1986, pp. 220–230): healthy singing, conditioning for performance readiness, a practical performance-day routine, when not to sing and the issue of complete vocal rest, proper repertoire choices, special precautions for the teacher-performer, and the question of medication usage and its impact upon the singer.

Frequently encountered problems such as a dry throat, throat-clearing and its impact on the voice, as well as fighting coughing also receive attention. Furthermore, Miller advises on the benefits of chewing to relieve tension and strain, the necessity of regularly seeing an otolaryngologist, general maintenance of a healthy lifestyle, suitable physical exercise, as well as a nutritious diet and weight management for a singer. Aspects of preserving longevity of the voice as well as the benefits of an optimistic outlook on life in general and performance in particular end his discussion on vocal health and hygiene (Miller, 1986, pp. 231–239).

In her discussion relating to issues of vocal health, Doscher (1994, p. 217) distinguishes between vocal abuse which involves mistreatment of the vocal

folds; and vocal misuse which implies the incorrect use of pitch, volume, breath support, resonance balance, or any combination of these elements.

Concerning functional misuse, Drs Bastian and Anat Cedar coined the term *vocal overdoers syndrome* (VOS), designating a person whose amount and manner of voice use may be considered excessive, putting the person at risk of mucosal injury. This syndrome is typically comprised of two parts, namely innate talkativeness, and life circumstance including occupation, performance, family, hobbies and social proclivities that demands, invites or permits much voice usage (Bastian, 2010).

Doscher creates awareness about physical and functional disorders of the voice. As for the physical disorders, she cites the physical characteristics and causes of vocal nodules and polyps, contact ulcers, as well as the dangers of endotracheal intubation for surgical procedures (Doscher, 1994, pp. 218–225). Furthermore, the role of hormonal changes in the thyroid gland, menstruation cycles for females and the impact of male hormonal supplementation receive attention (Doscher, 1994, pp. 226–227).

Short term changes in the health of singers such as the upper respiratory infection (URI) or common cold, tonsillitis and laryngitis are discussed and insights on prevention and treatment are given. Doscher (1994, pp. 228–233) also investigates the effect of certain medications, prescriptions as well as over-the-counter types on the voice, such as cortico-steroids, amphetamines, alcohol, barbiturates, sedatives, muscle relaxants and beta-blockers.

Disorders of the voice associated with vocal function are identified as prolonged phonation or overuse; 'marking' in prolonged opera, musical and choral rehearsals; as well as long and unhealthy rehearsal routines often found when singing in a choir or even conducting a choir (Doscher, 1994, pp. 234–240). Furthermore, Doscher (1994, pp. 241–245) extends a word of warning against singing in the wrong tessitura (high or low parts in a vocal range); incorrect approaches toward the young, developing as well as ageing voices; constant loud vocalisation; strenuous noises such as screaming and yelling during sports

events or mimicking certain voices for comical effect; as well as extended vocal techniques required for *avant garde* music.

According to Williamson (2008) and Michael (2012) voice disorders may be broadly classified into three main groups, namely functional, organic and psychogenic disorders. Wicklund (2010, pp. 37–50) further offers a four- and five-category voice disorder classification system. Clear categorisation may prove to be problematic since vocal disorders often interact. The result of vocal impairment (any loss or abnormality of psychological, physiological or anatomical function or structure) may be that one or more of the acoustic features of the voice are affected, namely pitch, loudness, resonance, quality and/or flexibility. The following table provides a simplified categorisation of the broad groups and sub-groups of vocal disorders:

Table 9: Types of voice disorders (based on discussions by Williamson, 2008; Michael, 2012)

Types of voice disorders		
Organic disorders	Functional disorders	Psychogenic disorders
<p>●Structural abnormalities These disorders are caused by a lesion (physical abnormality) of the larynx. Congenital conditions, such as a cleft palate, are present at birth. Acquired conditions may include any trauma, and will occur or develop after birth. Typical examples include cysts, polyps and nodules.</p> <p>●Neurogenic abnormalities These disorders are caused by problems in the nervous system as it interacts with the larynx. Abnormalities may be congenital or acquired and include conditions such as Parkinsonism, motor neuron disease and stroke.</p> <p>●Physiological abnormalities These disorders may include lesions of the endocrine system of which thyroid disease is a prime example.</p>	<p>Voice quality is poor in the absence of any obvious organic, anatomical or neurological impairment. These disorders are caused by poor muscle functioning and generally falls under the category of muscle tension dysphonia (MTD). Different patterns of muscle tension occur. Typical examples include hyper adduction and abduction of the vocal folds, pharyngeal constriction and false vocal fold voice.</p>	<p>Adverse changes in the voice can result from anxiety states and conversion reactions (psychopathological conditions characterised by bodily symptoms having no clear physical cause but presenting evidence of a psychological conflict). Usually no structural reason occurs for the disorder and muscle tension may or may not be present. A typical example is a condition that may affect adolescent boys called puberphonia or mutational falsetto where the high pitched voice prior to puberty is retained even though secondary sexual characteristics have developed.</p>

In her discussion of general vocal hygiene, Sell (2005, pp. 92–93) adds environmental hazards such as pollution, air-conditioning, and generally noisy environments to the list of factors that singers need to keep in mind when considering the maintenance of vocal health. She further cites conditions such as allergies, asthma, gastro-oesophageal reflux, bodily injuries, surgery and psychological and psychiatric problems, as well as early warning signs such as hoarseness, loss of range and difficulty in vocal onset as factors that are not to be ignored by a singer who wishes to ensure vocal health and longevity.

The rehabilitation of a voice after prolonged illness or vocal disorder requires both physical and psychological intervention to re-establish a student's vocal health, confidence, internal motivation, as well as technical and expressive abilities. In her 2010 treatise, *Singing Voice Rehabilitation: A Guide for the Voice Teacher and Speech-Language Pathologist*, Karen Wicklund advocates a team approach to voice care and rehabilitation where a medical practitioner, speech-language pathologist and a singing voice specialist are involved in an individualised singing voice therapy protocol. Detailed discussions include, amongst others, principles of singing voice therapy, vocal recovery schedules for singers, vocal hygiene recommendations, and singing voice therapy exercises.

2.3.8 An outline of voices, tonal ideals and vocal classification

An understanding of the various vocal stages in the human life cycle may prove of worth for any teacher of voice (Sell, 2005, p. 97) and in my view it should form part of any vocal pedagogy offering. Sell provides a basic outline of the characteristics and various psychological and physical aspects impacting on the voices of children, adolescent boys and girls, as well as the maturing and ageing voice (2005, pp. 97–100).

Tonal ideals in Western classical singing originate mainly from the Italian, German, French and English schools. Sell (2005, p. 101) hypothesises that whether tonal ideals are based on aesthetic intentions or whether they result from differing pedagogies, the national schools of singing may become redundant if the main pedagogical consideration is that the voice should

function efficiently and healthily. In my praxis my goal is to ensure that students understand what the prerequisites of optimal voice production entail. I further aim to facilitate them to become increasingly able to diagnose and correct vocal challenges in order to meet desired tonal ideals and requirements of healthy vocal technique.

In this regard Miller (1997, p. xiii) makes an important statement: 'Vocal efficiency may best be described as producing the most favourable phonatory results with the proper levels of energy.' He emphasises that free and healthy phonation is based on producing the most efficient sounds under circumstances of least exertion. He believes that an appraisal of not only the differences of technical processes within national schools, but also the description of physical involvement which produce these various techniques is important in order to assist singers to improve their own technical facility in singing (Miller, 1997, p. xxxvii). McKinney (1994, p. 77) summarises general characteristics of vocal efficacy as follows:

- Freely produced;
- Enjoyable to listen to;
- Loud enough to be heard with ease;
- Rich and resonant, with a ringing quality;
- Smooth energy flow from note to note;
- Consistently produced;
- Vibrant and dynamic, and
- Expressively flexible.

Miller (1997) identifies and discusses the various (and often conflicting) pedagogical viewpoints that exist in national approaches and focuses mainly on the English, French, German and Italian schools of singing. The areas of vocal technique that Miller compares and contrasts comprise of aspects such as breath management, resonance balancing, vowel formation and modification, vocal colouration, laryngeal positioning, buccal and pharyngeal positioning,

vocal onset, vibrato, registration events, the role of language, and vocal classification.

Sell (2005, p. 109) states that vocal maturity and secure vocal technique will ultimately determine accurate voice classification, which is a process that cannot be accomplished in a hurry. McKinney advises that a voice teacher may safely assume that a voice is of middle classification. An essential aspect in early vocal training is the establishment of good vocal habits within a limited, comfortable range. Only after attaining this goal, the upper and lower ranges of the voice may be explored and developed safely (McKinney, 1994, p. 108). In my own praxis I constantly witness that the true quality of the voice emerges as soon as proper technique in breathing, body alignment, phonation, resonance and articulation is understood and applied by a student. I have also seen how natural vocal development was stunted by training that commenced too early and by incorrect classification that was imposed upon immature voices.

Misclassification results in loss of tonal beauty and free production. It further causes disappointment and frustration for a singer, shortens a career and may ultimately result in permanent vocal damage (McKinney, 1994, pp. 107–108). To ensure accurate (and safe) voice classification, McKinney (1994, pp. 110–113) and Doscher (1994, p. 196) proposes four criteria (printed in bold for clarity) which may be summarised as follows:


- **Range:** The practical application of this criterion is that a certain voice type should be able to sing within the range (total compass of a voice) in which most of the repertoire for the voice type is composed. Three typical voice ranges include the *practical* twelfth, the *ideal* two octaves and the *extreme* ranges (which are demanded in a limited percentage of repertoire). Doscher warns about the dangers when using this criterion and states that conclusive range (the range that developed during vocal training) is almost always the product of vocal maturity.
- **Tessitura:** This criterion is essentially concerned with the specific part of the vocal range which receives most use.

- **Timbre:** This criterion refers to the quality of a voice and relies heavily on a teacher's experience in order to correctly classify a voice. Being a subjective criterion, and the fact that inexperienced teachers may misclassify a voice, it can be seen as somewhat illusory. Doscher observes that since timbre is closely related to variable resonance (formant) frequencies, it will indicate the size and dimensions of the vocal tract. For this reason, timbre is also determined by the particular method of voice training.
- **Transitional points:** This criterion is based on the clearly defined areas in the various voice types where vocal registration changes. The transitional points of high, medium and low voices generally follow the same sequence, which may serve as pointers distinguishing a certain voice type.

Music example 1: Voice ranges derived from literature (based on McKinney's table, 1994, p. 113)

Male voices


(1) (2) (3)



Bass Baritone Tenor

Female voices

(1) (2) (3)



Contralto Mezzo Soprano

(1) Practical twelfth (2) Ideal two octaves (3) Extreme ranges

The sub-classification of the six major voice types (bass, baritone, tenor, contralto, mezzo and soprano) depends on factors such as cultural preferences, individual personality or temperament, suitability of body type and other physical

features. In agreement with this, Doscher (1994, p. 195) remarks that casting in recent years was based equally on appearance as upon vocal timbre and voice classification.

In his discussion of the sub-classifications of voice types, Miller (1997, pp. 140–169) gives a detailed account of the terminology of the national schools of singing typifying various voices, specifically as far as the operatic roles, as perceived within these schools, are concerned. Legge (1990) provides a summary of mainly the German *Fach* system (a method to classify mainly opera singers' voices according to range, weight and tone colour) and its equivalent Italian nomenclatures describing the various sub-classifications of the six main voice groups.

Table 9 summarises the nomenclature found in the publications of Legge (1990) and Miller (1986; 1997). It may serve as a point of departure for more detailed discussions of the national schools' various ideas pertaining to tonal ideals and sub-classification of the voice. However, it should be noted that the voice quality typified by a specific term and/or synonym, as well as its associated tonal ideal may vary from school to school and should not be regarded as absolute classifications. Individual voices may also be able to sing repertoire from various *Fächer*.

Table 10: Typical voice sub-type nomenclature in the various national schools of singing (based on discussions by Legge, 1990, pp. 54–59; Miller, 1986, p. 117; Miller 1997, pp. 140–170)

Voice sub-classifications in the national schools of singing	
Soprano types	<i>Soubrette</i> (French); <i>lyrischer Koloratur</i> or <i>koloratur-Soubrette</i> (German); <i>dramatische Koloratur</i> (German); <i>lyrischer Sopran</i> (German) or <i>soprano lirico</i> (Italian); <i>jugendlich-dramatischer Sopran</i> (German) or <i>spinto</i> (Italian); <i>dramatische Sopran</i> or <i>soprano drammatico</i> (Italian); and <i>hochdramatische Sopran</i> (German). Another term found in the German <i>Fach</i> system is the so-called <i>Zwischenfachsängerin</i> (female singer between <i>Fächer</i>). In the English school 'cathedral tone' describes a certain quality of voice.
Mezzo and contralto types	<i>Mezzo-coloratura</i> (a typically French-trained mezzo voice); <i>lyrischer Mezzo</i> or <i>Spielalt</i> (German); <i>dramatischer Mezzo</i> (German); <i>dramatischer Alt</i> or <i>Tiefer Alt</i> (German).

Tenor types	<i>Tenorino</i> (Italian); <i>tenore leggero</i> (Italian); <i>ténor léger</i> (French); <i>ténor lyrique</i> (French) or <i>lyrischer Tenor</i> (German) or <i>tenore lirico</i> (Italian); counter-tenor (English); <i>tenore spinto</i> (Italian); <i>Spieltenor</i> or <i>Tenorbuffo</i> (German); <i>italischer Tenor</i> (German); <i>jugendlicher Heldentenor</i> (German); <i>Heldentenor</i> (German), <i>tenore robusto</i> or <i>tenore drammatico</i> (Italian).
Baritone types	<i>Lyrischer Bariton</i> or <i>Spielbariton</i> (German), <i>baritono lirico</i> (Italian) or <i>baryton lyrique</i> (French); <i>baritono drammatico</i> (Italian); <i>Kavalier</i> (German); <i>Charakterbariton</i> (German); <i>Heldenbariton</i> or <i>hoher Bass</i> (German).
Bass types	<i>Spielbass</i> (German); <i>Charakterbass</i> (German); <i>basso cantante</i> (Italian); <i>seriöser Bass</i> (German) or <i>basso profondo</i> (Italian). In the German school, the so-called 'black bass' or <i>schwarzer Bass</i> with a characteristic dark, solemn quality is much prized.

2.3.9 Key aspects of vocal technique

Sell emphasises the importance of a teacher's familiarity with psychology, anatomy, physiology and acoustics before technical principles may be successfully imparted (Sell, 2005, p. 109). It is my belief that the acquisition and application of a healthy vocal technique, based on scientific principles, are prerequisites for the longevity and vitality of any voice. I now provide a brief overview of what I consider to be essential aspects of vocal technique. It is supported by the views of imminent authors in the field of vocal pedagogy.

2.3.9.1 Coordination in the onset and release of sound

One of the very first technical skills to be mastered is that of coordinated onset and release of sound. McKinney (1994, pp. 78–79) describes three segments of musical tone, namely the phases of –

- *attacca*, attack (or onset) starting in the mind of a singer;
- sustention that should be steady and consistent; and
- release that should occur instantaneously and precisely.

Sell (2005, p. 110) believes that equilibrium in onset and release is the result of laryngeal muscle balance and elasticity and also refers to the role that the Bernoulli Effect (airflow causing suction) plays in the phonatory process.

McKinney (1994, p. 76) describes the two theories of how vocal fold vibration is initiated, namely the myoelastic (or muscle elasticity) theory and the

aerodynamic (or air action) theory. The only difference between these theories is the factor credited to bring the vocal folds together – muscle tension according to the myoelastic theory and the Bernoulli Effect according to the aerodynamic theory.

Sell (2005, pp. 111–112) distinguishes three types of onset, namely –

- The hard attack, also called *coup de glotte*, *colpo di glottide* and *Glottisschlag*, characterised by violent action from the vocal muscles and also called the 'glottal plosive' leading to vocal abuse;
- The soft onset characterised by the flow of breath before sound production which may give rise to breathy phonation impeding clear, rich resonance; and
- The balanced onset or dynamic muscle equilibrium (Miller, 1986, p. 4) where pre-phonatory tuning takes place and is regarded as the main voluntary contribution to the control of the larynx for both speech and singing.

The mastery of balanced onset and release of sound ultimately encourages equilibrium and discipline in breathing (Sell, 2005, p. 112). I consider clear vocal onset and release as the foundation for free and resonant sound production.

2.3.9.2 Posture and breathing

Good posture or body alignment is a prerequisite for successful breathing for singing. McKinney (1994, pp. 33–45) provides not only a rationale, but also a thorough diagnosis of postural and tensional faults and corrective procedures to ensure effective body alignment for singing. Sell (2005, pp. 114–115) states that the Alexander Technique as well as the so-called 'noble posture' of the Italianate school encourages ideal body alignment for singing but that the complexity of the physiology of breathing explains why singers easily develop bad tensional habits. This technique may be described as a method by which a person can organise his/her sensations of movement in space and time by becoming conscious of both his/her internal and external world (Macdonald, 1998, p. 10). The implied energy of the Alexander Technique makes it well

suited for enhancing a singer's technical skills since the act of singing requires constant adjustments in breath management and vocal tract formation.

McKinney (1994, pp. 50–52) differentiates between natural breathing (for everyday living) and breathing for singing which he divides into four distinct stages, namely:

- Inhalation which is quick and voluminous;
- Suspension which serves to prepare the breath support mechanism needed for phonation (and according to Ware [1998, p. 84] when recoil forces overcome the muscular forces of ribcage expansion);
- Controlled exhalation during which the diaphragm gradually releases its tension; and
- Recovery, often instantaneous due to musical insistence, during which the muscles associated with breathing as well as with phonation, resonance and articulation relax.

Sell (2005, pp.113–114) quotes the imminent vocal pedagogue Vennard who emphasises that the diaphragm is a breathing-in muscle **steadying** (own bold) rather than supporting tone, whereas phonation is an expiratory action relying on the coordination or balance of the torso muscles called *la lotta vocale* (contest or struggle of the voice) after the 19th-century Italianate school. In my experience, the correct description of the physiology of the breath mechanism dispels all myths and erroneous beliefs about the function of the diaphragm. In the process, voice students gain a far better understanding of correct breath management which is an essential skill for improving vocal technique.

According to Sell (2005, p. 14), the way to achieve *la lotta vocale* is through the application of the so-called *appoggio* technique. She provides a simplified explanation of the diaphragmatic-intercostal or *appoggio* technique upon which table 11 is based:

Table 11: Parallel activities during *appoggio* breathing (based on Sell's discussion, 2005, p. 14)

Parallel activities during inhalation	Parallel activities during exhalation
<ul style="list-style-type: none"> • Downward movement of the diaphragm causing displacement of the viscera. • Raising of the sternum and increasing of the chest circumference. 	<ul style="list-style-type: none"> • Tensing of the abdominal muscles while – • Attempting to sustain the position of the raised sternum and the enlarged chest.

In practice, there are often erroneous references to *breath support* and *breath control* as interchangeable or synonymous concepts. McKinney (1994, pp. 53–54) clearly distinguishes between these concepts stating that breath support is a dynamic relationship between muscles of inhalation and exhalation in order to supply adequate breath pressure for phonation at any pitch or level. Breath control is a function of the vocal folds and is a dynamic relationship between the breath and the folds which determines how long one breath can be sustained.

It is important for the student of vocal pedagogy to be able to identify faulty breathing, which McKinney (1994, pp. 56–60) indicates as upper-chest or clavicular breathing, rib breathing, back breathing, and belly breathing. Furthermore, he not only provides a detailed description of hypo- and hyper-functional breathing and breath support, but also suggests corrective procedures and optimal breath management strategies (McKinney, 1994, pp. 60–64).

2.3.9.3 Vibrato

According to McKinney (1994, p. 197), the latest research attributes the physiological control of vocal *vibrato* to a combined laryngeal and respiratory mechanism, where the laryngeal factor is dominant. He believes *vibrato* to have a necessary and important function and cites Large's description of the concept as a modulation of frequency and amplitude which results from pendulum-like movements of the intrinsic laryngeal musculature which is believed to prevent fatigue as muscles alternately work and rest. Sell (2005, p. 117) classifies

vibrato as a domain of Western classical singing and states that well-informed teachers and students regard this phenomenon as a quality indicative of a healthy, trained voice. Vocal pedagogues generally agree that vibrato in a voice is a sign of maturity and freedom of vocal production.

In his discussion of *vibrato* and vocal timbre, Richard Miller identifies a normal vibrato as 6–7 undulations per second (1986, p. 182). The physical causes and uses of vibrato are discussed as well as measures to correct hypo-function in *vibrato* (the oscillation or 'wobble') as well as hyper-function in *vibrato* (the *tremolo* or shake). The elimination of straight-tone intrusion, the correction of *vibrato*-less voice as well as aspects of velocity and uses of the trill are related topics covered by Miller (1986, pp. 183–196).

2.3.9.4 Effective tone production, agility and *sostenuto*

The importance of diagnosing and correcting faulty phonation is emphasised by McKinney, who diagnoses two basic types of ineffective tone production:

- Hypo-functional (or breathy) phonation, which is the failure to demand enough appropriate activity from the laryngeal mechanism (1994, p. 82); and
- Hyper-functional (or tight) phonation when too much is demanded from the laryngeal mechanism (1994, p. 87).

Corrective measures for breathy phonation involves exercises such as humming and vocalising with nasal consonants, and exercises activating the support mechanism. More energy is used by singing louder, and optimal posture and breath management will be established. Emoting or involvement in the music will promote optimal tone production. Furthermore, adopting good tonal ideals, vocalising on forward vowels such as [i] and [e], as well as imitating tight sound as a means to an end will also assist in stronger vocal production (McKinney, 1994, p. 86).

Methods of correcting tight phonation involve exercises for relieving general body tension and a studio atmosphere conducive to self-confidence and relaxation. Further strategies involve establishing optimal posture and breath

management, implementing vocal exercises that promote a softer tonal onset, creating awareness of what free tone production involves, vocalising on vowels that require lip rounding (specifically the [o] and [u] vowels), as well as vocalising with consonants that help to free the jaw. Lastly, the deliberate use of breathy sound as a means to an end will free the vocal mechanism to improve sound production (McKinney, 1994, p. 92).

Sell (2005, p. 118) describes agility and *sostenuto* (sustained sound) to be the opposite poles of vocal skill. Miller (1986, p. 40) identifies swiftly moving passages as *fioriture*, *Rouladen*, rapid melismas, embellishment and trills. He links the opposing concepts of *agility* and *sostenuto* by stating that the same umbilical-epigastric control that allows precise onset, *staccato*, the pant and singing velocity or *coloratura* passages produces sustained sound.

2.3.9.5 Resonance and laryngeal factors

McKinney (1994, p. 120) defines the concept as a process by which the basic product of sound production is enhanced in timbre and/or intensity by the air-filled cavities through which it passes to the air outside the body.

He continues to identify seven vocal resonators with their positions relative to the larynx, their sizes and their abilities to change in shape as prime factors determining their effectiveness: chest, tracheal tree, larynx, pharynx, oral cavity, nasal cavity, and sinuses (McKinney, 1994, pp. 123–128).

Miller (1986, p. 79) regards **resonance balancing** (own bold) as a more accurate description of a corrective procedure than the so-called 'placement of sound' which unfortunately is entrenched in many teachers' vocabulary. Sell (2005, p. 119) describes resonance balancing as the relationship of the changing size and shape of resonating cavities together with certain surface characteristics which create the energy in the vocal spectrum perceived by the ear as vowels.

Two basic kinds of resonance are distinguished by McKinney (1994, p. 120), namely sympathetic (free) and conductive (forced) resonance. Both are at work in the human voice. He further focuses on resonator adjustment with specific

reference to the idea of opening the throat, changing the shape and position of the lips (or external orifice), suspending the larynx and lifting the soft palate (McKinney, 1994, pp. 129–134). Sell (2005, p. 121) states that the shape and flexibility of the vocal tract allows considerable variety in the scope between acoustic extremes.

In his discussion, McKinney includes the diagnosis and correction of faults related to resonance which he identifies as post-nasality (or Vennard's descriptive 'nasal honk'), forced nasality, and tone colour challenges such as sounds that are either too bright or too dark (1994, pp.134–142).

Donald Miller's 2008 treatise provides practical science and in-depth discussions on aspects of resonance such as the following: harmonics and spectra; formants and the vowel space; the voice source and natural registers in the male and female voices with specific reference to males' upper extensions and females' middle voices; and practical formant tuning with exercises and procedures designed to implement practical resonance strategies in a singer's repertoire.

2.3.9.6 Formants and the singer's formant

Donald Miller (2008, p. 113) defines a formant as a variable resonance of the vocal tract and Sell (2005, p. 122) describes it as an area of strong acoustic energy determining the distinctive individuality of a vowel and states that a teacher's practised ear and a spectrogram can respectively determine and display whether these qualities are present. The ideal vocal tone should consist of a balanced distribution of both high and low partials, forming a basic tone to be produced throughout the voice (McKinney, 1994, p. 186).

Miller (2008, pp. 113–114) states that the first five formants (lowest in frequency) contributes the most to sung tone. According to Sell (2005, p. 122), the concentration of acoustic energy in sung pitch is not found at the fundamental frequency (that which is perceived as pitch), but above the frequency of pitch heard by the listener. The harmonic or overtone series explains the distribution of energy. She describes the lowest note as the fundamental sound with the rest representing the harmonics, upper partials or

overtones; first, second, third fourth and fifth formants. Three important formant regions form the focus of Sell's discussion (2005, pp. 122–123):

- The first important formant is an essential region of acoustic strength found at the bottom part of the spectrum around 500–800Hz depending upon male voice category. This formant is responsible for the so-called dark (*oscuro*) tones of the *chiaroscuro* (light/dark) or balanced sound for the professional singer historically required by the Italianate school;
- The second important formant in the spectrum defines vowel sound. Each vowel has a unique configuration in the laryngeal tract as well as a set of formants resulting from the harmonic partials – located between the first and the third formants in the spectrum – that determine the characteristic quality of each vowel;
- The third formant produces the light (*chiaro*) tones of the *chiaroscuro*. Equilibrium of the acoustic energy in the upper, middle and lower parts of the spectrum, as well as vibrato, constitute the resonance balance characteristic of the classically trained singer; and
- The singer's formant is an area of particular acoustical strength and allows for the brilliant, ringing vocal tone that can be heard above the orchestra and which lies between 2 800 and 3 200 Hz (McKinney, 1994, p. 124).

One of the prime characteristics of good vocal tone is a balanced distribution of high and low partials. Similarly, the balancing or unification of various register events in male and female voices attests to good voice production. A brief discussion of registration and registers follows.

2.3.9.7 Registration and registers of the male and female voices

With a brief historical survey of registration terminology, Ware shows the resulting terminological confusion that has been created by voice experts. He emphasises the difference between the terms *register* that refers to

homogenous tone qualities produced by the same mechanical system, and *registration* that refers to the process of combining vocal registers to achieve artistic singing (Ware, 1998, pp. 113). In the light of terminological confusion as far as these concepts are concerned, it is important that students understand the difference in meaning.

Ware (1998, p. 116) believes that the most widely accepted three-registers theory (chest, head and mixed or middle register) provides a plausible explanation of how trained singers smoothly connect the chest and head registers to produce a unified sound. Two types of registration physiology or laryngeal behaviours are also distinguished, namely:

- heavy registration, characterised by thick folds, wide amplitude, firm closure of the glottis, rich in partials, as well as a highly contracted *vocalis* muscle (or thyro-arytenoid muscle) and relaxed crico-thyroid muscle; and
- light registration, characterised by thin folds, narrow amplitude, brief and/or incomplete closure of the glottis; fewer partials, as well as a more passive *vocalis* muscle but a contracted crico-thyroid muscle which is primarily responsible for pitch regulation (Doscher, 1994, p. 174; Ware, 1998, p. 118).

McKinney (1994, pp. 94–106) proposes that one basic voice register – the modal register – is used for singing and speaking and that three auxiliary registers may be distinguished, namely: the lowest vocal fry register (also pulse, glottal fry, glottal rattle and glottal scrape register; *Stroh*bass or *Schnarr*bass), the high falsetto register, and the highest whistle register (also flageolet, flute, small or superfalsetto register). These auxiliary registers are all characterised by specific vibration patterns of the vocal folds.

Miller (1986, p. 115) advises against the usage of words such as 'break' or 'lift' for familiar register phenomena otherwise referred to as transitional points. These words may well be descriptive, but have a negative psychological effect by focusing on divisions between registers instead of unification which is the

ultimate goal. Doscher (1994, pp.178, 183) identifies the following main registers in the sexes' voices:

- Registers in female voices comprise of three registers which exhibit distinct differences in tone quality, namely the chest, middle and head; and
- Registers in male voices also comprise of three registers, namely the chest, head and falsetto.

The limited scope of this study precludes a detailed discussion of register phenomena and unification in male and female voices. However, important register terminology underlying the various male and female registers, which form the basis of discussions, is included since these concepts are vital in the scope of undergraduate vocal pedagogy offerings:

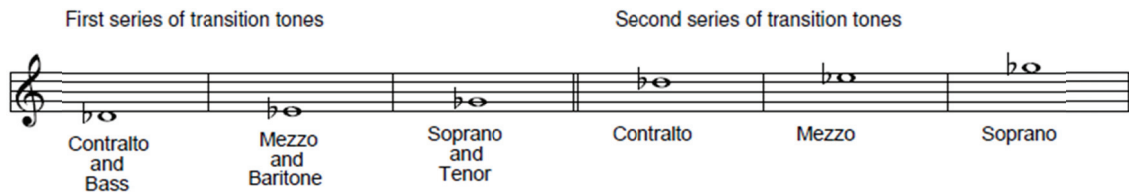
- *Primo passaggio* or the first register transition is the pitch where the easily negotiable range of speech – which roughly comprise of an octave – ends. It is here where untrained and adolescent singers (especially males) reach a point in an ascending scale where the chin and larynx are raised and tone quality is negatively affected (Miller, 1986, p. 116);
- *Secondo passaggio* or second transition lies at pitches of approximately an interval of a fourth above the top of the comfortable speech range (the point where the chin and larynx elevations were originally seen and felt). In an untrained voice there will be a sudden break off or a resort to a sudden falsetto (Miller, 1986, p. 116);
- *Zona di passaggio, zona intermedia*, the passage or register transition zone (also the intermediate zone) in singing refers to the pitches found between the *primo* and *secondo passaggi* often used in the so-called 'calling voice'. These pitches require more breath energy, as well as a heavier mechanical action that takes place below the *primo passaggio*. Miller warns against carrying the

unmodified 'call' of the speech voice over into the singing voice (1986, p. 116). He describes this zone as the middle voice, or an area of the voice in which a number of tones can be sung by varying register principles (1986, p. 313);

- *Voce di petto* or chest voice (also open chest) corresponds to the comfortable speech range and stops in the region of the *primo passaggio*. Miller also describes it as a vocal timbre produced mainly by *vocalis* muscle activity of the vocal folds. This is also referred to as the so-called 'heavy mechanism' (1986, pp. 116, 313);
- *Voce mista*, *voix mixte* or mixed voice is the crucial area for smooth register negotiation from the lowest to the highest range of the singing voice. Here, elements of *voce di testa* (head voice) significantly modifies the action of the heavy mechanism (Miller, 1986, pp. 118, 313);
- *Voce di testa* or head voice lies above the *second passaggio* or second pivotal point, and is a range which extends a fourth or a fifth specifically in male voices. It requires increased crico-thyroid action which primarily controls pitch changes, and the chest voice activity in this range is drastically diminished (Miller, 1986, pp. 118, 313);
- *Voce finta* or feigned voice is a timbre in the male voice that is characterised by a well-supported tone quality and slight laryngeal elevation, as well as some breath mixture that is present (Miller, 1986, pp. 119, 313); and
- *Voce piena* or 'full' voice refers to a rich and resonant timbre, as well as to the quality of the dynamic level of a voice (Miller, 1986, p. 313).

A variety of register charts indicating pivotal points of register demarcations is found in literature. I have opted to use McKinney's averages as far as transition tones are concerned:

Music example 2: Averaged transition tones derived from various authorities in vocal pedagogy literature (based on McKinney's diagram, 1994, p. 113)



The balance needed to be achieved in vocal registers as well as resonance leads up to another important process: that of shaping and forming vowels and consonants to ultimately achieve meaningful and artistic communication.

2.3.9.8 Articulation

McKinney (1994, p. 143) defines articulation as the process whereby the joint product of the vibrating vocal folds and the resonators is shaped into recognisable speech sounds through the speech organs' muscular adjustments and movements. He identifies the primary articulators as the moveable ones – the tongue, lips, lower jaw and soft palate. More limited articulators also exist, namely the glottis, epiglottis and the larynx, and together with the primary articulators they work in cooperation with the teeth, alveolar ridge, hard palate and the pharyngeal wall to effect an almost infinite variety of sounds.

Sell (2005, p. 123) identifies the specific vowel, consonant, tessitura and level of intensity as factors that will determine the degree of mouth opening and jaw movement. She dispels pedagogical fallacies about set positions of certain articulators to create a good sound.

According to McKinney (1994, pp. 143–149), a basic knowledge of the nature of vowels and consonants and their classification and formation systems is important. Furthermore, a singer must be aware of the concepts of *phoneme* – a speech sound in any language that distinguishes one word from another (for example, 'set' and 'get') – as well as *allophone* – an interchangeable speech sound that does not change the meaning (for example, the light and dark sounds of the [l] in 'little').

McKinney believes that this knowledge will assist singers to make fine discriminations in the sounds of a particular language, be able to recognise these subtleties and preserve phonemic identity in order to adhere to native speakers' pronunciation. Together with achieving tonal beauty, the preservation of phonemic identity is the mark of artistic singing (McKinney, pp. 149–150). This is not only an important aspect for English, German, French and Italian, but also for the various indigenous languages in which South African students sing.

The introduction of the International Phonetic Alphabet (IPA) is important to convey to students that speech sounds may be transliterated into phonetic symbols so that foreign words may be pronounced with greater accuracy. Ware (1998, p. 156) forewarns that IPA symbols are to be regarded only as basic representations of approximate sound characteristics of vowels and consonants. Knowledge of specific language characteristics such as accents and regional dialects exist mainly among mother tongue speakers.

Various sources provide detailed and summarised information about the IPA for the primary singing languages namely English, French, German, Italian and Latin. The following sources (listed alphabetically according to author) inform my praxis:

- Kurt Adler. *The Art of Accompanying and Coaching* (1971);
- Evelina Colorni. *Singer's Italian: A Manual of Diction and Phonetics* (1996);
- Leslie De'Ath. *NATS Journal of Singing: Materials for Teaching a Lyric Diction Class, Parts One and Two* (September/October and November/December 2005);
- Thomas Grubb. *Singing in French: A Manual of French Diction and French Vocal Repertoire* (1979);
- Nicola-Jane Kemp and Heidi Pegler. *The Language of Song* (2008);
and
- Richard F. Sheil. *A Singer's Manual of Foreign Language Dictions* (2004).

Important information is found in these sources about (amongst other things) the various languages' structure; vowels, semi-vowels or glides; consonants; modified vowels; characteristics of specific vowel and consonant formations; nasal vowels, diphthongs and triphthongs; glottal stops; and liaisons.

2.3.9.9 Vowel modification

Sell (2005, pp. 124–125) defines vowel modification or *voce coperta* as a means of register unification and a process of subtle adjustments or *aggiustamenti*. As far as vowel modification and dynamic level is concerned, Doscher states that louder tones require more vowel modification (1994, p. 159).

According to McKinney (1994, pp. 159–160), vowel modification (or vowel migration) may be approached in a variety of ways depending on the specific vowel, tessitura and voice type. Some singers and teachers feel that one should recognise vowel modification in the upper voice and encourage it by keeping the basic vowel sound in mind, but allowing for more internal and external space in forming that vowel; for example, the jaw will drop more when the pitch rises. Others believe that modification may be encouraged by thinking the vowel toward which the modification is made; for example, the closed vowel [i] modifies to the slightly more opened vowel [I] when a word such as 'see' is sung in the upper voice. Still others advocate that since vowels migrate or modify towards the centre, that all vowels should be coloured with either an 'ah' or 'uh' quality in the upper voice.

In my praxis I have experienced students' unique vocal competencies and needs to call for creative solutions often based on a combination of the guiding ideas discussed above. Vowel modification charts are valuable tools that assist in producing optimal tone and preserving vowel identity throughout the range. In my own praxis I recommend the vowel modification charts by Ralph Appelman (1967) and Richard Miller (1986).

Unified tone production is one of the highest achievements in the range of skills that a singer may wish to attain. Miller (1986, p. 150) states that there are no 'timbre demarcations' in the scale of the good singer. He uses the term

copertura which describes the technique of singing employing *voce chiusa* (closed voice timbre) with balanced high and low voice partials, as opposed to the undesirable *voce aperta* (open voice) or *voce bianca* (white voice) timbre indicating general harmonic imbalance or excessive upper harmonic partials (Miller, 1986, pp. 156, 311).

Sell (2005, p. 125) believes that vowel modification is related to resonance balancing where a *chiaroscuro* (light/dark) timbre describes well-balanced resonance in that harmonic partials throughout the spectrum are in equilibrium. The acoustic at-rest posture, various vowel postures and mouth positions for singing vowels form the focus of Miller's discussion of vowel differentiation in singing (1986, pp. 69–73).

2.3.9.10 Aspects of dynamic control

The increase in loudness and intensity necessitates sub-glottal pressure without loss of tonal quality (Sell, 2005, p. 126). A classic device encouraging the wide use of contrasting dynamics is *mesa di voce* or soft-to-loud-to-soft singing on a sustained pitch which requires intricate motor coordination (Ware, 1998, p. 185). Similarly, I believe that an artistic performance relies on a colourful palette of dynamic contrast in a voice.

2.3.9.11 Proprioceptive stratagems

Sell (2005, p. 127) states that teachers need to promote students' ability to teach themselves. She advocates three self-help principles or proprioceptive stratagems, namely hearing, feeling and seeing the differences in differently produced sounds.

According to my own praxis and the reviews of numerous authors, singers need to precisely replicate, each time they sing, healthy and optimal breath coordination, laryngeal activity and resonation factors to produce aesthetic timbre. Since the voice is a 'hidden' instrument, various tools may be utilised, ranging from mirrors and video/sound recordings for observing external posture, physical behaviour and hearing sound, to videostroboscopy for seeing the subtle internal adjustments in the larynx. The feeling or awareness of correct

bodily sensations should be established and habituated. Sell (2005, pp. 127–129) believes that these proprioceptive stratagems – seeing, hearing and feeling – are reliable measures of consistency in optimal sound production, which will be stored in the memory and become habitual with regular practice.

2.3.9.12 Progressive vocal regime

According to Sell, any type of singing should consist of a progressive, organised regime providing a feeling of physical and psychological security for the singer. While beginners embark upon a gradual process of learning progressively advanced vocal exercises, the seasoned student reaps the benefits of such a routine as part of a basic, systematic technique. The following aspects characterise a typical vocal routine (either in a lesson or practise session):

- The graduated warm-up, which consists of gentle onsets and releases; medium range humming; nasal and vowel sequences; flexibility exercises for the tongue and jaw; agility exercises beginning with descending patterns in a medium range and ending in ascending patterns in a wide range; short resting period; vowel definition and modification; *sostenuto*; registration and *passaggi* exercises and fast, extensive range *arpeggio* and scale passages;
- The main session or conditioning phase which includes technical work, learning new repertoire, a voice lesson, a rehearsal or performance; and
- The vocal cool-down which follows any session of vocal activity (Sell, 2005, pp. 128–131).

I believe that it is vitally important to offer guidance for cultivating healthy practise habits. Often an analysis of a student's practise habits provides valuable information for finding solutions for lingering technical problems. Furthermore, attaining a technically skilled singing voice is impossible without attention to a singer's speaking voice. The following brief discussion highlights aspects of the speaking voice that may impact on the singing voice and forms

part of creating awareness of vocal habits and how they influence voice production.

2.3.9.13 The speaking voice

According to McKinney (1994, p. 166) the basic mechanism and physical process for singing and speaking are essentially the same since the same breathing apparatus, larynx, resonators and articulators are employed. However, a comparison between singing and speaking reveals significant differences, specifically where classical singing is concerned. McKinney (1994, pp. 166–167) and Sell (2005, p. 132) identify the areas where singing generally requires more skill and effort as follows: physical energy; wide-ranging pitch; longer vowel duration; stronger dynamic levels; specific breath management adjustments; strongly marked formants; clarity in pronunciation and resonance balance.

Both authors agree that misuse or abuse of the spoken voice will adversely affect the singing voice, whereas a well-trained and well-used singing voice will contribute towards vocal longevity (McKinney, 1994, p. 166; Sell, 2005, p. 132). In my own praxis I cultivate awareness in students of the difference in sensations associated with the singing and the speaking voice.

2.3.9.14 Coordination

McKinney (1994, p. 178) refers to singing as an integrated act in which the various physical processes involved has to be finely coordinated. He identifies the areas of vocal technique which seems to depend on the student's ability to coordinate a variety of functions as follows:

- Extending the vocal range to its optimal potential;
- Developing consistent vocal production or tone quality;
- Developing flexibility and agility; and
- Achieving balanced vibrato (McKinney, 1994, p. 179).

To the above factors that focus on coordinating technical vocal processes, Miller adds an important aspect by stating that technique is of no value except

when it makes musical communication possible (1986, p. 204). He emphasises that artistry in singing is acquired by practise (or habit) just as technique is acquired in the same way. Expression by means of artistic and musical communication, as well as vocal technique must be the 'supporting pillars' of vocal art to be forwarded simultaneously throughout a singer's career (Miller, 1986, p. 197). It is important to facilitate students to gain equal knowledge about and apply attention to both technical skill and artistic performance.

2.3.10 Elements of performance

Sell considers three important stages of performance, namely performance preparation, the occasion of the performance, and the evaluation of the performance. She discusses musical matters as well as psychological and philosophical matters that have bearing upon these stages (2005, p. 135).

2.3.10.1 Performance preparation

It is important for students – prospective teachers and performers alike – to receive guidance as far as performance preparation is concerned. An overview of the various aspects involved in preparation creates an awareness of the discipline and professionalism required not only for the practical components of their studies, but even more so for the potential challenges of a competitive career after tertiary training. Sell acknowledges the existence of various performance opportunities but focuses on two types, namely the opera and the concert platform (2005, pp. 135–140). As far as the opera is concerned, she highlights the following aspects:

- a deep immersion into the study of the specific character as well as the opera's plot;
- a thorough understanding of the text and specific language in which it is sung;
- acting as the art of reacting to an underlying cause in the plot, which may involve two types of acting – classical/technical (Western European) or method acting (American);

- the realisation of the communicative possibilities (story-telling, explaining ideas or describing feelings) of the recitative that comprises of three kinds: *secco* (dry recitative), *recitativo accompagnato* or *arioso* (accompanied recitative), and *recitativo drammatico* (dramatic recitative, sometimes combining *secco* and *accompagnato*);
- the realisation of the communicative and pensive (expounding on an idea or emotion) qualities of the aria;
- understanding stage direction and executing movement, facial expression and gestures without compromising vocal technique; as well as
- becoming accustomed to costumes, hats, wigs, masks and theatrical props (Sell, 2005, pp. 135–137).

In the discussion of preparations for the concert platform, the focus is on the recital, which, in its purest form, is primarily a product of the 20th century (Emmons & Sonntag, 1979, p. 6). Students should have knowledge of the principles and customs that are universally applicable for constructing a recital programme and be able to apply them, facilitated by the lecturer, for their own recitals during their studies. Sell (2005, pp. 137–138) summarises the contents of a traditional form of recital as follows:

- a longer first half, consisting of three groups of songs, beginning with Italian or English songs of the 17th and/or 18th centuries, followed by groups of German *Lieder* and then French *mélodies*, often in groups of three to five songs according to programme samples provided by Emmons and Sonntag (1979, pp. 7–19);
- an opera aria may be inserted in the third group (as stated in the previous bullet) to serve as a climactic element;
- a shorter second half, with two groups of songs in a different language and style which may include an *obbligato* instrument to add colour, or less familiar songs;

- after the interval a lighter approach may be suitable, with the programme customarily ending with national folk songs or comic songs; and
- encores should consist of something light and familiar.

Some practical advice further include the opening of a programme with shorter songs, executed with great finesse; sparing use of opera arias; avoiding songs with technical or interpretative challenges that have not yet been met; and beginning each half with a lighter mood and tempo with a gradual build-up to an emotional or dramatic climax (Sell, 2005, p. 138). The proposed programme construction is a safe point of departure to which students and teachers may add a variety of creative ideas in which suitable standard and lesser known repertoire is included. Berton Coffin's treatise (1956) consisting of five volumes on singers' repertoire, as well as Sergius Kagen's *Music for the Voice* (1968) will further guide the process of constructing a recital programme.

Balance, proportion and variety is of essential importance with easier songs following more difficult ones and carefully planned contrasts between styles, tempi, keys, rhythmic patterns (also in the piano accompaniment), mood and expression. As for song cycles, pauses between songs should be well-planned and varied (Sell, 2005, p. 138).

Emmons and Sonntag (1979, pp. 26–27) outline specialised programmes and suggest the following departures from the customary recital format:

- Songs in one language;
- Songs from one period;
- Songs from one country;
- Compositions by one composer;
- A programme consisting of two composers, or two periods or only two languages;
- A programme of song cycles;

- A programme by two artists performing all duets, part solos and part duets, or alternating solos;
- A programme where a chamber group joins the singer;
- A programme based on a single theme;
- A programme in which the work of one poet is set to music by various composers; and
- A programme of ethnic inspiration written by composers not of that background, for example Spanish style by French composers such as Bizet, Russian composers such as Moussorgsky, or various American composers.

In his discussion of compiling programmes, Henry Plunket Greene's sage advice (1912, pp. 223–224) consists of the inclusion of tried and trusted aspects of a successful recital programme. He lists the following: variety of language and composers, chronological order of songs, different key and time signatures, and contrasts in tempi and dynamics as well as mood and atmosphere.

Emmons and Sonntag (1979, pp. 27–35) include these essentials in a detailed method outline for building vocal programmes. Their discussion focuses on deciding upon an overall theme and the setting up of a survey session which include information regarding the recital venue, the audience, the singer's experience, research on the composers and their music to be included, as well as the specific order of the music. All these aspects underpin the construction of a successful recital programme.

Further matters having a bearing upon performance preparation are based on Sell's discussion and will be presented with key ideas printed in bold for emphasis. The **learning of songs** (also arias, recitatives and so forth) may include various methods such as immersion in the whole, phrase-by-phrase, or a combination of the two (Sell, 2005, p. 140). Adhering to a **practice regime** with a systematic approach, realistic goal-setting, enough variation, vigour (energy), and thoughtful repetition is essential to ensure thorough preparation and confidence on stage (Christy, 1967, pp. 20–23).

Careful **memorisation** involves repetition, linking of phrases and association of musical phrase with text (Sell, 2005, p. 148). The feeling of **rhythmic progression** must come from within the singer and will enhance legato which gives **direction to a phrase** together with dynamic variation throughout the song or aria. Training in aural and sight-singing skills, as well as studying theory and composition are important pursuits for a singer who wishes to attain **musical intelligence** (Sell, 2005, pp. 143, 146, 147).

Plunket Greene (1912, p. 20) describes two types of **tone colour**, namely 'atmospheric' where colour paints mood and 'dramatic' in which the voice adopts a character or series of characters and illustrates the emotions and actions of each. A complete understanding of the text makes tone colouring possible and communication involves musical elements as well as the words, thoughts and ideas transferred from singer to audience by means of various **languages**.

Clarity of **diction** (the prevailing standards of word usage), **enunciation** (the act or manner of pronouncing syllables, words or sentences), and **pronunciation** (the result of uttering phonemes, syllables, words and phrases) all form an essential part of a singer's musical communication (Ware, 1998, p. 155). A performer should be successful in the following aspects:

- Being understood by the listener;
- Deciphering the difference between the spelling and pronunciation of a word;
- Recognising the existence of various vowels and diphthongs; and
- Knowing the correct form of consonants and circumstance in which it should be used (Sell, 2005, pp. 144–145).

Successful **communication on stage** requires from the singer to become a dynamic performer through self-discipline where the mind and body is turned into a finely tuned instrument through artistry and technique (Bunch, 1982, p. 129). Sell adds that appropriate gestures and facial expression form part of non-verbal communication that enhances a performance (2005, p. 151).

Working with an accompanist involves creating a harmonious ensemble and not merely requiring the accompanist to follow the singer (Sell, 2005, p. 151). Further important aspects include, amongst others, negotiating professional fees, rehearsal times and performance protocols; using appropriate scores; flexibility on both the singer's and accompanist's part as far as interpretation, pronunciation, rhythm and correct notes are concerned; as well as appreciative recognition of the accompanist on stage at appropriate moments (Sell, 2005, pp. 151–152). The scope of this study does not allow for a detailed discussion providing guidelines of how students should deal with these aspects. It may form the basis of a separate research project.

According to Brown (1996, pp. 124–135), **interpreting music** involves, amongst others, performing with your emotions, understanding the composer's intent, evoking the spirit of the language, and working with a seasoned coach. He identifies the tools of interpretation as time, dynamics, pitch, tempo, line, diction, tone colour, meaning and emotion. Sell (2005, p. 167) contends that philosophers such as Ross and Judkin insist that knowledge of structure and content plays an essential part in musical interpretation.

Performance practice may be described as the way in which music is and has been performed, specifically regarding the relationship between written notes and actual sounds (Sell, 2005, p. 157). Furthermore, the meaning of this concept includes historically informed performance knowledge which begins with the study of music notation as a set of instructions that has to be interpreted. Historical practices and unwritten conventions play equally important roles, making aspects such as historical research essential as well as studying a composer's philosophy and reading explanations in a score prefaced by the composer (Sell, 2005, pp. 157–158). Knowledge about performance practice will inform and enhance voice students' performance in the practical component of their training.

2.3.10.2 The performance

According to Sell key aspects of any performance include promoting the performance through marketing and communication companies who organise

publicity. They also teach clients marketing skills and carefully investigating the performance location as far as the physical environment, costs, acoustics and the need for amplification (specifically for outdoor venues) are concerned.

Performance anxiety is a very real phenomenon with which singers have to deal. In my praxis I provide information for students on various coping strategies for this psychological challenge associated with stage performance. Sell (2005, p. 162) states that the following guidance is frequently offered which may reduce anxiety:

- A positive attitude and visualisation of the entire performance, from walking onto the stage to receiving the final applause; and
- An acceptance of human error, learning through experience, to keep going under any and all circumstances, and a resolve to enjoy the performance and to strive for 'excellence rather than perfection'.

Additionally, psychological help, alternative therapies and technological instruments may be considered for the management of performance anxiety: cognitive and behavioural therapy; the prudent use of certain anxiety reducing medication; therapies such as autogenics, the Alexander Technique, meditation yoga; as well as bio feed-back machines (Sell, 2005, pp. 161–162).

2.3.10.3 Evaluating the performance

I believe that the inclusion of assessment criteria for performance is very important since students acquire evaluation skills and are encouraged to think critically – also about their own performance. Sell (2005, p. 163) deems it highly desirable that vocal pedagogues acquaint themselves with aesthetic discussion, specifically as they are constantly evaluating students not only on the basis of technique, but also aesthetically. In her brief historical overview of philosophies underlying general aesthetic considerations, she highlights aspects such as Plato's concept of *mimesis* (imitation or representation of reality); heteronomist theories explaining the aesthetic value of music in terms of its relation to a phenomenon outside music such as emotion; as well as autonomist theories maintaining that musical value depends solely on features intrinsic to music

(Sell, 2005, p. 164). She further contends that philosophies on aesthetics focusing on attentiveness, intelligence, reasonableness and responsible decision should inform and enhance performance evaluation (Sell, 2005, p. 169).

The essential attribute of not only the examiner, but also the critic, agent and festival adjudicator may ideally be summarised as persons of 'knowledge, experience, perception, sensibility, and sound judgement' (Sell, 2005, p. 172). In conclusion, Sell believes that performance evaluation for voice teachers is at its most competent when informed by all the various disciplines that comprise the subject field of vocal pedagogy (2005, p. 173).

2.4 Summary

This chapter dealt with the pedagogical structure that underlies vocal pedagogy for undergraduates, namely the goals, objectives, scope and sequencing thereof. Contents of the study field are guided by what needs to be achieved by students in order to function in a multi-faceted career after tertiary training. The scope or content of the subject field is informed by the teachers' broad goals which may be broken down into short-termed and more easily attainable objectives for students. The sequence in which content is presented is a highly creative endeavour with the essential prerequisite of a logical and gradual build-up from basic knowledge progressing to more involved knowledge of concepts. A solid foundation leads to deeper insight and understanding of the subject field.

In this process of attaining knowledge, scaffolding is an important pedagogical concept and ensures the gradually diminishing role of the teacher as facilitator and the student as individual whose knowledge and application thereof increases. Ultimately full independence of thoughts and actions should be attained.

Chapter 3: Research methods

This study required specific and well-organised research methods in order to produce a credible outcome. This chapter briefly elucidates the research methodology.

3.1 Research design

To achieve the stated purpose of identifying the goals, objectives, scope and sequencing of a vocal pedagogy offering for undergraduate students, my research design is based on both a literature or 'scholarship review' – a review of the body of accumulated scholarship in vocal pedagogy – as well as conducting fieldwork by means of qualitative research (Mouton, 2001, pp. 87, 98, 107).

Both the literature review and the qualitative research data and analyses are based on my praxis as well as the praxes of the participants of the study. Shaffer (2004, pp. 1407, 1416) describes praxis or pedagogical praxis as a method for developing learning environments rousing strong interest that can be used to design effective programmes for students.

The qualitative research that I have conducted greatly enhanced my own praxis. It imposed a form of self-reflective enquiry on my approach to the selection of teaching material as well as the structuring of lectures and modules which were adapted according to the knowledge that I have gained. Although these aspects are characteristic of action research (Kemmis, 2007, p. 167), this study by no means focuses on this particular research design.

3.2 Data collection

Qualitative methods have been employed to direct this empirical investigation. According to Ely and Rashkin (2005, p. 366), researchers are the key instruments in qualitative research since they interpret what is being observed. This involves the researcher using an inductive reasoning style, looking from the inside out (Bak, 2004, p. 20).

The justification for using qualitative methods of data collection stems mostly from the fact that it is a recognised procedure in social sciences to first obtain information and then analyse the opinions of experts in the particular field of study which, in this case, is vocal pedagogy (Amosava, n.d., p. 1). Investigating the views and praxis of experts in the field of vocal pedagogy locally and abroad is the best way to establish the underlying principles guiding the formulation of goals, selection of balanced content and planning the sequencing of content for vocal pedagogy modules offered to undergraduate students.

The method by which primary data was collected in this study was through semi-structured interviews (Mouton, 2001, p. 151). I adapted the format of the interviews according to the convenience and the preference of the participants. If I was not in the same province as the participant, I made use of telephonic interviews. In other instances, according to the preference of the participants, the interview schedule was replaced with a similarly structured open-ended questionnaire which was sent electronically via email. The following electronic media was used to support my taking of notes during face-to-face and telephonic interviews:

- Personal interviews were digitally recorded by a *Livescribe Pulse smartpen* and special writing pad. While conducting an interview, I used the smartpen to make notes on the writing pad which enabled me to replay the whole conversation. I could then type word-for-word transcripts, ensuring that no detail was lost. Since I already had the basic structure of each conversation on the writing pad, the process of transcription was much more effective than working from a sound recording alone.
- For telephonic interviews, the recording procedure was made possible by means of the same smartpen attached to the telephone ear piece to record the conversation.

3.3 Method of data analysis

Qualitative data analysis was used to examine in detail the data collected. Data analysis is a continuous and non-linear process in qualitative research (De Vos, Strydom, Fouché & Delport, 2002, p. 340) which may be likened to an upward spiral as the researcher's insight improves. It involves taking apart words, sentences and paragraphs in order to make sense of and to interpret data. Analysis is done by means of organising, reducing and describing data for the purpose of eliciting meaning (Smit, 2002, p. 66).

The qualitative data that was collected from respondents may be described as narrative data. Taylor-Powell and Renner (2003) distinguish various types of narrative data from which I identified three functional options for my study, namely open-ended questions and written comments on questionnaires; individual interviews; and documents.

The basic elements of narrative data analysis and interpretation were applied. After the initial collection of data, I have found the processes of data analysis and interpretation – bringing order to and understanding the data – to occur simultaneously and to overlap.

Preset categories from the original open-ended questions of the questionnaire were used, but during the data analysis new categories emerged. Clusters of similar opinions or trains of thought were identified and correlated with the original open-ended questions of the questionnaire.

Apart from themes and key ideas in the open-ended questions that guided the interviews, new patterns of thought were identified. These connected not only different categories, but also pronounced similarities between the views of the various respondents. To structure the analysis, both preset and emerging key ideas were used as categories.

The analysis reflects the unique views and insights of the respondents, clearly showing similarities but also nuances and differences in perspectives on goals, scope or content and sequencing in the offerings of vocal pedagogy presented at the various tertiary institutions.

3.4 Research venues

Where telephonic or email correspondence was not utilised, the selected participants were either visited personally, or opted to visit me at a pre-selected venue. The sampling strategy for venues was mainly convenient. The sites initially targeted for this research inquiry were the following tertiary institutions:

- Department of Performing Arts: Vocal Art, Tshwane University of Technology, Arts Campus, Pretoria;
- School of Music, North-West University, Potchefstroom;
- Music Department, University of KwaZulu-Natal, Durban;
- Music Department, University of the Free State, Bloemfontein;
- South African College of Music, University of Cape Town; and
- Music Department, Stellenbosch University.

All but one of the above institutions responded to my research participation request. A table outlining details about respondents who were willing to participate in the study is included under the next heading.

3.5 Sampling strategy for participants

I utilised purposive sampling (Henning, 2004, p. 71) for choosing respondents who, by virtue of their knowledge and expertise in the field of vocal pedagogy, assisted me in answering the research questions. Vocal pedagogy lecturers from tertiary institutions mentioned in the previous section were approached as potential participants.

A degree of snowballing (Henning, 2004, p. 71) also followed during July 2011 when a unique research opportunity arose during my participation in an international symposium where I presented a paper on my vocal pedagogy research at Memorial University in St. John's, Canada. During this time, I gathered valuable insights not only from informal discussions, but also from brief email responses to certain open-ended questions. During email correspondence I was introduced to more respondents. The following table

provides information about the various respondents (in alphabetical order according to their surnames) who participated in the study:

Table 12: Respondents to the study

Respondent	Country	Institution	Research venue	Method of data collection
Dr Kathryn Barnes-Burroughs (Director)	United States of America	Southern Institute for the Performing Voice, Carriere, Mississippi	No venue, written response	Documentation, research findings and email correspondence
Dr Brad Liebl (Lecturer)	South Africa	South African College of Music, University of Cape Town, Cape Town	No venue, telephonic interview	Semi-structured individual interview per telephone
Ms Gwyneth Lloyd (Lecturer)	South Africa	Rhodes University, Department of Music and Musicology, Grahamstown	No venue, written response	Written comments on questionnaire with open-ended questions similar to those of semi-structured individual interviews
Dr Scott McCoy (Professor of Voice)	United States of America	Ohio State University, School of Music, Columbus	Memorial University, St. John's, Canada	Informal discussion and email correspondence
Mr Lionel Mkhwanazi (Lecturer)	South Africa	University of KwaZulu-Natal, School of Music, Durban	Centurion, Pretoria	Semi-structured individual interview
Mrs Magdalena Oosthuizen (Senior Lecturer)	South Africa	Stellenbosch University, Music Department, Stellenbosch	Stellenbosch University, Music Department	Semi-structured individual interview
Ms Catherine Robbin (Lecturer)	Canada	York University, Department of Music, Toronto	No venue, written response	Written comments on questionnaire with open-ended questions similar to those of semi-structured individual interviews

Mr Petrus van Heerden (Lecturer)	South Africa	University of the Free State, Music Department, Bloemfontein	Bainesvlei, Bloemfontein	Semi-structured individual interview
Mrs Santisa Viljoen (Department Coordinator)	South Africa	North-West University, School of Music and Conservatory, Potchefstroom	Bailliepark, Potchefstroom	Semi-structured individual interview
Dr Clifton Ware (Emeritus Professor)	United States of America	University of Minnesota, Minneapolis	No venue, written response	Documentation, research findings and email correspondence

3.6 Ethical issues

Before embarking on the data collection phase of this study, I acquired written consent from the proposed interviewees. A letter of consent was sent to each prospective participant inviting them to voluntary participation in this research project. No ethical predicaments arose from the dissemination of the information, since the collected data were not of a sensitive nature.

Chapter 4: Data description and analysis

4.1 Introduction

The investigation of the views and praxis of experts in the field of vocal pedagogy locally and abroad is the best way to establish the underlying principles guiding the formulation of goals, selection of balanced content and planning the sequencing of content for vocal pedagogy modules offered to undergraduate students. As discussed in chapter 3, six South African respondents were selected based on their expertise in the field of vocal pedagogy.

A degree of snowballing followed and four vocal pedagogy experts from the United States of America and Canada also agreed to participate in the study. This chapter consists of a categorisation of the narrative data which I gathered during semi-structured interviews, written responses, email correspondence and discussions with these respondents.

4.2 Analysis of interviews and questionnaires

The themes that follow are structured according to preset categories imbedded in the original open-ended questions directed at the respondents as well as emergent categories that naturally flowed from their unique responses:

4.2.1 Views on the concept of vocal pedagogy

Oosthuizen describes the concept of *vocal pedagogy* as the scientific understanding of the voice as well as the ability to diagnose vocal faults, correcting them by means of scientific principles. The diagnosis and correction of vocal faults are possible if the pedagogue and eventually the student both have a thorough knowledge of human anatomy and the functioning of the human body; especially as far as body alignment of the skeleton, muscles, breath and vocal mechanisms are concerned (Oosthuizen, personal communication, December 10, 2010).

The idea of scientifically understanding the vocal instrument is echoed by Robbin's description of teaching aspects of vocal pedagogy to students as an

attempt to understand how the instrument functions – anatomically, physiologically and acoustically (personal communication, August 9, 2011).

Mkhwanazi regards vocal pedagogy as a vital field of study for singers, the essence of which is the process of learning what making sound is all about, and what optimal sound production entails. He further explains that the principles of vocal pedagogy should serve as guidelines for singers to follow in order to develop the voice (Mkhwanazi, personal communication, December 29, 2010).

Viljoen (personal communication, December 28, 2010) describes vocal pedagogy as a subject field comprising of discussions on teaching method and philosophy as well as the application of the associated knowledge and skills.

4.2.2 Recommendations for undergraduate vocal pedagogy offerings

In 2008 to 2009 during the presidency of Dr Scott McCoy, the National Association of Teachers of Singing (NATS) in the USA appointed a committee to investigate curriculum development for vocal pedagogy. For the purpose of identifying trends in curriculum development, the inputs of various lecturers in the United States of America were collected and disseminated by this committee.

After meeting Dr Scott McCoy during a symposium in Canada which I attended in 2011, I was referred to Dr Kathryn Barnes-Burroughs who electronically made available a number of articles, NATS documents as well as a letter with recommendations for vocal pedagogy from Dr Clifton Ware, a NATS vocal pedagogy committee member. In this letter, Dr Ware suggests that in addition to the subject material covered in his publication *Basics of Vocal Pedagogy: The Foundations and Process of Singing* (1998) the following educational experiences may also be added to a vocal pedagogy offering:

- Introduction to 'crossover' singing (singing non-classical music) as well as using microphones and sound systems;
- Introduction to the latest voice and studio technologies, such as computerised voice analysis, Smart Music (accompaniments that follow the singer) and computer software for enhancing teaching;

- Opportunity to observe established voice lectures during studio classes and master classes who teach various voice types;
- Opportunity to observe and assist voice scientists such as vocal therapists and acousticians in their laboratories; and
- Opportunity to attend a voice practicum, in addition to special practicum, with all pedagogy classes for a total of three terms, as well as an apprenticeship for a year which will be observed by a voice lecturer.

With Dr Ware's kind permission (personal communication, August 23, 2012), his letter in full is attached to this mini-dissertation as **Appendix A**.

4.2.3 Integration of vocal pedagogy theory and practice

Oosthuizen comments that an essential aspect of practical voice tuition is that it remains the responsibility of the lecturer to create an accurate sound expectation when working with the student. During the process of tuition the singer's individual sound as well as expectations about that sound must be brought about by a competent lecturer, and vocal pedagogy supports this process (Oosthuizen, personal communication, December 10, 2010). Liebl (personal communication, June 20, 2011) confirms this view by stating that, in a practical class, theoretical knowledge should be consistently reinforced.

Mkhwanazi (personal communication, December 29, 2010) emphasises the need to create awareness of vocal and physical processes as well as the ability to discriminate between correct and incorrect sensations early on during vocal training, and believes that the introduction of vocal pedagogy will greatly assist in creating this awareness. Van Heerden (personal communication, January 22, 2011) supports the idea of the importance of creating awareness of the physical process of singing by teaching concepts related to body alignment, breathing, phonation and resonance. He describes the process of vocal training as bringing vocal processes, of which the student was previously unaware, to a conscious level. After sufficient habituation of new skills, these processes will return to the sub-conscious level (Van Heerden, personal communication,

January 22, 2011). In support of this statement Van Heerden (2000, p. 6), in his assignment submitted in partial fulfilment of the requirements for the MMus degree quotes Lamperti (1966, p. 14): 'Thought and muscle are schooled until instinct and reaction develop and take command. Then what was arbitrary becomes automatic.'

The delicate balance between musical freedom, freedom of the vocal mechanism and conscious, technical control are emphasised by Van Heerden. All these aspects should be supported by a reflective scientific grounding which he calls 'integrated knowledge' (Van Heerden, personal communication, January 22, 2011).

Mkhwanazi (personal communication, December 29, 2010) views practical technique and theoretical knowledge as inseparably linked and states: 'Vocal pedagogy grows with practical classes when students find correct ways of [...dealing with...] phonation and resonance.' He further explains that theory must go hand-in-hand with applied or practical singing. As far as didactics are concerned, Mkhwanazi (personal communication, December 29, 2010) believes that students should be allowed to observe lessons to learn about teaching and in certain group classes students must analyse vocal production, thereby practising diagnostic skills and prescribing corrective procedures. He maintains that this method benefits students by promoting critical thinking and problem-solving skills since theoretical knowledge is applied to practical situations.

The idea of integration of theory and practice is supported by Oosthuizen and she comments that her students often regard her vocal pedagogy and practical classes as extensions of one another. They experience the vocal pedagogy and didactics class as an extra session of practical voice class (Oosthuizen, personal communication, December 10, 2010). She believes that an important goal of any lecturer of vocal pedagogy should be to ensure concurrency between vocal development and theoretical knowledge (Oosthuizen, personal communication, December 10, 2010).

Van Heerden strongly agrees with Oosthuizen about the concurrency of theory and practice in vocal training. He recommends that whatever is taught and

learnt in the practical voice class should be repeated through theoretical aspects taught in the vocal pedagogy class. According to his experience students will not be able to develop into fully competent singers unless they study practical voice in conjunction with vocal pedagogy (Van Heerden, personal communication, January 22, 2011).

In the teaching situation, Van Heerden suggests that lecturers depend strongly on the heritage of excellent teachers as well as on modern scientific research published in the vast body of literature. The student cannot learn the art and science of singing entirely from a book; the practical input of a skilled pedagogue versed in the science of singing is crucial (Van Heerden, personal communication, January 22, 2011). Mkhwanazi (personal communication, December 29, 2010) adds to this thought by emphasising that vocal pedagogy is not a field of study in which skill and knowledge can be obtained without proper guidance and training.

Both Van Heerden (personal communication, January 22, 2011) and Viljoen (personal communication, December 28, 2010) call attention to the importance of a teacher's ability to display practical skills that are underpinned by scientific knowledge. Van Heerden dispels a common misconception that singers of lesser talent become music teachers. He emphasises that any teacher of voice must thoroughly understand both performance and didactic principles in order to be a good pedagogue – 'a born performer is a born teacher' (Van Heerden, personal communication, January 22, 2011).

Viljoen's teaching philosophy is constructed on the notion that theory should and must have practical application – for her the value of vocal pedagogy lies in its advancement of practical skill. She believes that knowledge should not be based on mere book-learning, but that it should transpose to practical skill and manner of thinking (Viljoen, personal communication, December 28, 2010).

During assessment, critical thinking and the application of theoretical knowledge should have priority in both written and practical assessment of students.

Viljoen asserts that practical voice assessments show best how students are able to apply theoretical knowledge (personal communication, December 28,

2010). She regards the practical application of theoretical knowledge – especially knowledge about basic repertoire – as crucial in the training of prospective teachers (Viljoen, personal communication, December 28, 2010). This idea is echoed in Lloyd's written response where she attests to the fact that her scientific knowledge is embedded in her holistic teaching method where theory and practice are consistently integrated (personal communication, January 13, 2010).

4.2.4 Communication and presentation style during vocal pedagogy lectures

As far as the presentation of the subject field is concerned Viljoen (personal communication, December 28, 2010) emphasises that the student interprets what the lecturer or facilitator says, therefore the facilitator must ensure that students understand what is communicated.

The importance of the manner of presentation is underlined by Oosthuizen (personal communication, December 10, 2010) who states that vocal pedagogy as a science requires knowledge and accurate communication about concepts and techniques, but adds that imagery as well as other creative ways of communication cannot be excluded in the teaching of theoretical and practical aspects of singing.

4.2.5 The basics of vocal pedagogy

According to Oosthuizen (personal communication, December 10, 2010) almost all vocal problems may be traced to faults in the following areas: posture; breathing and breath control and support; resonance; and vowel formation which she describes as the basics that underpin both practical and theoretical aspects of vocal tuition.

Posture, breathing and sound production are regarded by Mkhwanazi (personal communication, December 29, 2010) as the basics of vocal pedagogy that support practical tuition. Van Heerden (personal communication, January 22, 2011) agrees with this view and adds that knowledge about the characteristics

of good vocal technique as well as the requirements for a competent vocal pedagogue and student form part of the basics of vocal pedagogy.

According to Lloyd correct body involvement is the most important of the basic aspects of practical tuition for a singer. She believes that tensional habits should receive attention throughout the duration of a student's training. The most important vocal skill indicative of good technique is the application of adequate breathing energy (Lloyd, personal communication, January 13, 2010).

4.2.6 Curriculum development: Goals directing the scope or content of a vocal pedagogy offering

During the semi-structured interviews it soon became clear that goals and objectives set by the respondents are embodied in their practice. Petty (2009, p. 417) describes this phenomenon, referring to it as the 'embedding' of goals or aims and objectives. According to this phenomenon, more experienced lecturers tend to define or describe goals and objectives less formally but more fully and rather than writing them down, embody them in worksheets, assessments and practical activities. These learning activities are carefully devised to cover what lecturers know from experience students must be able to do (Petty, 2009, pp. 417–418).

From a survey done by the NATS Pedagogy Curriculum Development Committee at tertiary institutions in the USA (2008–2009), certain trends in curriculum development for vocal pedagogy at undergraduate and graduate level have been identified. For the purpose of this study, only trends that focus on undergraduate vocal pedagogy will be summarised:

- In a single semester offering of vocal pedagogy the focus for undergraduates is on gaining basic knowledge of anatomy and physiology;
- Observing vocal lesson form a key aspect of studies and an observation of a minimum of three lessons and maximum of 9 to 12 lessons is recommended;

- Gaining experience in practical teaching of voice lessons is regarded as important. No consensus has been reached about the level at which this should be included in the study or whether it should form a separate element of a pedagogy curriculum such as a voice practicum overseen by a pedagogy lecturer;
- In a two semester offering of undergraduate vocal pedagogy the trend seems to be separating voice science and voice teaching types of classes. There seems to be agreement upon the contents of a voice science class;
- From a bi-coastal survey (Atlantic and Pacific coasts) done in the USA in 2006, where 555 respondents were pooled consisting of NATS members from New York, New Jersey, Eastern Pennsylvania and California, it was established that more lecturers teach vocal pedagogy at undergraduate level, namely 54%;
- From the same survey, it became clear that 51% of respondents reported to offer separate practicum classes at either undergraduate or post-graduate levels at USA institutions; and
- A majority of lecturers include computer technology of some form, but a resistance to fully embrace technology still exists. The types of technology include the following: sound recording, kinaesthetic aids, visual aids, auditory aids, music teaching, vocal method and technique, pitch matching, and voice analysis (Barnes-Burroughs, personal communication, May 1, 2012; Barnes-Burroughs et al, 2006, pp. 591–592, 597).

Two types of vocal pedagogy offerings are identified: one comprising the length of one semester and the other that of two semesters. The following summaries of one and two semester vocal pedagogy offerings are based on preliminary drafts from the *NATS Pedagogy Curriculum Development Summary* (2008–2009) and provide guidelines towards goal setting for undergraduates (Barnes-Burroughs, personal communication, May 1, 2012):

Vocal pedagogy for undergraduates designed for one semester is structured to facilitate students to:

- Identify healthy, beautiful singing;
- Discuss the justification and value of vocal pedagogy studies;
- Develop a basic knowledge of the physiology of posture, breathing, phonation, registration, resonance, articulation and coordination;
- Discuss acoustics in terms of harmonics, formants and the nature of sound in resonance. Discussions may be illuminated by using a spectrogram as well as other voice analysis technologies;
- Understand basic information on vocal health and choral singing;
- Understand basic terminology used in teaching;
- Understand basic pedagogical information;
- Develop practical knowledge for setting up a voice studio; and
- Broadly identify the teaching of different styles of singing and incorporate basic microphone technique.

Vocal pedagogy for undergraduates designed for two semesters is structured to facilitate students to achieve the following during the first semester:

- Gain basic knowledge of anatomy of the spine, musculature of the abdomen, larynx, muscular connections relating to the larynx, ear and mouth;
- Gain basic knowledge of the physiology and anatomy as well as the processes of breathing, phonation, registration, articulation, coordination and expression for singing;
- Discuss acoustics in terms of harmonics, formants and the nature of sound in resonance. Discussions may be illuminated by the use of a spectrogram as well as other voice analysis technologies;
- Understand basic information on vocal health and choral singing;

- Gain broad knowledge of the psychological aspects of singing; and
- Investigate technology and resources available to teachers and voice students.

Vocal pedagogy for undergraduates designed for two semesters is structured to facilitate students to achieve the following during the second semester:

- Do revision of anatomy and physiology as well as gain understanding of physical alignment for singing with reference to the Alexander technique;
- Discuss the justification and value of didactics as well as students' experience of their first voice lessons;
- Gain an overview of the history of vocal pedagogy;
- Understand pedagogical aspects such as breathing, phonation (with special reference to terminology for example 'onset', 'offset' and so forth), registration, resonance, articulation, coordination and expressive singing;
- Understand concepts such as *formants* related to the optimisation of resonance as well as the recognition or diagnosis of faulty resonance;
- Participate in discussions on acoustics which may be aided by the usage of a spectrogram and other voice analysis technologies;
- Gain knowledge and be introduced to resources and technology that are available to teachers as well as the benefits that technology holds for voice students;
- Gain practical knowledge about establishing and managing a private voice studio;
- Understanding the psychology of singing;
- Gain a broad introduction to teaching different styles of singing and proper microphone technique;

- Gain the opportunity to observe voice lessons taught by professional teachers and writing reports on these observations; and
- Gain the opportunity to recruit a non-voice major student for the duration of a semester.

The summaries of goals directing the scope (or content) and sequencing of vocal pedagogy provide a broad outline of what may be expected in an undergraduate vocal pedagogy curriculum. The *NATS Undergraduate Pedagogy Curriculum* drafted by this committee during 2008–2009 which was sent electronically by Dr Barnes-Burroughs is the only printed example of a vocal pedagogy curriculum that I received from respondents to this study. This undergraduate pedagogy curriculum provides basic goals and outlines the scope (or content) and sequencing of vocal pedagogy for undergraduate students. With the kind permission of Drs Barnes-Burroughs and McCoy, the *NATS Undergraduate Pedagogy Curriculum (2008–2009)* is included as **Appendix B** in this study. This document provides more detailed information on the curriculum content and its sequencing for undergraduate vocal pedagogy (Barnes-Burroughs, personal communication, August 17, 2012; McCoy, personal communication, August 22, 2012).

The views of predominantly South African respondents (and one Canadian respondent) regarding the scope and sequencing of a vocal pedagogy offering for undergraduates will now be discussed.

4.2.7 Various views on content (scope) and sequencing

Oosthuizen emphasises that although a sequencing model provides direction and structure within vocal pedagogy modules, the aspects of vocal development (such as posture, breathing, resonance and articulation) take place simultaneously or in a continuum. The development of a voice is an involved process and the coordination of the basic aspects should receive constant attention (Oosthuizen, personal communication, December 10, 2010). Lloyd supports this thought by saying that the essential element in vocal sound,

posture, respiration, resonance, articulation and co-ordination is the preparation of the whole body for singing by holistic exercises that implement all these skills simultaneously (personal communication, January 13, 2010).

The most important aspect of sequencing topics in vocal pedagogy modules is that it should be a natural progression from the basics or building blocks towards more advanced topics (Liebl, personal communication, June 20, 2011). This idea is supported by Van Heerden (personal communication, January 22, 2011) who emphasises the importance of systematically organising content, describing it as a continuous process of creating awareness which builds up towards more advanced topics.

4.2.7.1 Structure of vocal pedagogy studies

The structures of vocal pedagogy offerings at different tertiary institutions vary significantly. I have investigated various offerings in order to find an ideal of tertiary training in vocal pedagogy. Not only the designated contact sessions varies, but also the length of vocal pedagogy offering; one, two or three years.

At Stellenbosch University, vocal pedagogy studies begin at the start of the second year of the BMus programme. Oosthuizen regards this decision a sensible one since students often find the adjustment from secondary school to university to be challenging. They generally tend to cope better with the theoretical contents of vocal pedagogy and feel less overwhelmed during the second year (Oosthuizen, personal communication, December 10, 2010). The second and last years of vocal pedagogy are completed in the third and fourth years of the BMus programme. Oosthuizen feels that proper training of voice teachers should not be attempted in less than three years (personal communication, December 10, 2010).

At the University of KwaZulu-Natal vocal pedagogy is introduced during the third year of the BMus programme. Mkhwanazi (personal communication, December 29, 2010) identifies the need to start earlier with this subject in order for students to have the full benefit of the value that vocal pedagogy adds to practical voice training.

At the South African College of Music, University of Cape Town, vocal pedagogy is taught to opera and performance diploma students from their first year, while BMus candidates start with the subject at the beginning of the second semester of the second year. The subject is presented over four semesters and is called 'Vocal Techniques/Repertoire/Teaching Methods I and II' (Liebl, personal communication, June 20, 2010).

At York University in Toronto, Canada, the subject is taught to senior students in one twelve week semester and is called 'Function of the Singing Voice' (Robbin, personal communication, August 9, 2011). The subject offering starts off with a rationale of voice science followed by the anatomy and physiology of the breathing apparatus. The structural support for breathing and singing, the muscles involved as well as breath support and control together with the concept of *appoggio* breathing conclude the section on respiration. Aspects of phonation follow and the focus is on laryngeal anatomy (intrinsic and extrinsic musculature), anatomy of the phonatory system and the influence of postural alignment. Included in the discussions on posture is physical balance for singing which focuses on the introduction of the Alexander and Feldenkreis techniques as well as yoga (Robbin, personal communication, August 9, 2011).

In discussions on the nature of sound, aspects such as the properties of sound, the acoustic spectrum (or science of timbre), resonance of the voice, the various resonating cavities, source-filter theory, formants and vowel modification are introduced. Finally, vocal registration, vocal health, care of the voice, vocal disorders, vibrato and belting, as well as a brief historical overview of vocal pedagogy complete the scope and sequencing of the subject offering (Robbin, personal communication, August 9, 2011).

4.2.7.2 Beginner content and sequencing

Oosthuizen regards a basic knowledge of human physiology and the anatomy of the skeleton, muscles, breath and vocal mechanisms – everything related to a singer's voice production – as important in the first year of vocal pedagogy training. The basics of voice classification as well as repertoire studies, which are closely related, should also be introduced early in vocal pedagogy training

(Oosthuizen, personal communication, December 10, 2010). Together with these topics, Van Heerden (personal communication, January 22, 2011) feels that knowledge of the nature of the human voice, characteristics of good vocal technique as well as the attributes of a good voice student and teacher are important content to be included in the first year of study.

According to Viljoen (personal communication, December 28, 2010) a basic knowledge of fundamental concepts in vocal pedagogy – postural alignment, respiration, phonation, resonance, basic anatomy and physiology, as well as articulation – is important for the first year when the subject is introduced. Liebl (personal communication, June 20, 2011) finds topics introduced in Oren Brown's *Discover your Voice* (1996) accessible or 'user-friendly' for students from varied demographics and backgrounds. These topics include the basics of vocal pedagogy already mentioned as well as the following: the primal sound as point of departure for free vocalisation (involuntary, free sound that humans are born with); classification of voices including those of children; growth and maturation of the voice; as well as a guide to establishing practice patterns. Mkhwanazi deems an early introduction of voice classification important since students always want to know where their voices fit in. An introduction to voice classification gives students possibilities of how their own voices may develop: 'They must learn early that the voice can change, and understand the limitations and possibilities their voices may have' (Mkhwanazi, personal communication, December 29, 2010).

A topic of vital importance introduced by Robbin (personal communication, August 9, 2011) is the value of dispelling myths and misconceptions about the voice, how it works and how it should be taught early on. Mkhwanazi (personal communication, December 29, 2010) echoes the importance of this idea and adds that the dispelling of myths is part of the process of setting students at ease about their vocal abilities, reassuring the insecure and reinforcing sensible habits.

4.2.7.3 Intermediate content and sequencing

During the intermediary year of vocal pedagogy training the basics of vocal registration may be introduced which, due its complex nature, will receive more attention during the final year. Vocal registers have an upward limit and to avoid any confusion the focus is on the three traditional registers: chest, middle and head. Resonance is also regarded as an important topic to be included in the second year of vocal pedagogy studies and receives in-depth attention (Oosthuizen, personal communication, December 10, 2010).

During the final part of the vocal pedagogy offering at the University of Cape Town (which is spread over two years), Liebl focuses on the interpretation of music, requirements for a professional career, aspects of choral singing, physical facts, sound production and resonance, and more detail about the anatomy and physiology of the laryngeal structure. Furthermore: neurology and the brain's role in singing; hearing; psychological and emotional influences in singing; voice problems and therapy; and finally a discussion focussed on hints for teachers. The final year in vocal pedagogy at the University of Cape Town also includes lyric diction – the basics of Italian and German – and didactics. Students are given the opportunity to teach each other (Liebl, personal communication, June 20, 2011).

Mkhwanazi (personal communication, December 29, 2010) regards resonance as an important aspect to be dealt with in detail but emphasises that a thorough understanding of posture and breathing should precede the topic of resonance. The importance of resonance and acoustics is echoed by Robbin as she draws attention to McCoy's observation on teaching acoustics during informal discussions in July 2011 that I had with them at the international symposium *The Phenomenon of Singing* at Memorial University, St. John's, Newfoundland. In her email, Robbin emphasises the fact that McCoy regards a good understanding of acoustics and the scientific laws governing it as more important to students than anatomical and physiological knowledge of the phonatory system. She cites his argument that control of acoustics is possible

whereas intrinsic laryngeal muscles are beyond any conscious control of a singer (Robbin, personal communication, August 9, 2011).

4.2.7.4 Advanced content and sequencing

In the final year of vocal pedagogy Oosthuizen introduces the German *Fach* system (a more refined type of vocal classification) together with the art of auditioning. Voice registration is an advanced topic and the work started in the second year is concluded on a more advanced level. Oosthuizen emphasises the terminological confusion that exists between certain resonance phenomena and registration (personal communication, December 10, 2010).

Related concepts and terminology such as register transitions or *passaggi* as well as *messa di voce* are also included. Oosthuizen (personal communication, December 10, 2010) notes that *messa di voce* may also be inserted in the terminology of dynamics, but emphasises that this technique cannot be successfully executed before *passaggi* have not been successfully negotiated. Students embark on an in-depth study of register transitions and are required to indicate each voice type's specific *passaggi* (Oosthuizen, personal communication, December 10, 2010).

Further topics to be included in the content of the final year of vocal pedagogy studies comprise of an overview of the various schools of singing such as the German and Italian schools as well as the inclusion of a brief review of the history and development of *bel canto* (Oosthuizen, personal communication, December 10, 2010). The history of the development of the recitative as well as didactic skills to teach the recitative is an important topic for the final year. Oosthuizen includes basic ornamentation as well as the technical requirements for performing the upper mordent, mordent, *appoggiatura*, *accacciatura*, trill and turn in the final year's study. Furthermore, the psychology of a singer, performance skills and the compilation of recital programmes receive attention in the advanced phase of study (Oosthuizen, personal communication, December 10, 2010).

Other aspects of vocal pedagogy such as vocal hygiene, the influence and impact of the speaking voice on singing, safe and sensible practice regimes,

guidelines for independent study and work scheduling, memorising of music, psychological aspects of singing such as stress and stage fright as well as the cultivation of confidence may also be included in the final year. Oosthuizen (personal communication, December 10, 2010) feels that these topics may also be included in the earlier years of vocal pedagogy studies. Mkhwanazi (personal communication, December 29, 2010) emphasises the importance of knowledge of ethical and professional conduct in both public performance and the teaching situation.

Similar to Oosthuizen's strategy, Van Heerden (personal communication, January 22, 2011) views a thorough knowledge of the *Fach* system to be essential for senior vocal pedagogy students, specifically combined with knowledge of opera repertoire with ample examples that illustrate the allocation of suitable arias to the various *Fächer*. Together with this topic Van Heerden (personal communication, January 22, 2011) regards the inclusion of the following as essential to subject content: A historical overview of singing; the skill to put together a recital programme; performance skills and stage etiquette; career management skills; and knowledge of famous opera houses as well as conductors and singers.

4.2.8 Didactic skills

Oosthuizen (personal communication, December 10, 2010) regards the cultivation of didactic skills as a very important aspect which starts in the first year of vocal pedagogy studies. For the duration of the study, each student is required to observe vocal lessons in order to learn more about various teaching practices of the voice lecturers appointed at the university. When students observe her vocal lessons, she explains teaching methods and practically demonstrates the diagnosis of technical problems in a voice to the observers. Theory and practice are integrated and a voice lesson becomes a practical voice pedagogy class. Written reports are required from pedagogy students and these are scrutinised after which detailed feed-back is given (Oosthuizen, personal communication, December 10, 2010).

During the second year of vocal pedagogy studies, Oosthuizen requires students to observe a minimum of six practical voice lessons. Reports on these lessons have to be submitted upon which feedback is provided. The vocal pedagogy students are now permitted to start teaching recruited voice pupils. These pupils are required to stay with the student for the duration of the study of vocal pedagogy which continues for three years. Teaching sessions are monitored from time to time by the vocal pedagogy lecturer. Initially, successful tuition of body alignment, breath management and teaching an elementary vocal study (normally by Frederic Keel) form part of the requirements of a syllabus for beginner pupils (Oosthuizen, personal communication, December 10, 2010).

The introduction of anthologies focused on teaching and vocal studies is essential. For these purposes Oosthuizen recommends *Unterrichtslieder*, *Das Lied im Unterricht* as well as vocal study albums such as Vaccai, Keel, Concone and Lyon which are all suited for the beginner student. More advanced studies may be found in the vocal study albums of Marchese and Lütgen (Oosthuizen, personal communication, December 10, 2010).

By the end of vocal pedagogy studies, students are required to prove their ability to successfully teach, amongst others, an Italian *aria antiche* and a German *Lied* (both suitable for a beginner student), two folk songs and two vocalises. An essential topic included in Oosthuizen's teaching of didactics is guidelines for choosing and grading repertoire for the various developmental levels of a singer (personal communication, December 10, 2010).

Viljoen suggests that practical assessment of didactic skills may be a meaningful exercise. Collaborative and communicative learning may be applied whereby one student teaches another after which the supervising lecturer and student who received tuition award an assessment mark. The mark as well as the commentary will reflect to what extent knowledge was successfully applied to a practical situation (Viljoen, personal communication, December 28, 2010).

4.2.9 Lyric diction

Oosthuizen collaborates with language specialists in German and French who help students not only with pronunciation of the spoken language but also during singing where duration of tone and specific pitches come into play. Furthermore, students are required to independently obtain knowledge and skills in respect of the German, Italian and French languages (Oosthuizen, personal communication, December 10, 2010).

Basic knowledge and skills in using the symbols of the International Phonetic Alphabet (IPA) should be mastered, word-for-word text translations should be done and students should have access to good dictionaries in the appropriate languages of vocal repertoire. In addition to German and French, the basic principles of classical Latin are taught as well. Spanish could be included in the honours year in the repertoires of students opting to specialise in public performance (Oosthuizen, personal communication, December 10, 2010).

Repertoire studies as well as correct vowel and consonant formation are important in the process of learning to pronounce foreign languages. During diction studies, the presentation of repertoire in various languages will promote repertoire knowledge as well as diction skills as examples from Italian *arie antiche*, German *Lieder* and French *mélodies* are used in class (Oosthuizen, personal communication, December 10, 2010).

Viljoen (personal communication, December 28, 2010) deems it imperative to begin with the language that students struggle with most. Experience has taught her that Italian is relatively accessible to students but that German needs attention first since aspects such as consonant clusters make the language difficult to pronounce for all students. She advises that lyric diction classes should commence within the first year of vocal pedagogy studies, preferably during the second semester but that French be included only in the third year of vocal pedagogy studies (Viljoen, personal communication, December 28, 2010).

Italian is regarded by Mkhawanazi as the easiest language to start with when introducing foreign languages. The sounds and vowel formation of Italian are similar to indigenous South African languages, therefore making it a language

that students relate to quite readily. Basic pronunciation skills of German and English should also receive attention and French should be introduced last (Mkhwanazi, personal communication, December 29, 2010).

Lloyd identifies the folk song as an important genre to be used to introduce different indigenous languages to singers and refers specifically to Xhosa, Shona, Portuguese, Afrikaans and English. She regards Italian, German, French, English and Spanish as the so-called 'world languages' of opera and art song. English in South Africa should be pronounced in a manner that is appropriate to suit different styles and audiences (Lloyd, personal communication, January 13, 2010).

According to Lloyd (personal communication, January 13, 2010), specific diction skills and problems depend on a singer's mother tongue: Xhosa – similar to Italian – brings vowels forward in the mouth and German, English and Afrikaans speakers, in her experience, tend to stiffen the throat and lips. Especially in practical voice tuition she observed that Xhosa speakers found Italian easy, German tricky and French very difficult to pronounce. Similarly, Afrikaans speakers relate to German but find French difficult whereas the English often display stiff mouth muscles and find Italian difficult (Lloyd, personal communication, January 13, 2010).

4.2.10 Overview of goals and the content of repertoire studies

Viljoen (personal communication, December 28, 2010) emphasises the importance of establishing sensible and worthwhile outcomes or goals for repertoire study. The following list outlines possible goals for students to achieve:

- Students should be able to recognise music but also to listen with discretion;
- Students should be able to listen critically;
- Students should develop an appreciation and fondness of the music;

- Students should be able to provide valid reasons or arguments for expressing approval or disapproval of performance aspects such as interpretation, stylistic correctness, phrasing and tempo when evaluating a specific rendition of a song or aria; and
- Students should learn how to evaluate a voice and know what to listen for in order to express an informed opinion about the performance of any specific aria, song or recital.

Repertoire studies can be employed to merely broaden a student's scope of knowledge or it can promote critical thinking and develop the student's ability to select suitable repertoire for any given target group of any kind of community in which they will eventually work. Repertoire studies should aim to have practical application (Viljoen, personal communication, December 28, 2010).

4.2.10.1 Art song

Oosthuizen comments that the field of repertoire is tremendously wide and that her research and involvement in bringing the University of South Africa (Unisa) singing syllabus up to date enriches her knowledge continuously. She contends that knowledge of the song, recitatives and arias prescribed in the Unisa singing syllabus represents suitable study material for repertoire studies for the duration of vocal pedagogy modules for undergraduates (Oosthuizen, personal communication, December 10, 2010).

As an introduction to the German *Lied* the early art songs of Haydn and Mozart may be used. Further development of the art song in the Classical era may be illustrated with Beethoven *Lieder*. Students should also be aware of lesser known German composers such as Weber, Rathgeber, Schulz, Reichardt, Franz and others (Oosthuizen, personal communication, December 10, 2010).

A thorough knowledge of the *Lieder* of Schubert and Schumann should be acquired during repertoire studies. Some of the songs of Grieg and Mendelssohn should also be introduced after which a selection of the songs of Brahms, Wolf and Strauss should receive attention. Cognisance of later composers such as Mahler, Berg, Schoeck and Hindemith will further broaden

students' knowledge of the *Lieder* repertoire. Essential to the study of the art song is a knowledge of the well-known German song cycles, even if only extracts of these cycles are included (Oosthuizen, personal communication, December 10, 2010).

Viljoen comments that repertoire studies should eventually have practical application, especially for students who are potential singing teachers. A basic knowledge of an art and folk song repertoire suitable for teaching secondary school learners is imperative in Viljoen's practice (personal communication, December 28, 2010). She proposes a chronologic overview of the development of the art song spanning the study years with examples from composers such as Haydn, Mozart, Beethoven, Schubert, Schumann, Brahms, Wolf and Strauss. French repertoire should include examples from composers such as Fauré, Duparc, Debussy and Poulenc. Students should also be able to think critically about repertoire and distinguish important stylistic differences between the German *Lied* and the French *mélodie*.

Furthermore, Viljoen emphasises the importance of introducing English composers (Elgar, Vaughn-Williams, Quilter, Warlock and Britten) and a selection of their well-known songs. South African art songs (*kunsliedere*) should be introduced with familiar examples. The core of art song repertoire may be focused on European composers such as Schubert, Schumann and Fauré, but students have to be introduced to more composers and styles to ensure a broad, basic knowledge (Viljoen, personal communication, December 28, 2010). These introductions may be done with workshops where students are required to prepare small recital programmes and perform in front of peers with discussions afterwards.

4.2.10.2 Oratorio

Oosthuizen regards the introduction of famous oratorios such as Handel's *Messiah*, Bach's *Johannes Passion*, Haydn's *Die Schöpfung* and Vivaldi's *Gloria* as suitable for the first year's study. The second year's focus may be on Bach's *Mattäus Passion* and *Mass in B minor*, Haydn's *Die Jahreszeiten* as well as important Romantic oratorios such as Mendelssohn's *Elijah* and *St. Paul* and

Elgar's *The Dream of Gerontius* (Oosthuizen, personal communication, December 10, 2010).

The final year may include oratorios such as Mozart's and Verdi's *Requiem*, Pergolesi's and Rossini's *Stabat Mater* as well as Brahms's *Ein deutsches Requiem*. Generally, throughout repertoire studies, the focus should be on important arias and certain recitatives, especially in view of providing practical examples when the topic of recitatives is covered in the third year of vocal pedagogy study (Oosthuizen, personal communication, December 10, 2010).

Viljoen has a practical and creative approach to the selection of oratorio repertoire and proposes that phenomena in society or in nature such as church calendars and seasons may provide themes according to which oratorios may be selected. Various genres of the oratorio may be compared and contrasted, for example the *Stabat Mater* by Pergolesi and by Rossini, and the *Requiem* by composers such as Mozart, Brahms and Verdi, to name but a few (Viljoen, personal communication, December 28, 2010).

4.2.10.3 Opera

Knowledge of standard opera repertoire may be obtained by perusing brochures of well-known international singing festivals and competitions such as *Neue Stimme*. These brochures provide valuable information for both practical voice training and vocal pedagogy (Oosthuizen, personal communication, December 10, 2010).

According to Oosthuizen (personal communication, December 10, 2010) the focus of the study of opera repertoire should be on a basic knowledge of the opera's plot, characters and highlights which form a good starting point for educating students in this art form. Important operas which are good examples of certain styles and genres are mentioned: *Alcina* and *Giulio Cesare* (Handel); *Orfeo ed Euridice* (Gluck); *Die Zauberflöte*, *Don Giovanni*, *Così fan Tutte* and *Le Nozze di Figaro* (Mozart); *La Sonnambula* and *Norma* (Bellini); *L'Elisir d'Amore*, *Don Pasquale* and *Lucia di Lammermoor* (Donizetti); *La Cenerentola* and *Il Barbiere di Siviglia* (Rossini); *Carmen* (Bizet); and *La Traviata* (Verdi).

Viljoen (personal communication, December 28, 2010) opts for a conceptual approach to opera and likes to focus on the role of opera in 18th-century society with examples such as Mozart's *Le Nozze di Figaro*, *Die Zauberflöte* and *Così fan Tutte*. In 19th-century opera concepts such as *bel canto* and *verismo* are important. The former may be illustrated by Donizetti's *L'Elisir d'Amore* and the latter by Puccini's *La Bohème* and Verdi's *La Traviata*. Differences between the *bel canto* style and *verismo* singing should be discussed. Furthermore, genres such as *opera buffa* and *zarzuela* should be investigated. Operas of the Baroque, Late Romantic era and 20th century should not be negated. Text and context as well as the importance of music in society are well worth investigating.

The repertoire choice for opera suggested by Mkhwanazi focuses on making the genre accessible to students who are not well-versed in this complex Western style of music. He uses creative ways such as prompting students to compare opera characters' traits to people they know in their circle of family and friends, as well as prominent people in their community. The relevance of opera in society makes for interesting inquiries as he creatively uses Beethoven's prison opera *Fidelio* and links it to modern day political events such as Mandela's imprisonment on Robben Island. Furthermore, Mkhwanazi focuses on plot structure, characters and their various *Fächer* in order to prompt students to think critically and express informed ideas about the traits of specific voice types (personal communication, December 29, 2010).

Liebl (personal communication, June 20, 2011) includes mostly *bel canto* opera in the first year of study as well as operettas such as Lehár's *Die Lustige Witwe* and *Die Fledermaus* by Johann Strauss II. Composers such as Puccini and Verdi and examples from musical theatre such as Lloyd-Webber's *Phantom of the Opera* are included in the final year of repertoire studies.

4.2.11 Interdisciplinary networking amongst lecturers

Viljoen regards close cooperation and networking with colleagues as essential to avoid unnecessary duplication of information. She thinks that valuable information may be exchanged when lecturers from various disciplines work

together. Furthermore, she feels that style and interpretation from the perspective of the piano lecturer will eventually benefit singing students by giving them a broader background (Viljoen, personal communication, December 28, 2010).

4.2.12 Ownership and scaffolding

According to Viljoen the lecturer should adopt the role of facilitator and guide students towards critical thinking and well-developed reasoning and opinions. The ability to practically apply knowledge must be cultivated from the very beginning (Viljoen, personal communication, December 28, 2010). Oosthuizen takes this argument further by emphasising that a lecturer with superior knowledge should lead the students towards taking responsibility and ownership of study material. In the process the lecturer's role gradually diminishes as students fully develop, become independent and reach their full potential (Oosthuizen, personal communication, December 10, 2010). This process may be described as scaffolding, which refers to the phenomenon that learning occurs best within a cooperative and collaborative context in which a more experienced person guides or facilitates learning (Ely & Rashkin, 2005, p. 481).

Van Heerden (personal communication, January 22, 2011) regards it as essential that students know precisely what is expected of them since that gives them a sense of ownership and enables them to work independently. Oosthuizen feels that the workload should always be manageable to students and that the knowledge content should be accessible. Under these circumstances students will take ownership which again will lead to sustained interest, inspiration and eventually achievement. Practical participation must continuously take place and students must have regular opportunities to demonstrate newly acquired skills. Enthusiasm and a keen interest should be cultivated from the start (Oosthuizen, personal communication, December 10, 2010).

4.2.13 Key considerations for formulating goals and objectives

The respondents listed the following considerations as vitally important to the process of formulating goals and objectives:

- Goals and objectives should be focussed on equipping students to be functional as responsible teachers and performing artists (Oosthuizen, personal communication, December 10, 2010).
- Regular needs assessments in terms of career options of students should be done (Oosthuizen, personal communication, December 10, 2010).
- Concurrence between vocal development and theoretical knowledge should be a guiding factor (Oosthuizen, personal communication, December 10, 2010).
- Goals should be aimed at the securing of knowledge and its application to practice (Oosthuizen, personal communication, December 10, 2010).
- Goals should ensure actions to impart to students the basics of the subject field (Mkhwanazi, personal communication, December 29, 2010).
- A clear line of progression of goals should be present to illustrate that knowledge and skills attained in the first year is built upon in the consecutive years (Viljoen, personal communication, December 28, 2010; Liebl, personal communication, June 20, 2011).
- The formulation of goals should be in accordance with level descriptors set by SAQA (South African Qualifications Authority) (Viljoen, personal communication, December 28, 2010; Van Heerden, personal communication, January 22, 2011).
- Goals may be embedded into comprehensive learning activities and based on the lecturer's experience of functional knowledge (Liebl, personal communication, June 20, 2011).

4.2.14 Principles for the selection of content

After scrutinising the data collected during this research, some principles emerged as guiding forces for the selection of content in vocal pedagogy studies. In my opinion, the desire to touch both the hearts and minds of students – implying an inclusion of functional knowledge as well as aesthetics – should be part of the process of selecting content. The other principles may be listed as the following:

- Practical as well as theoretical (or scientific) knowledge and experience of the fundamental aspects of singing and the development of the singer form the basic principles for the selection of suitable content for a vocal pedagogy offering (Oosthuizen, personal communication, December 10, 2010).
- The comments of students should be kept in mind throughout the process of continuous development and revision of content (Robbin, personal communication, August 9, 2011).
- Students' abilities should always be taken into account and too much detail that overwhelms them should be avoided (Robbin, personal communication, August 9, 2011).
- Tried and trusted traditions of established teachers provide a safe point of departure for content selection (Mkhwanazi, personal communication, December 29, 2010).
- A combination of knowledge of the music literature and intuitive teaching talent is essential for selecting content (Mkhwanazi, personal communication, December 29, 2010).
- The needs of the work place and possible specialisation after tertiary training will dictate the outcomes or goals of the vocal pedagogy offering which in turn will impact upon the selection of suitable content (Viljoen, personal communication, December 28, 2010).

4.2.15 Key components of a balanced vocal pedagogy offering

The following key components contribute towards a balanced offering of vocal pedagogy:

- The lecturer should have a reflective and insightful knowledge of vocal pedagogy (Oosthuizen, personal communication, December 10, 2010).
- The lecturer's role should gradually diminish as students develop and gain independence (Oosthuizen, personal communication, December 10, 2010).
- Undergraduate work implies a broad overview of the subject with specialisation only beginning on post-graduate level (Viljoen, personal communication, December 28, 2010).
- The integration of theory and practice is an important component of a balanced vocal pedagogy offering (Viljoen, personal communication, December 28, 2010; Van Heerden, personal communication, January 22, 2011; Mkhwanazi, personal communication, December 29, 2010).
- The focus on anatomy, vocal health and acoustics, or the science of sound, forms the core of a balanced subject offering (Robbin, personal communication, August 9, 2011).

4.2.16 Key aspects of sequencing and organising content

The organisation of content is directed by the following aspects:

- Teaching of the basic and essential elements of vocal pedagogy should commence first and be successfully completed before more advanced work is attempted (Oosthuizen, personal communication, December 10, 2010).
- Practical experience and knowledge of the lecturer's own vocal abilities is essential for meaningful organisation of any vocal pedagogy offering to students (Oosthuizen, personal communication, December 10, 2010).

- Psychological aspects of singers and their development should constantly be a consideration in practical and theoretical tuition provided to students (Oosthuizen, personal communication, December 10, 2010).
- Sequencing is generally not done according to simple or standardised procedures (Viljoen, personal communication, December 28, 2010).
- Learning and therefore also the teaching process should be gradual and on-going, since the psychophysical development process of a singer is a gradual process governed by natural laws (Van Heerden, personal communication, January 22, 2011).
- Starting with relatively familiar and engaging topics will ensure student involvement (Robbin, personal communication, August 9, 2011).

4.2.17 Standard reference works and sources frequently used by vocal pedagogues

During interviews, respondents were asked to list their most useful sources regarding vocal pedagogy. This provided me with a rich variety of additional sources and perspectives. The following list represents the most frequently used sources in the praxes of the participants of this study. No list of sources can be regarded as absolute; the sources listed alphabetically according to author in the table below were those that came to mind first to respondents during interviews as well as those which they prominently referred to in email correspondence:

Table 13: Sources frequently used by respondents

Source	Respondents using the source
Bernac, P. <i>The Interpretation of French Song</i> (1978)	Liebl Lloyd

Brown, O. <i>Discover Your Voice</i> (1996)	Mkhwanazi Liebl Viljoen
Bunch, M. <i>Dynamics of the Singing Voice</i> (1997)	Oosthuizen
Christie, Van, A. <i>Expressive Singing, volume 1</i> (1967)	Oosthuizen Van Heerden
Coffin, B. <i>The Singers Repertoire, volumes I–V</i> (1956)	Liebl
Colton, R.H., Casper, J.K. & Leonard, R. <i>Understanding Voice Problems: A Physiological Perspective for Diagnosis and Treatment</i> (2006)	Oosthuizen
Doscher, B.M. <i>The Functional Unity of the Singing Voice</i> (1994)	Robbin
Emmons, S. & Sonntag, S. <i>The Art of the Song Recital</i> (1979)	Liebl Oosthuizen Van Heerden
Fuchs, V. <i>The Art of Singing and Voice Technique: a Handbook for Voice Teachers for Professional and Amateur Singers</i> (1963)	Oosthuizen
Fourie, M. <i>'n Ondersoek na sangpedagogiek met besondere verwysing na die Schubert-Lieder as onderrigliteratuur [An investigation into vocal pedagogy with specific reference to Schubert Lieder as teaching material]</i> (1986)	Oosthuizen
Gartside, R. <i>Interpreting the Songs of Gabriel Fauré</i> (1997)	Liebl
Johnson, G. <i>Gabriel Fauré: The Songs and Their Poets</i> (2009)	Liebl
Kimball, C. <i>Song: A Guide to Art Song Style and Literature</i> (2005)	Liebl
Legge, A. <i>The Art of Auditioning: a Handbook for Singers, Accompanists and Coaches</i> (1990)	Liebl Van Heerden
Miller, P.L. <i>The Ring of Words</i> (1966)	Liebl
Miller, R. <i>The Structure of Singing: System and Art in Vocal Technique</i> (1986)	Liebl Oosthuizen Viljoen
Miller, R. <i>On the Art of Singing</i> (1996)	Van Heerden

Miller, R. <i>Training Tenor Voices</i> (1993)	Liebl Van Heerden
McKinney, J. <i>The Diagnosis and Correction of Vocal Faults: a Manual for Teachers and for Choir Directors</i> (1994)	Mkhwanazi Oosthuizen Viljoen
NATS, <i>Journal of Singing</i>	Viljoen Robbin
Plunket Green, H. <i>Interpretation in Song</i> (1912)	Oosthuizen Van Heerden
Sell, K. <i>The Disciplines of Vocal Pedagogy: Towards an Holistic Approach</i> (2005)	Viljoen
Van Heerden, P. <i>'n Handleiding tot die Didaktiek van Sangonderrig met Spesifieke Verwysing na die Onderrig van die Registeroorgange van die Manstem</i> [A Manual of the Didactics of Vocal Instruction with Specific Reference to the Teaching of Register Transitions in the Male Voice] (2000)	Van Heerden
Wall, J., Caldwell, R., Cavilanes, T. & Allen, S. <i>Diction for Singers: A Concise Reference for English, Latin, German, French and Spanish Pronunciation</i> (1990)	Mkhwanazi
Ware, C. <i>Basics of Vocal Pedagogy: The Foundations and Process of Singing</i> (1998)	Viljoen

4.3 Summary

The contents of this chapter describes an overview of the praxes of the respondents to this study and may ultimately form guidelines for the restructuring of the goals, objectives, scope and sequence of an undergraduate vocal pedagogy offering.

Chapter 5: Conclusion and recommendations

5.1 Introduction

My experience of the demands of designing and lecturing vocal pedagogy modules as well as teaching practical voice classes is echoed in Karen Sell's contention (2005, p. 177) that a holistic education entailing multi-disciplinary integration is vital for the adequate preparation of prospective classical singers and teachers. They need to negotiate their various roles which include performing, giving instruction and cooperating in various inter-professional relations.

My investigation regarding the restructuring of vocal pedagogy modules for the University of Pretoria was viewed from a multi-disciplinary and holistic perspective. The central research question of establishing underlying principles that direct the goals, objectives, scope and sequencing of undergraduate vocal pedagogy modules guided the study.

In this chapter I aim to provide conclusions to all the aspects of my research in order to answer the main research question. These conclusions, drawn from the literature review in chapter 2 and the analysis of respondents' views in chapter 4, inform the answers to the central research question (stated above) and the following supplementary research questions which form the key issues discussed as main findings:

- What should be key considerations in the formulation of goals and objectives for a set of undergraduate vocal pedagogy modules?
- How should appropriate content be selected for a set of undergraduate vocal pedagogy modules?
- Which elements are key components of a balanced set of undergraduate vocal pedagogy modules?
- Which aspects should be considered when planning the sequencing of curricular content in vocal pedagogy?

5.2 Main findings

The first key issue considered was the formulation of goals and objectives. Background regarding the nature of goals and objectives was given in chapter 2, as well as a summary of the views of respondents concerning the setting of goals and objectives in chapter 4. My conclusion is that goals direct the bringing together of relevant and mutually supportive disciplines essential to undergraduate vocal pedagogy modules. The demands of prospective careers for undergraduate vocal pedagogy students dictate what knowledge and skills they need to acquire. Another guiding force for goal and objective setting is the judgement of the lecturer based on institutional level descriptors as well as knowledge and experience of appropriate content designation for beginner, intermediate and advanced vocal pedagogy students.

Critical reflection on and evaluation of goals and objectives by the lecturer may point to additional needs or short-comings which will be catered for in the continuous process of curriculum development. Petty (2009, p. 409) describes curriculum development as being a cyclic process starting with the deciding on goals or that which the lecturer wants to achieve. This should be followed by the planning of action or constructing of various attainable objectives to achieve the goals. The next step involves the action, or the actual carrying out of the plan by lecturing and engaging students in educational activities, which will be followed by the final step – the evaluation of the action. Carrying out this cyclic process of curriculum development will determine whether goals and objectives were met and will inevitably lead to resetting and/or adding additional goals and objectives.

The second key issue considered in this study was the manner of selecting appropriate content and the guidelines directing the process of selection. In chapter 2, a detailed account of the proposed scope or contents of vocal pedagogy for undergraduate students is given. The rich and varied body of literature on vocal pedagogy provides the material that informs the scope of undergraduate modules. Aspects identified as directing the selection process of content for a vocal pedagogy offering are the following: the scientific foundation

of knowledge, feedback from students, the tried and trusted traditions of established lecturers and authors, as well as the intuitive teaching talent of lecturers. Furthermore, appendices A (content recommended for inclusion in a vocal pedagogy curriculum from Dr Clifton Ware) and B (an example of an undergraduate vocal pedagogy curriculum from the NATS Pedagogy Committee) provide valuable information on the scope of vocal pedagogy suitable for an offering of undergraduate modules.

Components of a balanced set of undergraduate vocal pedagogy modules form the third key issue of providing an answer to the research question. During interviews with respondents which were discussed in chapter 4, *scaffolding* (the gradual decrease of a lecturer's role as students gain independence) emerged as an important finding. Furthermore, lecturers should have a reflective and deep knowledge of vocal pedagogy so that it may be integrated with vocal practice. This is the hallmark of a holistic approach that will effectively equip students for a career after tertiary training.

The last key issue of this study, namely the aspects to be considered when planning the sequencing of curricular content for a vocal pedagogy offering, was dealt with in chapter 4. An essential requirement for organising content highlighted by respondents is that learning and therefore also teaching should be a gradual and ongoing process. The basic building blocks of vocal pedagogy (posture, breathing, phonation, resonance and articulation) should be supplemented by auxiliary disciplines (historical background of vocal pedagogy, psychology and ethics, comparative pedagogies, and elements of performance) that support and further inform vocal pedagogy studies.

During the process of reviewing vocal pedagogy literature, it became clear that sequencing is a highly individual enterprise. Although certain similarities were found, no two authors opted for the same sequencing of topics. The various sources consulted were all logically structured, but the selection (except for the basics of the subject field which were always included) and presentation of contents varied significantly. The views of the respondents reflect the standpoint that sequencing is mostly a creative endeavour with no hard and fast rules

dictating content organisation. Moreover, the competencies of beginner, intermediate and advanced vocal pedagogy students were highlighted as guiding aspects in the sequencing of study material. Appendix B contains the results of the deliberations of imminent vocal pedagogues from the USA and provides valuable guidelines for content organisation.

5.3 Recommendations for further research

During my research a number of issues arose, some of which I could only briefly highlight due to the limited scope of this study. The following descriptions are the most important aspects which emerged and which may form the basis for further research.

- I have researched four major curricular aspects, namely goals, objectives, scope and sequencing of vocal pedagogy for undergraduate students. Another major curricular aspect is **student assessment**. Further research is required regarding the assessment of undergraduate vocal pedagogy students. Since goals and objectives have been outlined as directing forces in the designing of an undergraduate vocal pedagogy offering in this dissertation, the role of these curricular aspects and how they should be assessed should be investigated.
- Being a vocal pedagogy lecturer, I realise the importance of evaluating, refining and improving my own praxis. This dissertation provides a basis from which **an investigation of my own pedagogical praxis** may be launched. This investigation may take the form of **action research** which is defined by Zuber-Skerrit (1992, p. 15) as a collaborative critical enquiry by academics themselves that focuses on, amongst others, their own training practice and curricular problems. By nature action research is a form of self-reflective enquiry undertaken by participants in educational situations in order to improve the rationality and justification of aspects such as their specific social or educational practices, their understanding of these practices, and the

circumstances in which these practices are carried out (Kemmis, 2007, p. 167).

- **The role of technology in the 21st century voice studio** is increasing and should be researched to determine its applications in South Africa, specifically at tertiary institutions. Since technology is vital in any teaching environment of the 21st century, attitudes towards the inclusion of technology during voice studio teaching should also be investigated.
- Specialisation in a certain field has become increasingly important in the 21st century. **Investigating comparative pedagogies** and the approaches and styles of voice lecturers at South African tertiary institutions may prove to be valuable for establishing aspects such as fields of specialisation in vocal instruction.
- In this study, I have outlined the importance of scope and repertoire as part of a vocal pedagogy offering. However, the structure for repertoire studies at South African tertiary institutions should be further investigated in order to establish the underlying principles that direct the creation of **a balanced vocal repertoire study for undergraduate students**.
- The compilation of an **approved listening discography** to support the identification of various vocal styles, repertoire familiarity and general knowledge of famous singers and conductors forms an essential part of an undergraduate vocal pedagogy offering.
- The multi-cultural blend which characterises many performances of vocal music in South Africa necessitates investigation into **indigenous South African solo vocal music in undergraduate vocal repertoire studies**.
- There are many black students specialising in voice at South African tertiary institutions. This necessitates a study into **the specific needs of black South African singers**.

5.4 Conclusion

Designing and restructuring vocal pedagogy modules for undergraduates are complex and time-consuming endeavours. It is also a process that will never reach completion since students and conditions in which the subject is taught are ever changing. Furthermore, new research in vocal pedagogy makes this subject field a dynamic one that necessitates the lecturer to forever remain a student.

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List of personal communications (interviews and email correspondence)

1. Barnes-Burroughs, K. (2012). Director of the Southern Institute for the Performance of Voice, Carriere, Mississippi, USA. (Email correspondence: May 1, August 17. No semi-structured interview was conducted or questionnaire sent to this respondent. Documentation and research findings of the NATS Voice Pedagogy Curriculum Committee were sent by this respondent.)
2. Liebl, B. (2011). Lecturer at the University of Cape Town, South African College of Music, Cape Town, South Africa. (Semi-structured telephonic interview: June 20.)
3. Lloyd, G. (2011). Lecturer at Rhodes University, Department of Music and Musicology, Grahamstown, South Africa. (Email correspondence: January 13. Questionnaire with open-ended questions similar to those in the semi-structured interviews.)
4. McCoy, S. (2012). Professor of Voice at Ohio State University, School of Music, Columbus, Ohio, USA. (Email correspondence: August 22. No semi-structured interview was conducted or questionnaire sent to this respondent. Personal communication in the form of informal discussions during visit to Canada for an international symposium, Festival 500, The Phenomenon of Singing, St. John's, Newfoundland: July 2011.)
5. Mkhwanazi, L. (2010). Lecturer at the University of KwaZulu-Natal, School of Music, Durban, South Africa. (Personal interview: December 29.)
6. Oosthuizen, M. (2010). Senior Lecturer at Stellenbosch University, Stellenbosch, South Africa. (Personal interview: December 10.)
7. Robbin, C. (2011). Lecturer at York University, Department of Music, Toronto, Canada. (Email correspondence: August 9. Questionnaire with selected open-ended questions similar to those in the semi-structured interviews.)

8. Van Heerden, P. (2011). Lecturer at the University of the Free State, Music Department, Bloemfontein, South Africa. (Personal interview: January 22.)
9. Viljoen, S. (2010). Lecturer at North-West University, School of Music and Conservatory, Potchefstroom, South Africa. (Personal interview: December 28.)
10. Ware, C. (2012). Professor Emeritus of Voice at the University of Minnesota, Minneapolis, USA. (Email correspondence: August 23. No semi-structured interview was conducted or questionnaire sent to this respondent. This respondent forwarded to me his correspondence to the NATS Voice Pedagogy Curriculum Committee.)

**Appendix A: Recommendations for Voice Pedagogy
Courses, Graduate and Undergraduate (Clifton
Ware, USA)**

January 26, 2009

To: NATS Voice Pedagogy Curriculum Committee Colleagues

From: Clifton Ware

Subject: Recommendations for Voice Pedagogy Courses,
Undergraduate and Graduate

This is a challenging assignment, as you well understand. Each teacher has an idea of what he or she deems essential for a course aimed at certain levels of students. My preferences, however, are somewhat different from most of my colleagues, primarily because of my long-term experience in teaching group voice, all the while teaching undergraduate and graduate voice majors. I must admit that though I've enjoyed working with individual students, teaching group voice has been, and is, a more exciting and productive mode of instruction.

I hasten to add that I've also worked with graduate students in group-voice pedagogy classes, including TAs (teaching assistants), and I've had equally positive results. Although at first apprehensive, the graduates learn to give and take constructive criticism from among themselves, which in turn, develops a stronger sense of mutual support among the students. I mention this because I am convinced that more attention needs to be given to group voice pedagogy, especially since most beginning teachers are required to teach group voice. If so, why not train them to do it effectively?

For these reasons, I've listed an undergraduate group voice class (not to be labeled as pedagogy, however) for all voice majors, in conjunction with taking 30-minute private lessons. I give my rationale later, but I wanted to alert you to my reasons for suggesting such a course.

Incidentally, I know that Colorado State U has successfully implemented such a program, though I've not received an update since 2006. I assume it's still going strong.

Another concern I have is the growing influence of singing techniques associated with Contemporary Commercial Music (CCM). Although I don't take issue with the need for students to be able to manipulate their voices for certain character portrayals, I strongly urge that all students first learn how to produce their innate, authentic, optimal voice, which will be more efficiently produced, and therefore more healthy, natural sounding, and communicative when performing all styles of repertoire. I maintain that much of the popular singing style is just that: style, and not always sophisticated. It has nothing to do with what *should be*, but simply what has, over several decades, become culturally acceptable, mostly due to an "anything goes" aesthetic, and less than optimal vocalism and artistry becoming the norm. Of course, there are exceptions, with some excellent models of singers in all non-classical styles. It just seems we can do better as a profession, and perhaps our best-trained classical singers can lead the way. It may be possible that by setting high-quality modeling standards – and not trying to imitate contemporary pop vocalism in attempting to satisfy the general public's vocal aesthetics – it may be possible to wield a positive influence. In sum, I think we voice teachers need to re-educate people to listen for beauty of vocal expression, by becoming more attuned to genuine, authentic, and efficiently produced singing – regardless of the repertoire performed.

Along with this belief, I support a limited amount of crossover instruction for all classically trained voice majors, with some exposure to non-classical repertoire, perhaps not at the beginning, but before they graduate from college. In recent years I've come to realize that – with the exception of some songs composed by classically trained

composers that blend classical with non-classical styles – our classically trained singers are missing out on a wealth of non-classical repertoire, the type of songs that most audiences love to hear. Of course, some well-known classical singers are beginning to add more popular-style songs to their concert repertoire – and some schools are actually training singers in both styles – but for the most part, non-classical repertoire is avoided in our leading music schools. For this reason, I recommend limited exposure to performing non-classical repertoire – including classical pops (jazz, etc. but not rock). And along with this I also recommend some training in microphone technique. It need not be much exposure; for example, in a typical voice class, students might sing one popular-style song using a microphone and sound system.

I've not addressed what I think a voice pedagogy degree program might entail, and I assume that will come later. But I can at least summarize some of the important topics that seem obvious. The easiest way to do this is to attach the table of contents (TOC) for my pedagogy text: *Basics of Vocal Pedagogy* (McGraw-Hill 1998) – since you might not be familiar with it.

In viewing the TOC, you'll notice the special emphases I place on philosophical (aesthetic), psychological, and mind-body issues, all of which I consider essential topics in voice study. The vocal process (cognition to coordination) is standard fare, but the material on hearing, an important subject, is not always covered in texts or courses. Finally, I should explain that the chapters – “Solo Vocal Performance” and “Teaching Singing” – were originally written as two separate books, but the publisher nixed that concept, instead requiring that I reduce them to one chapter each. That's why the material is so concentrated, essentially in outline format. Ideally, in a large program, separate pedagogy courses could be created for solo vocal performance and teaching singing.

In addition to the subject material covered in my book, I recommend the following educational experiences:

- An introduction to **crossover singing**, including the use of a microphone and sound system.
- An introduction to the **latest technologies**, including computerized voice analysis, Smart Music (song accompaniments that follow the singer), computer software for enhancing teaching (office, PR, database, etc.).
- A **teacher observation opportunity**, by attending private lessons, studio classes, and master classes taught by established voice teachers in working with a variety of voice types, ages, and abilities, as a requirement in all pedagogy courses.
- A **voice science opportunity**, by observing and assisting voice researchers (therapists, acousticians, etc.) in voice labs.
- A **voice practicum** in conjunction with all pedagogy classes (at least 2), in addition to a special practicum, for a total of three terms. An apprenticeship for one year that's observed by a voice faculty member would be ideal (TAs have such an opportunity).

I believe I've touched upon everything I wanted to share with you. I very much look forward to seeing the results of our collective recommendations.

Clif Ware

Appendix B: NATS Undergraduate Pedagogy Curriculum, USA

NATS Undergraduate Pedagogy Curriculum
Scott McCoy, president

2008-2009 Committee

**Christopher Arneson (chair), Kathryn Barnes-Burroughs, Joseph Evans,
Allen Henderson, Karen Peeler, Donald Simonson, Clifton Ware**

Undergraduate 1 semester course

Goals:

- 1) To develop the ability to hear and demonstrate healthy, efficient, expressive vocalism.
- 2) To gain a basic understanding of the anatomical structures and physiological processes involved in speech and singing.
- 3) To gain an understanding of mind-body and vocal health.
- 4) To gain a basic knowledge of pedagogical practice for voice, including the psycho-emotional issues involved in learning.

Introduction:

- a) Rationale for studying voice, with an emphasis on voice science and pedagogy
- b) Study of the basic terminology used in categorizing voices, with an emphasis on listening to a variety of voice types.
- c) Overview of the basic psycho-emotional issues involved in voice study.

Unit 1: Vocal Health

- a) Hygiene, hydration and moderation.
- b) Singing when ill.
- c) Choral singing.
- d) Major disorders and pathologies of the voice.
- e) Medical voice specialists.

Unit 2: Body alignment and posture

- a) Description and benefits.
- b) Skeletal Framework: The spine and ribcage.
- c) Misconceptions about good posture.
- d) Strategies for releasing unnecessary tensions: Alexander Technique, Body Mapping, Feldenkreis, etc.

Unit 3: Breath and Support

- a) Muscular Anatomy and Function: Muscles of the ribs, abdomen, and back.
- b) Types of breathing: Abdominal, thoracic, clavicular, appoggio.
- c) *Appoggio*: Concept of muscular antagonism and how it aids efficient voice production.
- d) Misconceptions about breathing (e.g. direction of airflow upon inhalation/exhalation; and control over diaphragmatic action)

Unit 4: Anatomy of the Larynx/Phonation

- a) Laryngeal cartilages, bones, and musculature.

- b) The structure and function of the vocal folds, including an explanation of vocal-fold oscillation.
- c) Aerodynamics, in relation to vocal-fold function.
- d) Vibration cycle of the vocal folds.
- e) Laryngeal control of pitch and amplification.

Unit 5: Registration

- a) Physical registers: (Chest) Thyroarytenoid dominant production and (Head) Cricothyroid dominant production.
- b) Auxiliary registers: falsetto, *Stroh*bass (vocal fry/pulse) and whistle tone.
- c) Nomenclature used for registration: head, chest, mix, falsetto, flute/whistle, fry, etc.
- d) Teaching male and female voices.

Unit 6: Acoustics and Voice analysis

- a) Science of sound (frequency, amplitude, timbre, duration, noise).
- b) Harmonics and formants (vowel formants, singer's formant).
- c) Introduction to using voice analysis technology.

Unit 7: Resonance

- a) Vocal tract resonances
- b) Types of resonance: Forced vs. Free, and resonance structures
- c) Vibration vs. Resonation : sensation and function.
- d) Maximizing vocal resonance
- e) Issues with resonance in singing and teaching-

Unit 8: Articulation

- a) Anatomy of the head, mouth and throat.
- b) Connections between the articulators and the larynx.
- c) Effects of articulatory/laryngeal interconnections in singing.

Unit 9: The Ear and Hearing

- d) Anatomy of the ear and preservation of hearing.
- e) Hearing, as it relates to singing (i.e. the aural feedback loop, hearing one's own voice).
- f) Issues with hearing (i.e. pitch range of hearing, healthy decibel levels).

Unit 10: Practical information for the studio

- a) The Student-Teacher relationship.
- b) Diagnosis of vocal faults.
- c) Choosing repertoire for beginning singers, and repertoire resources for beginning teachers.
- d) Online communities and organizational resources for private voice teachers.
- e) Teaching vocal styles other than classical singing, plus proper microphone technique.

Undergraduate 2 semester course

Semester 1

****In support of a fact based pedagogy, this course would be most beneficial if it were required of all vocal students during the first year of their undergraduate studies, as a prerequisite to the later course focused on teaching voice****

Goals:

- 1) To develop the ability to hear and demonstrate healthy, efficient, expressive vocalism.
- 2) To gain a basic understanding of the anatomical structures and physiological processes involved in speech and singing.
- 3) To gain an understanding of mind-body and vocal health.
- 4) To gain a basic knowledge of pedagogical practice for voice, including the psycho-emotional issues involved in learning.

Introduction:

- a) Rationale for studying voice, with an emphasis on voice science and pedagogy
- b) Study of the basic terminology used in categorizing voices, with an emphasis on listening to a variety of voice types.
- c) Overview of the basic psycho-emotional issues involved in voice study.

Unit 1: Vocal Health

- a) Hygiene, hydration and moderation.
- b) Singing when ill.
- c) Choral singing.
- d) Major disorders and pathologies of the voice.
- e) Medical voice specialists.

Unit 2: Body alignment and posture

- a) Description and benefits.
- b) Skeletal Framework: The spine and ribcage.
- c) Misconceptions about good posture.
- d) Strategies for releasing unnecessary tensions: Alexander Technique, Body Mapping, Feldenkreis, etc.

Unit 3: Breath and Support

- a) Muscular Anatomy and Function: Muscles of the ribs, abdomen, and back.
- b) Types of breathing: Abdominal, thoracic, clavicular, *appoggio*.
- c) *Appoggio*: Concept of muscular antagonism and how it aids efficient voice production.
- d) Misconceptions about breathing (e.g. direction of airflow upon inhalation/exhalation; and control over diaphragmatic action)

Unit 4: Anatomy of the Larynx/Phonation

- a) Laryngeal cartilages, bones, and musculature.
- b) The structure and function of the vocal folds, including an explanation of vocal-fold oscillation.
- c) Aerodynamics, in relation to vocal-fold function.

- d) Vibration cycle of the vocal folds.
- e) Laryngeal control of pitch and amplification.

Unit 5: Registration

- a) Physical registers: (Chest) Thyroarytenoid dominant production and (Head) Cricothyroid dominant production.
- b) Auxiliary registers: falsetto, *Stroh*bass (vocal fry/pulse) and whistle tone.
- c) Nomenclature used for registration: head, chest, mix, falsetto, flute/whistle, fry, etc.
- d) Teaching male and female voices.

Unit 6: Acoustics and Voice analysis

- a) Science of sound (frequency, amplitude, timbre, duration, noise).
- b) Harmonics and formants (vowel formants, singer's formant).
- c) Introduction to using voice analysis technology.

Unit 7: Resonance

- a) Vocal tract resonances
- b) Types of resonance: Forced vs. Free, and resonance structures
- c) Vibration vs. Resonance : sensation and function.
- d) Maximizing vocal resonance
- e) Issues with resonance in singing and teaching-

Unit 8: Articulation

- a) Anatomy of the head, mouth and throat.
- b) Connections between the articulators and the larynx.
- c) Effects of articulatory/laryngeal interconnections in singing.

Unit 9: The Ear and Hearing

- a) Anatomy of the ear and preservation of hearing.
- b) Hearing, as it relates to singing (i.e. the aural feedback loop, hearing one's own voice).
- c) Issues with hearing (i.e. pitch range of hearing, healthy decibel levels).

Semester 2

****The information in this course is intended to be a development of information presented in the previous course, therefore the review that is suggested is intended to be cursory****

Goals:

- 1) To develop the ability to hear and demonstrate healthy, efficient, expressive vocalism.
- 2) To continue to gain an understanding of mind-body and vocal health.
- 3) To gain a basic knowledge of pedagogical history and practice for voice, including the psycho-emotional issues involved in learning.
- 4) To gain practical knowledge through observing others and through experience (simulated lessons will be incorporated into class time at the end of each unit).

Requirements:

- 1) Observe a minimum of 3 voice lessons with separate teachers and turn in observations.
- 2) Maintain a journal of personal lessons.
- 3) Dedicate a section of journal to vocalises and teaching resources.
- 4) Participate in simulated lessons as both a teacher and a student during class time.

Introduction:

- a) Benefits of studying singing and vocal pedagogy.
- b) Discussion of students' early voice lesson experiences.
- c) Review of terminology for discussing voices.
- d) Discussion of various voice dysfunctions (analysis, diagnosis, and remedies)

Unit 1: Breathing, Posture and Alignment

- a) Review of anatomy covered in semester 1 and the physical processes involved in breathing.
- b) Review of breathing methods, discussion of dysfunctions, and discussion of differences in sensations experienced between males and females.
- c) Discussion of dysfunctions in body alignment and effects on singing.
- d) Discussion of appropriate physical/postural exercises prior to vocal warm ups and in-class lessons on breathing.

Unit 2: Phonation

- a) Review of laryngeal anatomy and the vocal-fold vibration cycle.
- b) Discussion of the balanced onset/offset, and solutions for hyperfunctional/hypofunctional phonation.
- c) Exercises for a balanced onset/offset.
- d) Discussion of vibrato faults.
- e) In-class lessons: phonation.

Unit 3: Registration

- a) Review of all purported voice registers, including historical and current terminology.
- b) Review the two modes of vocal production at the laryngeal level, including a discussion of "belting" in terms of vocal production.
- c) Review of registration differences in the male and female voice.
- d) Discussion of pubertal vocal changes in males (and females).
- e) Discussion of ways in which vowel formants can aid registration issues.
- f) Technological analysis of registration issues.
- g) Exercises for helping with registration issues and in-class lessons on registration.

Unit 4: Resonance and Acoustics

- a) Review of the factors that affect resonance, forced/free resonance, and the physical structures that act as vocal resonators.
- b) Adjustments of the resonators.
- c) Review of harmonics and formants (singer's formant).
- d) Discussion of resonance faults, exercises for optimizing resonance, and in-class lessons on resonance.
- e) Exploration of resonance and acoustics through voice analysis.

Unit 5: Articulation

- a) Review of articulatory anatomy and interconnections between the articulators and the larynx.
- b) Tensional faults relating to articulation: The tongue and the jaw.
- c) Exercises for releasing tension in the tongue and jaw and in-class lessons on articulation.

Unit 6: Psychology of singing and teaching

- a) The student-teacher relationship.
- b) Studio etiquette.
- c) Learning theory and models of learning.
- d) Discussion of performance anxiety.
- e) Psycho-emotional blocks to learning.

Unit 7: Resources and Technology

- a) Online communities and organizational resources for private voice teachers.
- b) Choosing repertoire for beginning singers and resources for beginning teachers.
- c) Inclusion of basic musicianship in beginning voice lessons.
- d) Review of voice analysis technology.
- e) Use of technology in the studio.
- f) cursory survey of teaching different styles of singing, including musical theater and popular styles, and use of proper microphone technique.
- g) Advice for starting and managing a private studio.