

**Developing sound-quality and choral blend in adult community choirs
through weekly warm-ups and technical exercises**

by

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Dedication

To my father and mother, Coen and Alice Pretorius, for your visionary guidance and selfless love and support in teaching me the values of godly living, cultural enrichment and academic development as the foundation of a rich and fulfilled life. Everything I am I owe to you.

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Abstract

The use of warm-ups and repertoire-based technical exercises is strongly associated with choral rehearsals. If used in a purposeful and planned way they can make a meaningful contribution to the development of choral sound quality and blend in choirs. Choral conductors – particularly those of amateur community choirs working with amateur singers with little or no musical background and exposure – often feel frustrated by slow progress with choral sound quality and blend in their choirs. Furthermore, research indicates that the value of choral warm-ups and technical exercises during weekly rehearsals are often misunderstood or trivialised by choral conductors.

Using a qualitative research paradigm, a case study was undertaken to explore the perspectives and practices of a group of experienced South African choral conductors who subscribe to the value of warm-ups and technical exercises. Data collection strategies included semi-structured interviews, observations and a facilitated focus group using concept mapping as a data collection technique. An innovative strategy formed part of the facilitated focus group session, utilising concept mapping to generate responses and ideas.

Three main findings emerging from the data analysis assist in gaining a holistic understanding of the research problem. These include the importance of a planned and preventative strategy of choral warm-ups and technical exercises for the promotion of choral sound quality and blend; the advantage of meaningful collaboration between the conductor and the choir; and the impact of a systematic regime of choral warm-ups and technical exercises with clear objectives to improve overall choral sound quality.

Keywords

choral warm-ups

choral technical exercises

adult community choir

choral sound quality

choral blend

vowel placement

choral intonation

choral sound

weekly choral rehearsal

Notes to the reader

The terms participant and respondent will be used interchangeable in the dissertation when referring to the research participants.

The use of two spaces between sentences has been applied constantly according to a personal preference in typing style.

English spelling in this dissertation conforms to standardised UK spelling, except where direct quotations from other authors are included who use USA spelling.

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Chapter 1: Introduction

Whether conscious to us or not, our philosophies are telegraphed through the rehearsals we design and the feedback we provide to our choristers. In the words of conductor James Jordan (2005) 'Why do people come to sing for you? Not because of your musicianship or your beautiful conducting gestures. They come because of you. When your hands come down, the important thing is that you care about the choir, not the right notes or right rhythms'.

Freer (2009a:45)

1.1 Background to the study

Many dedicated singers throughout the world come together on a weekly basis to experience the joy and fulfilment of singing together in small and large community choirs, whether it be adult singers, school children or elderly people. "It is an opportunity for ordinary people to participate in creating music without the requirements of formal music education" (Walker 2005:136). Research indicates that choristers experience choir singing as an activity which contributes to their well-being and improved self-esteem, providing "release from pressing problems, [opportunities] to explore emotions that had been buried for many years and [helping them to] feel rejuvenated" (Bailey & Davidson 2003:23). The reasons why choristers join choirs indicate that "pleasure is the most prominent reason, while self-confidence is another prominent motivating factor" (Richards & Durrant 2003:84). Closely linked to increased self-esteem are positive feelings of identity, an aspect which choristers associate with "choral performance as a rewarding experience" (Einarsdottir & Gudmundsdottir 2016:42).

Singing for such choir enthusiasts is an avocation rather than a vocation. They sing, not because they receive any explicit incentive for it, but for the love of the art of collective singing. Choristers experience choral singing as a therapeutic, energising and relaxing activity (Bailey & Davidson 2005). Choir singing "is a leisure occupation that is performed by millions of people in different cultures and under different circumstances" (Tonneijck, Kinébanian & Josephsson 2008:173). The feelings of connectivity and collaboration during choir singing are motivating factors for people to join choirs. Choral singing gives expression to their artistic aspirations and contributes to the arts and culture of the communities from which they come.

Choristers join choirs with positive expectations that they will spend their time in worthwhile pursuit of results which will provide them with a sense of enjoyment and accomplishment (Bailey & Davidson 2005). Furthermore, singers expect mental

stimulation and challenges to develop their musical capabilities, “which enable them to meet the challenges of classical repertoire and gain a sense of achievement” (Bailey & Davidson 2005:297). This creates an ideal opportunity for conductors to energise and motivate their choristers and to guide them to elevate their standard of singing. Tonneijck et al. found that challenges presented to choristers allowed them to develop “feelings of pride and satisfaction” (2008:176). This is especially noticed when they experience the attention and positive feedback from the audience as a result of all their efforts.

While the majority of choristers in community choirs are amateurs when it comes to music knowledge and skills, most of them have potential, enthusiasm and ambition to move beyond an elementary level of choir singing. In this sense, choral singing not only serves as a vehicle for basic music appreciation, but as education for those with limited exposure to and experience of music studies. Richards and Durrant (2003:79) caution that “conductors tend to expect their singers to be good or ready, rather than take on board the responsibility of teaching and developing them”. They refer to the well-known choral composer, John Rutter, who expressed his concern regarding “the demise of ordinary local choirs and communal singing, suggesting that we have become obsessed with the end-result, the performance, at the expense of the process”.

It is evident from the literature that the conductor plays the primary role to attract and introduce singers to the joys of singing, as well as to instil the rigour of singing well (Richards & Durrant 2003; Stegman 2003; Tonneijck et al. 2008). The rehearsal is the process available to the conductor to turn a group of singers into a good choir. The amount of time a choir spends rehearsing compared to performing, makes it vital that the rehearsal experience should be enjoyable, inspirational and meaningful.

Harper (2013:4) refers to the “zest, rigor and purpose” which conductors should provide during rehearsals to make it a worthwhile and invigorating experience for the choristers, while Young (2008:1) remarks that “anticipation, tight planning, a sense of forward moving progress, and the joy that comes with mutual respect” are key elements in creating “excellent music together.” To achieve success during the choral rehearsal requires thoughtful preparation by the conductor, particularly with regard to the introduction of a regime of warm-ups and technical exercises. Voices need to be prepared to handle the demands of the repertoire while they are blended together “in terms of timbre, intonation, and intention” (Titze 2008:35).

The above statements point to the hard work the conductor has to perform to reap the benefits of a choir displaying pleasing choral sound quality and blend. However, “choral

teachers frequently find themselves too busy to plan adequately for a focused, productive warm-up period that prepares the way for music making and music learning” (Stegman 2003:37). Due to limited rehearsal time, many conductors are so anxious to start rehearsing the repertoire that the essential warm-up and technical exercises are often sacrificed (Olesen 2010:138-146). The following comments from choral conductors – research participants from Olesen’s study – confirm this finding:

I use warm-ups only for vocal technique or mental focus and since my choirs come in later in the day [...] their voices are pretty much already ‘warmed-up’. I don’t use warm-ups often.

(Olesen 2010:138)

Sometimes I will skip warm-ups altogether [...] I would say that for me, warm-ups are a way to get the attention of the group and get it focused on music-making.

(Olesen 2010:142)

Dettwiler (1989:13) argues that omitting the warm-up session will slow down the rehearsal, because the choristers’ attention is not focused, vocal folds are not warmed-up, and hearing is not sharpened. To be able to intonate pitch correctly – an important element of sound quality – choristers should constantly refine and enhance their hearing skills. Therefore a choral conductor can use technical exercises “that expand the auditory experience in the choral rehearsal and relate to the music to be sung” (Dettwiler 1989:13). The use of warm-ups and technical exercises are strongly associated with a meaningful rehearsal.

1.2 Personal motivation

The motivation for this study arose from my personal experience that conductors often base their warm-ups and technical exercises on past experience or fragmented ideas and observations of how others do them, a notion confirmed by Olesen (2010:139). Furthermore, stemming from my experience as a choral conductor over the past 35 years, I realised that a few stereotypical warm-ups at the beginning of a rehearsal, without understanding the relevance and purposed results of these exercises, are unlikely to bring meaningful change to choral sound quality. Although warm-ups generally formed part of my weekly choral rehearsals, I conducted these without really understanding the ‘why’ and ‘how’ of warm-ups. Therefore the possibility of excellence was reduced as result of varying capability of voices, general lack of musical skills of the choristers, as well as my own ignorance as a conductor.

I reflected on the possibility that mediocre performances, uninspiring repertoires, and, what sometimes appear to be insurmountable shortcomings in choral sound quality, often erode our best efforts to develop choral sound quality and compromise the motivation and performing confidence of our choirs. It is quite conceivable that conductors who do not know what they do not know and do not realise that they do not know, may be the explanation why choir members lose interest, leading to unusually high turnover of choral members or even the disbanding of their choirs due to lack of excitement or sustained motivation.

Having conducted various ensembles, school choirs and adult community choirs over a span of three decades, my awareness has been piqued to search for a more purposeful and systematic approach to warm-ups and technical exercises. The significant improvement in choral sound quality and blend I have experienced following the proper implementation of warm-ups and technical exercises, stimulated my curiosity. If the choir is to become not only a place where people sing together but a place to grow, excel and sing to their best abilities, it becomes the responsibility of the conductor to make choral sound quality a priority by using as many tools and ideas as possible. Observations and learnings from successful conductors convinced me that most of the obvious 'errors' and shortcomings in choirs can be rectified by following a regime of warm-ups and relevant technical exercises done properly and consistently during the weekly rehearsal. However, it is difficult for a conductor to address choral sound weaknesses without a thorough understanding of and access to meaningful guidelines and a tried and tested approach to warm-ups and technical exercises.

A watershed experience arrived when I was introduced to innovative techniques for choral warm-ups and technical exercises during several national and international seminars. At that time I was preparing a multi-cultural community choir for an international competition. The choir comprised of 23 amateur members of which only four could read music, while their ages ranged between 23 and 72 years. For the first time, the choir was introduced to highly challenging music which stretched their ability to the full. Without fully understanding what they let themselves in for, they were required to sing music by, amongst others, – contemporary composers such as Hendrik Hofmeyr and the Latvian composer, Rihards Dubra; indigenous African music which required traditional dancing and movements; as well as complex arrangements of the music of Johann Sebastian Bach by the composer, Knut Nystedt.

It was during these difficult months of preparation that preceded the tour to the World Choir Games that I started to appreciate the words of Brewer who said:

The elusive blend that makes an outstanding ensemble is simple to achieve but rare to find. Blend should not be confused with a bland uniformity. Just as the colours of the spectrum combine to create an individual colour, a vibrant, blended choral sound can be created from a wide range of individual vocal colours.

Brewer (2004:12)

It was an enormous challenge to try and blend the individual vocal colours present in the choir into a homogeneous sound which would make an impact on the international stage.

Despite my ample experience of choral music, either by singing in or conducting choirs, the breakthrough only came after having personally experienced the step-change in choral sound quality and other musical aspects of the choir following the faithful application of specific warm-ups and technical exercises to which I had been introduced. This allowed me to understand and see the real benefit of such exercises and the need for a planned and disciplined programme of warm-ups and technical exercises.

The choir's reward for their hard work was in attaining two silver awards at the World Choir Games in Xiamen, China during July 2006. In the same year the choir received the 'Outstanding Chamber Choir' award from the South African Choral Society at the National Choral Awards ceremony.

During this period an opportunity arose to introduce these techniques to a senior citizen choir in a small village some distance outside Pretoria. Within five weeks of applying these exercises and techniques, the ensemble achieved their first gold award at a local Eisteddfod. They made such an impression on the adjudicator that he insisted they perform at a gala concert later that week.

The effect the new regime of warm-ups and technical exercises had on the homogeneity of sound, tone quality and pitch maintenance of both choirs was unexpected and surprising. The true impact of consistent and focused exercises became clear to both choristers and conductor and had an immediate and long-term effect of renewed commitment and a sense of achievement on both choirs. Suddenly these exercises made perfect sense and no longer were attempts made to avoid them or rush through the session just for the sake of 'going through the motions' of warm-ups and technical exercises.

1.3 Problem statement

As described above, the rationale for this study arose from my experience and observations that choral conductors often do not appreciate the value of effective choral warm-ups and technical exercises during the weekly rehearsal – especially conductors of community choirs. Conductors often do warm-ups with their choirs because they have seen other conductors do it, or from their personal experiences as choristers. Although they sense that it should be done, they often do not make any connection between the warm-up or technical exercise and the repertoire they are preparing for, or the importance of developing choral sound quality. The concept of a planned and structured, well-implemented session of warm-ups and technical exercises before commencing the actual rehearsal is very often misunderstood or trivialised.

1.4 Research questions

Given the above arguments, the main research question is formulated as follows:

What is the role of warm-ups and technical exercises during the weekly rehearsal regarding the development of sound quality and choral blend in adult community choirs?

Secondary research questions to operationalise the main research question are:

- How are conductors using warm-ups and technical exercises during their weekly choral rehearsals?
- What are the conductors' perceptions regarding the purpose and value of warm-ups and technical exercises in relation to the quality of sound in their choirs?
- How can warm-ups and technical exercises be integrated into a planned and structured framework to enhance the development of choral sound quality and choral blend?

1.5 Aims of the study

In this study I aimed to find meaningful answers to the 'how', 'why' and 'what' questions surrounding a warm-up and technical exercises regime during the weekly rehearsal. The approach to planning and execution of choral warm-ups and technical exercises has been explored, as well as the reasons why experienced conductors make time to include

such activities during rehearsals. Finally I aimed to find out what objectives choral conductors set for themselves and what kind of processes or frameworks they follow.

1.6 Key concepts

Concept	Explanation
Warm-ups	Warm-ups are exercises designed to warm up the body and prepare the vocal folds for sonorous, unconstrained singing. These exercises are constructed to improve mental focus, posture and breathing, choral tone as well as dynamic range (Huffman, 2003).
Technical exercises	Technical exercises aim at improving choral singing technique with specific reference to the repertoire. Attention is paid to, amongst others, the interpretation of the genre, perfecting the overtones, intonation, rhythm, diction, balance and blend promoting the development of homogeneous choral sound Kodály (n.d.).
Choral sound quality	Choral sound quality is compounded of choral balance (between the various voice parts of the choir) and blend (between voices in the same vocal part), as well as good intonation.
Choral blend	Blend can be described as the unification of individual choral voices into a uniform sound within and between voice sections in the choir (Crowther 2003:89).
Purposeful application of warm-ups and technical exercises	Purposeful application of warm-ups and technical exercises imply that every exercise is designed to achieve a particular outcome and those outcomes are linked to the particular singing requirements demanded by the work at hand or the conductor's expectations (Apfelstadt 2016:34).
Collaboration between conductor and choristers	This refers to the idea that both parties carry a complementary responsibility for the sound quality that they produce. A conductor guides the choir from one level of learning experience to the next through active engagement and collaboration (Freer 2009a:38)

1.7 Research methodology

The study explored the role that warm-ups and technical exercises can play during the weekly rehearsal to improve choral sound quality and blend.

A qualitative research methodology was chosen to investigate the research problem, since such an approach focuses on describing and understanding phenomena as encountered and observed in a setting where they naturally occur. Niewenhuis

(2012:51) explains that the intention of the researcher using this approach is to develop an “understanding of the meaning(s) imparted by the respondents [...] so that the phenomena can be described in terms of the meaning that they have for the actors or participants”.

While quantitative research often endeavours to confirm or reject a particular hypothesis, qualitative research aims to follow one or more of the purposes of description, interpretation, verification and evaluation (Leedy & Ormrod 2005:134-135). In this study all the data collected was committed to paper by means of observation sheets, transcriptions of audio-recordings and data capturing on pre-printed concept mapping¹ sheets. This allowed for a descriptive and interpretative study of the collected data.

Three methods of qualitative data collection have been used in this study:

- Semi-structured interviews were conducted with choral conductors to collect information about their experiences, perspectives and practices in applying warm-ups and technical exercises during the weekly choral rehearsal
- A facilitated focus group session was conducted with choral conductors, using concept mapping as a technique of data gathering
- Observation of choral rehearsals *in situ* was undertaken to observe and describe how conductors use warm-ups and technical exercises during the weekly rehearsal.

The above methods and how they were planned and executed will be described in more detail in Chapter 3.

1.8 Delimitations of the study

The scope and depth of this study were delineated to ensure that the study complies to its stated aims, but with full cognisance of the delimitations. These delimitations were the following:

- No part of the research aimed to produce empirical evidence that the application of warm-ups and technical exercises applied in a structured way does lead to a meaningful difference in choral sound quality

¹ The ‘concept mapping’ technique will be explained in detail in section 3.4.4 of Chapter 3.

- The use of warm-ups and technical exercises during weekly choral rehearsals was accepted as a given. However, the study was motivated by the question if such warm-ups and technical exercises are perceived by research participants to make a meaningful difference to the production of quality sound in their choirs
- The study is limited to the perceptions and practices of conductors with experience of adult community choirs
- Professional choirs that enjoy public or private sponsorship and youth and children choirs were excluded from the study. The choirs that were observed for the application of warm-ups and technical exercises were all medium-sized, community choirs with some exposure to choral festivals and occasional local choral competitions, but without international exposure.

1.9 Value of the study

It is envisaged that this study may contribute to an in-depth understanding of the value of warm-ups and technical exercises during the weekly choral rehearsal as a means to develop choral sound quality and blend. Furthermore, the findings of the study may assist in clarifying key concepts related to this topic as well as identifying 'best practice' as it emerged from the data. Finally, the research outcomes could lead to a recognition of the importance of planning frameworks and application principles to guide the use of warm-ups and technical exercises during rehearsals.

1.10 Chapter outline

In chapter 1 choir singing is introduced from the perspective of choristers' and the conductor's vested interests. These arguments were used as a springboard to motivate the research problem, research questions and aim of the study; the research methodology to investigate the problem; and finally, the delimitations and expected value of the study.

Chapter 2 provides a literature review to find evidence for the importance of using warm-ups and technical exercises during the weekly rehearsal and the reported practices followed by conductors. Additionally, the results of such studies are described in order to provide a basis for the current study's research methodology.

Chapter 3 motives and explains the research approach and design are motivated and explained in chapter 3. Reference is made to the sampling approach that was followed, the effort that was made to provide for multiple sources of data collection and ethical

considerations that were taken into account. The main part of the chapter is dedicated to an explanation of the three data collection methods that were applied.

Chapter 4 contains the analysis of data, revealing the categories and themes which emerged from the investigation. The role of different data collection strategies in order to enhance the level of trustworthiness is highlighted. At the end of the chapter, a discussion on the main findings is provided.

In the final chapter of this dissertation, a summary of the outcomes of the study is presented in order to answer the research questions. An attempt is made to integrate findings into a useful framework for understanding and applying warm-ups and technical exercises as a systematic process to improve choral sound quality and blend. Finally, recommendations for further research are suggested.

Chapter 2: Literature review

A concise survey of literature pertaining to choral warm-ups and technical exercises as they apply to the weekly rehearsal was undertaken to explore meaningful perspectives and practices. First, the relevance and importance of warm-ups and technical exercises as part of the choral rehearsal are investigated. Secondly, arguments relating to the perceived value of a purposeful and systematic approach to warm-ups and technical exercises are examined. Thirdly, attention is paid to what research reveals regarding the practice and process of using warm-ups and technical exercises.

2.1 The relevance and importance of warm-ups and technical exercises during choral rehearsals

The following themes encountered in the literature provide some insight into the relevance and importance being attached to the use of warm-ups and technical exercises during the weekly rehearsal.

2.1.1 Conductor stewardship for developing the choir

Conductors should be aware of their responsibility towards the choir. In the words of Harper (2013:1), "Choirs can (and do) exist without conductors. The converse is not true". With these words Harper points the conductor to his responsibility to promote the personal growth of choristers through increasing their musical awareness and skill. As steward of the development of the choir, the conductor should see to it that the choir makes progress because of a commitment to teach and develop the choir. In this regard the conductor is charged with the responsibility to instil a love of group-singing in the choristers, to develop various singing styles, and to provide them with the skills needed for productive teamwork and musical expression (Felipe & Hoover, 2017).

The conductor is furthermore responsible for providing relevant and progressive learning experiences that will shape choral sound quality. This statement is supported by Corbin (2001:3), who maintains that conductors, as educators, have the responsibility to educate choristers through explanation, example and description in order to refine choral sound. Roberts and Quinn (2006:54) argue that warm-ups are important for learning the science of tuning and tonal relationships by focusing on ear- and mind-training during the warm-up time. Poliniak (2014:53) concurs and stresses the need for careful score

study in order to illuminate “the vocal demand and sight-singing concepts to be taught”. These views are adequately summed up by Rosabal-Coto who proposes that

warm-up exercises must be developed as pedagogical tools [...]. Such tools ought to be implemented in a clear, creative manner so as to avoid the mindless application of a recipe or prescription or the so-called vocal gymnastics.

(Rosabal-Coto 2006:57)

As pedagogues of their choirs, conductors should understand that rehearsals provide excellent opportunities to impart knowledge of the voice as an instrument, as well as instilling good singing habits which could last a life time; also that their choirs could be “a musical training ground for those with limited experience, as well as an instrument for social change” (Sayer 2011:55). An outcome of music education is to develop independent musicians who can perform music throughout their lives (Stamer 2002).

2.1.2 The dilemmas facing conductors

While scientific evidence to support the benefits of warming up the voice before singing is scarce, it normally does not discourage conductors from continuing with their application of warm-ups and technical exercises as part of the weekly choral rehearsal, as the perceived value of such exercises is widely accepted (DeFatta & Sataloff, 2012). Research findings from various studies throughout several decades indicate that some form of warm-ups should be done before or during any choral rehearsal (Albrecht 2003; Brough 2008; Corbin 2001; Roberts & Quinn 2006; Robinson & Althouse 1995; Rosabal-Coto 2006; Webb 2007; Wilson 1991).

However, several dilemmas face the conductor when it comes to warm-ups and technical exercises, for example the tendency for warm-ups and technical exercises to become repetitive. Due to the limited time available for rehearsing voluntary community choirs, opportunities for more effective use of warm-ups and technical exercises are often sacrificed in favour of teaching the choir the notes of the repertoire. The warm-ups and technical exercises session is not the most fascinating part of the rehearsal, and several non-academic sources on the internet indicate that these sessions are often viewed, by conductors and choristers alike, as futile, meaningless and boring (Harper 2013; Felipe 2015). Apfelstadt (2016:34) takes a firm stand and says, “When singers question me as to the value of warm-ups, I remind them that singing is athletic as well as artistic”.

Many a time the same mistakes are encountered by the conductor, and conventional warm-ups, however well-intended or how often repeated, seem to make little difference

to the choral sound or standard of singing. Unfortunately choral rehearsals in general and warm-ups and technical exercises in particular are often done in a ritualistic way where common practice is actually driven by arbitrary reasons, rather than clear objectives (Freer 2009b).

Senseless repetition of warm-ups and technical exercises achieve little and may frustrate any choir. “There are also those conductors who insist upon using only the techniques learnt from a favourite teacher. These are applied regardless of the nature of the problem or its desired solution” (Swan in Jordan 2005:26). Freer (2009b:57) reflects on the ineffectiveness of repetitive warm-ups and comes to the conclusion that warm-ups need to change and develop with choristers’ voices and development, otherwise the musical self-confidence of the ‘marginalised singers’ will be negatively impacted.

A further dilemma facing the conductor is the fragmented approaches and explanations provided by researchers and other conductors with regard to how they use warm-ups and technical exercises during rehearsals. Choral conductors often offer *ad hoc* advice regarding the use of warm-ups and technical exercises. By way of illustration: Stegman (2003:37) advocates that “a brief ten-minute warm-up period [that is focused on preparing choral members to sing, listen, and learn] establishes the direction of the rehearsal and furthers ongoing vocal and musical development”. Webb (2007:28) postulates that some conductors prefer physical warm-ups exclusively, while “[others] prefer drills to help singers identify and match pitch, [and still others] prefer rhythm and dynamics”. Freer (2009b:57) offers advice to conductors on how to develop good choral sound:

- develop vocalises that are not pitch specific
- derive vocalise material directly from the repertoire, and
- construct improvisatory activities that teach vocal skills yet leave pitch choice to the choristers.

From the above statements it is clear that advice and explanations offered about the use of warm-ups and technical exercises do not always bring clarity to, or enable the conductor to construct a meaningful and systematic programme for using such exercises. With limited understanding of the role that warm-ups and technical exercises could play in elevating the singing capabilities of the choir, their purpose and practice remain hidden and their value is underestimated.

2.1.3 Conscious sound production

The production of sound and sound quality is a conscious process supported by the correct understanding and application of vocal technique. Singing, and particularly choral singing, requires a purposeful and controlled application of vocal techniques to produce a specific, desired sound. “Defined scientifically, choral sound is decidedly more than the sum of the individual sound sources that contribute to it” means Daugherty (2001:70). Hence choral sound is consciously produced.

The production of human sound requires the interaction of the respiratory system (air), the laryngeal system (vibrator), and the articulatory system (shaper). [...]. A clear understanding of the acoustics of choral sound and the appropriate application of this knowledge can enable choral conductors to better facilitate the creation of a superior choral sound.

(Fauls 2008:5)

To understand the mechanisms of sound-production and to carefully produce a desirable choral sound, point to the importance of vocal technique. Corbin (2001:34) is of the view that choristers should understand the significance of the vocal exercises, and continues, “if they can see the relevance of the task and become proficient in a variety of music skills, less time will be spent in pounding out the notes and re-pounding out the notes, and more music learning will occur on all fronts”.

Hardly any conductor will refute the conventional wisdom that the weekly rehearsal should start with some kind of warm-up, yet most will find it difficult to explain exactly why it is important and what the explicit objectives are. In his thesis, Van Zyl postulates the following:

Most choral directors would agree that warm-ups are important. However, if they are not a regular part of each rehearsal and if they do not have ‘connectivity’ to the rehearsal or eventual performance, then what we say and what we do may be two different things. What the choral director should do, is to establish (or re-establish) the importance of choral warm-ups in each rehearsal.

(Van Zyl 2006:4)

Technical exercises, which play an important part in the rehearsal, are reliable tools to prepare the voice for producing the sound requirements dictated by the repertoire. Nix (2007:36) indicates that the conductor should select the repertoire carefully to insure success and progress, while it challenges the choir. He refers to choral conductors as ‘voice habilitation practitioners’ since this enables the choristers to attain and develop their own “vocal performance skills” and make them independent in caring for their voices.

The first step in enabling the repertoire is the selection of music, after which the scores should be analysed and interpreted, leading to the recital of the music in a performance setting (Stamer 2002). The conductor's challenge is to help the choristers to evaluate the appropriate sound and refine the music to do justice to the repertoire. In this respect, warm-ups and technical exercises play an essential role. Bass (2009:51) postulates that the selection of a choir's repertoire as well as every technical or warm-up exercise should be used to improve the choir's vocal technique. She continues, "If the technique is not built into the learning of the piece, it is nearly impossible to add it in later".

In summary, meaningful attention to how choirs produce sound effectively, is a critical condition for choral sound quality and the use of warm-ups and technical exercises could play an integral part in creating this building block.

2.2 The value and purpose of warm-ups and technical exercises

The following perspectives were encountered in the literature that may help to explain the objectives that conductors set for the use of warm-ups and technical exercises in their weekly rehearsals.

2.2.1 The transition from the speaking voice to the singing voice

Many elements affect voice production, such as breath control, respiration, the larynx, resonance and articulation, to name but a few (Price 2006). In order for the chorister to produce quality sound, it is important to pay attention to the transition from the speaking voice to the singing voice. Most of the time, choristers arrive at the rehearsal without having warmed-up their voices, and in order to maintain vocal health and to produce a good choral sound, it is necessary to prepare the vocal folds for the challenges of the rehearsal.

In the opinion of Rosabal-Coto (2006), warm-ups play a powerful role to prepare the whole body and vocal mechanism for the demands of choral singing. He argues that warm-ups are more than an inevitable or traditional routine, and believes that

it is a necessary 'ritual' to focus the choristers' attention on a relaxed and energized body posture, breathing, breath support, tone production, and other crucial vocal and musical aspects of the choral undertaking. Through the warm-up, the bodies and awareness of individual subjects are brought together towards common musical and vocal goals.

(Rosabal-Coto 2006:57)

Jordan (2005:20) argues that the primary role of choral warm-ups is “to make a transition from speaking voice to singing voice – that is, to provide a transition from vocalism for speaking to vocalism for singing”. In transitioning the speaking voice to the singing voice, special attention is given to, amongst others, breathing, resonance, intonation and diction. Rosabal-Coto (2006:58), claims that “even though singers may have used their voices in speaking prior to rehearsal, there is a more extensive use of breath in singing than in speaking.” Although the breath cycle of inhalation and exhalation for singing is very similar to that of speech, the cycle is longer in singing due to an acquired “coordination of the muscles of the torso and the larynx” (Price 2006:10). Resonance, which is largely affected by the pharynx, plays an important role in amplifying the lower overtones. Overtone singing can be developed in the warm-up and technical exercises session, and is important for intonation and the quality of sound. Singing requires even more focused and dedicated diction and articulation than when one speaks. The pronunciation, enunciation and the speech emotion, three areas that Labouff (2003:3) identify as areas that should be considered in diction when singing, are articulated even more by using the articulators more intensely than when one speaks.

In Jordan’s view, specific attention should be given to the ‘instrument’ or the voice, during the warm-up session, which includes technical exercises (Jordan 2005:xvi). For example, should a choir perform *Messiah* by Händel, the conductor might consider including the fast-moving, agility passages of ‘For unto us a Child is born’ as part of the warm-up session, where the focus will be to guide the choir in performing these short passages accurately and with agility.

Titze (2008:34) feels strongly about the idea that the human voice could be compared to a man-made instrument, and claims that vocal warm-ups “should rather involve a dialogue between the singer and his or her body, and can vary greatly day to day.” Furthermore, choral singers should be able to gauge the condition of their voices by learning to understand the full scope and ability of their individual instrument (Titze 2008:36). It is, therefore, important that singers are aware that – to be able to improve choral sound – not only the voice should be warmed up, but also the entire body.

2.2.2 Choral sound quality and blend

Without purposeful and effective warm-ups and technical exercises during rehearsals, the full potential of a choir may not be unlocked and rehearsal time could be

unnecessarily complicated or prolonged. The use of warm-ups and technical exercises are often associated with attempts to improve choral sound quality and blend.

Choral sound quality and choral blend are two key aspects that need specific explanation in this study. Referring to choral sound quality, Jenkins states that,

within the blurred periphery of 'what is beautiful', a core understanding of good breath support, balanced resonance, clean articulation, pure vowels, and a freedom in the vocal musculature [remains]. All singers must strive for a tone that is produced well.

(Jenkins 2005:6)

Choral sound quality has to do with voice blending, sound unity and collective application of singing technique. There is a wide spectrum of elements that influence choral sound and blend. A few can be highlighted as being of fundamental importance, among others careful diction, the importance of vowels, intonation and the strategic placement of choral members (Atkinson 2010; Corbin 2001; Smith 2006). Rosabal-Coto (2006:60) adds to the above list of elements the important issue of resonance. He continues, "the primary factor in achieving resonance is the creation of space [...] the mouth is the easiest area in which the creation of space can be demonstrated".

Hansen, Henderson, McCoy, Simonson and Smith state:

The issue for many [choral conductors] is that the choral sound ideal of the twentieth and early twenty-first centuries is an extremely blended sound. [...] common choral sound ideals include: the extremely blended, homogeneous group sound ideal (non vibrato) in all voices [...].

(Hansen et al. 2012:52)

Choral blend, or unification of choral sound, is described by Killian and Basinger (2007:313) as "testing and placing specific voices next to one another to achieve a blended sound within a section", but one can also talk about horizontal blend across the voice parts that is equally important for choral sound quality and blend.

Research by Smith (2002:39) found that balance between voice groups also plays an integral part in promoting sound quality or "a different tonal ideal, a choral tone that incorporates a 'solistic' tone quality". In other words, despite a choir achieving a vibrant, full tone, it is still possible for all the singers to produce sound as one solo voice.

2.2.3 Intonation

Crow (2016:53) makes it clear that singers need to evaluate their intonation from 'inside' the instrument, but like a piano tuner who tunes the instrument from outside, the

conductor should use his external vantage point to evaluate the intonation of the choristers.

In discussing intonation, Whitcomb (2007) claims that the ear is a relativist which compares one pitch to another. In other words, no single pitch in isolation can be described as being in- or out-of-tune by itself. The *ratio* between the frequencies of intervals (or pitches) determines whether they sound in tune, not the absolute frequencies of pitches.

Most conductors would concede that intonation is of cardinal importance to create excellent choral sound quality (Crow 2016; Fagnan 2008). Many factors such as poor aural skills, weak breath support and vowel formation, amongst others, impede choral intonation. It is, therefore, necessary that choristers listen to themselves, in order to improve pitch control (Poliniak 2014:53). In this regard, Crow (2016) proposes a sequence of steps that moves from broad principles to more advanced concepts. For example: create a strong singing technique which is the basis of improving intonation; develop a culture of listening where the choristers learn to listen to themselves, as well as to the ensemble as a whole; and finally, establish a standard and provide the necessary tools to choristers to align their vowels.

As warm-ups and technical exercises aim to unite the choir to a common goal, “accuracy of rhythm and intonation take precedence over individual color of tone” (Olson 2010:39). One of the constant dilemmas that choral conductors face is the impact of strong solo voices on ensemble sound. Apfelstadt (2011:2-3) raises four areas of potential conflict between the solo voice and ensemble blend, namely, timbre, vocal formation, vibrato and mindset. With reference to the term ‘mindset’, Apfelstadt (2011:3) implies that the soloist should listen to the other voices and submit to the conductor’s wishes and instructions.

2.2.4 Collective focus

Cetto and Dietrick (2003:25) state that not only should warming up exercises make the singers’ voices and ears ready to work, it should also mentally prepare the singers to be able “to perform at their fullest throughout the rehearsal”. Similarly, Lamb (2005:47) mentions that “the warm-up will help your students get focused on working together and making good music”.

Warm-ups and technical exercises are credited for helping the conductor to gain a level of control and discipline in the choir necessary to work productively. Apfelstadt (2016)

makes the following statement regarding the role the warming up session plays in bringing focus to the rehearsal:

Warm-ups assist in mental focus, vocal preparation for the style of music being practiced in the rehearsal, and address all aspects of human development: physical, intellectual and social. They challenge our listening, aural, and thinking skills, and they bring us together towards a common cause.

(Apfelstadt 2016:34)

In a concise article, Bertalot (2008:50) reflects on an observation of a particular choir rehearsing. He calculated that the conductor was using fifty percent of the time available for the rehearsal talking to his choir, which robbed the choir of precious rehearsal time. The focus should rather be on the needs of the choir and on active music making, than the conductor's need for control.

2.3 The practice and process of using warm-ups and technical exercises

The question that comes to mind when the practice and process of using warm-ups and technical exercises are considered, is not so much what the different exercises look like, but rather whether a logical framework is used, and if there are any explanations why this particular framework may be useful. Themes related to this notion which were encountered in the literature are discussed in the sections below.

2.3.1 Teaching choral singing technique

The choral singing process requires mastery of vocal techniques. Conductors use warm-ups and technical exercises to teach their choirs the art of singing. Webb (2007:26) postulates that "for most singers, the choral conductor will be their most influential voice teacher". Smith (2006:29) continues: "Like any other musical skill, singing simply requires competent teaching and practice".

"The warm-up [...] becomes instructional time for teaching the vocal technique required to successfully perform the repertoire" (Hirokawa 2015:74). Freer (2009b:57) adds to this: "Using research-supported techniques for warming up [...] can enhance [choristers'] vocal skills, their musicality and their confidence". Hence the conductor plays a key role in providing relevant and progressive learning experiences that will shape choral sound quality. Albrecht states that "it is important to establish ensemble technique during the warm-up period" (2003:ii), while Rosabal-Coto (2006:57) mentions the manner in which

choristers' attention is focused on crucial vocal and musical aspects through the 'ritual' of warm-ups. Nel (1991:46,47) acknowledges that the choir as a collective instrument is able to camouflage individual vocal problems, but he asserts that obvious collective 'errors' could be rectified with 'remedial exercises', or in other words, technical exercises.

For some conductors as well as choristers, the technical aspects of singing are shrouded in mystery. This could be due to lack of information on the nature of the vocal instrument, with specific reference to its physical and acoustic nature. Jordan remarks that for people like this, "the technique of singing is an idiosyncratic structure built on intuition and trial and error" (Jordan 2005:27).

Fauls (2008:5) refers to the conductor's conscious understanding of the individual's vocal production and its contribution to the synergised acoustic delivery of the ensemble. She claims that the singer's success in a choir is largely dependent on the conductor's capability to identify unconscious habits and to provide guidance to ameliorate these. This points directly to the importance of choral singing technique as a critical objective of warm-ups and technical exercises.

2.3.2 Optimising voice placement

Voice placement refers to the conductor's assignment of specific places to each choral member with the aim of improving choral sound and promoting choral blend. In this regard, Daugherty (2003:51) suggests that choral directors should experiment with seating as well as spacing assignments "before consigning singers to rigid ensemble configurations that may not enable the choir to realize its best choral sound or healthiest vocal production." Atkinson (2010:25) agrees that "the specific placement of voices within the ensemble based on vocal compatibility, frequency of the tone, and a singer's formant has definite effects on choral tone and blend".

In an overview of scientific research on the topic of choir acoustics, Ternström (2003) refers to two acoustical signals, namely the 'self' and the 'other' sound. For example, when sound levels between the self and the other increase, intonation problems increase. This dynamic is referred to as the self-other ratio (SOR). He continues,

There are two major acoustic factors that govern the SOR [...] the first is spacing between singers [...], the other is the amount of reverberation in the room.

(Ternström 2003:7)

A study by Daugherty (2003:57,58) revealed that particular formations on stage did not indicate any particular merit, but choristers reported that more spacing allowed for better vocal production and less vocal tension; more so amongst female choristers. Crow (2016) suggests that choristers are placed in positions which would enable them to listen. Singers' ears are able to assess the sound produced by others better than the sound produced by themselves. "Therefore, each singer's position within the ensemble and within the architectural space plays a significant role in that singer's ability to assess and adjust intonation" (Crow 2016:60).

The discussion above could be summarised by stating that voice placement goes beyond the physical placement of choristers *vis-a-vis* members of the same voice group, or other voice groups, or to 'open up' or balance the choral sound on stage. It appears to also influence the following aspects:

- how choristers hear their own voices versus how others hear it, impacting their intonation abilities
- how it may bring comfort and confidence to sing and the sense of voice identity and independence
- how individual choristers project their voices
- how the conductor and audience hear choristers in the acoustical space.

2.3.3 Systematic frameworks for application of warm-ups and technical exercises

There are a variety of sources with ideas and suggestions of what warm-ups and technical exercises can be used for, for example the dated but still useful South African guide on choral conducting, edited by Hendrikse (1991); Stegman (2003); as well as international authors including Lamb (2005) Roberts and Quinn (2006); Smith (2006); and Titze (2008). All these authors provide valid advice, but rarely help the amateur conductor construct a meaningful, coherent set of objectives.

It is a daunting thought that warm-ups and technical exercises are supposed to be valuable tools in the hand of the conductor for developing choral sound quality and blend. Yet, without a logical process or framework to follow, warm-ups and technical exercises can quickly become a consolation instead of a practical solution for very challenging problems (Rosabal-Coto 2006; Swan 2005).

Swan (2005:xix) formed the impression that some conductors try to achieve a better choral sound without applying a logical structure or procedure. They hope that choral tone quality will improve by randomly utilising a great variety of methods and exercises. Rosebal-Coto (2006:57) supports this view and, referring to technical exercises during the choral rehearsal, argues that the various methods, devices and exercises should be applied creatively and clearly, to avoid “the mindless application of a recipe or prescription”.

There is currently no shortage of ‘recipes’ for warm-ups and technical exercises in the studied literature. Several programmes with proposed steps to follow can be found, for example, from Dettwiler (1989); Moorcroft and Kenny (2013); Motel, Fisher and Leydon (2003). Freer (2009b:60) suggests one such recipe, and proposes five stages in a sequential warm-up session, which include relaxation and alignment of body and posture; breathing; phonation; and vocalisation. Apfelstadt (2016:34) presents a ten-step structure to be followed in doing warm-ups of which five are used as examples: constructing a fundamental base of warm-ups; developing specific warm-ups for the repertoire; do warm-ups between pieces; use kinaesthetic reinforcement to strengthen concepts; and transition smoothly from warm-up to repertoire. Most of the time the actions are provided without a clear purpose or objective.

Campbell (2008:8) provides an authoritative analysis of the broad range of studies that have been undertaken regarding vocal warm-up regimes. The overall finding of her study is that, although the majority of 20th century singing teachers are in favour of implementing vocal warm-ups during lessons or rehearsals, “no study to date has addressed this hierarchy in a choral warm-up regime”. A systematic framework or process explaining the logic and progressive objectives of doing warm-ups and technical exercises will be one of the most valuable tools that can be offered to the conductor of an adult community choir on the journey towards choral sound quality.

2.4 Chapter summary

In this chapter the relevance of warm-ups and technical exercises was confirmed from the literature and the importance of the conductor as teacher was highlighted. The latter draws the reader’s attention to the importance of clarity of purpose, principle-based objectives and the importance of practical frameworks of thinking and application. One theme that appears to be enjoying increasing attention is the importance of choral voice development and singing techniques.

In the next chapter the purpose, methodological approach and research design of this study will be explained to situate the reader in the study. The use of concept mapping as a useful technique of data collection in qualitative research, will be placed in context.

Chapter 3: Research methodology

In this chapter attention is turned to the research methodology applied to the study. The selected research approach and design are motivated, as well as the sampling strategy, data collection methods and data analysis technique. Additionally, reference is made to attempts to increase the trustworthiness of the findings and some ethical considerations.

3.1 Research approach

Niewenhuys (2012:51) refers to qualitative research as an “alternative emerging paradigm” supporting studies in social sciences which involves human participants and their subjective realities.

Qualitative research does not quantify anything, nor does it use statistical methods, but it studies people offering their own experience and perspectives for investigation. Two aspects which define all qualitative studies, include:

- a focus on occurrences in an authentic or natural setting; and
- the study of the complexities of phenomena or occurrences as observed.

(Leedy & Ormrod 2005:133)

Creswell (2007:35) compares qualitative research to an “intricate fabric composed of minute threads, many colours, different textures and various blends of material” which, depending on the research project, are frequently emphasised in diverse ways. It is these key characteristics of qualitative research that make this approach the most suitable for the current study and the exploration of the intended research problem.

Since an in-depth investigation was done of the varied data obtained from choral conductors’ perceptions and practices as they pertain to the use of warm-ups and technical exercises during weekly choral rehearsals, a qualitative approach was the most appropriate. This study required a method that could account for rich and varied data needed to successfully explore the conceptual and practical dimensions of the study topic. Denzin & Lincoln (2011:3) provide an authoritative explanation of how qualitative research explores the observed world around us:

Qualitative research is a situated activity that locates the observer in the world [and] consists of a set of interpretative, material practices that make the world visible [...]. They turn the world into a series of representations [that qualitative research is] attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

(Denzin & Lincoln 2011:3)

A qualitative research approach enabled me to describe the reported perspectives, perceptions and practices with regard to the use of warm-ups and technical exercises as obtained from respondents, to interpret the similarities and differences in the data, to observe if stated practices appeared to translate into actual rehearsals and finally, to evaluate the findings.

Creswell (2014:8) adds another dimension to the above by explaining that the selection of a research approach is influenced by a particular worldview which shapes the method of application. He postulates that qualitative research is normally driven by a social constructivist worldview. That is, simplistically stated, the researcher's perspective that research should focus on and explore the complexity and diversity of participants' views of their reality as they attach personal interpretation and meaning to that, and these meanings are discovered and forged in interaction with the respondents. Hence, this study can be considered to be based on a constructivist worldview or perspective as it attempted to enter into the praxis of conductors as they conceptualise, plan and execute warm-ups and technical exercises with the expectation that these will improve choral sound quality.

Creswell (2014:9) highlights three assumptions that are very pertinent to the way qualitative researchers perform their investigations:

- they tend to use open-ended questions to allow respondents to share their views freely
- they tend to gather information personally and interpret the data with an awareness that their own experiences and background could shape their interpretations
- they work inductively, that is, they extract meaning from the data collected (in reality they step into the field of experience of their respondents and try to make sense of it).

Within the qualitative research approach, a case study design was selected.

3.2 Research design: A case study

Creswell (2007) explains the importance of giving a holistic account of the research topic:

Qualitative researchers try to develop a complex picture of the problem or issue under study. This involves reporting multiple perspectives, identifying the many factors involved in a situation, and generally sketching the larger picture that emerges. Researches are bound not by tight cause-and-effect relationships among factors, but rather by identifying the complex interactions of factors in any situation.

(Creswell 2007:39)

A case study design was deemed the most relevant for the purpose of this study. While the disadvantage of this method is that it tends to involve a small number of participants, in this study it allowed me to select participants for their unique qualities to fit the 'case'. Since it also allows for multiple data collection techniques, it offers the opportunity to collect rich and varied data. Harrison, Birks, Franklin and Mills (2017:1) remark that "Case study research has grown in reputation as an effective methodology to investigate and understand complex issues in real world settings". The exploratory case study design chosen for this study aims to find answers to 'how' and 'why' questions (Baxter & Jack 2008:545,548), and employs multiple sources of evidence to ensure comprehensive depth and breadth of enquiry.

While this was not a multi-case study, it can be classified as a single case study with embedded units of data (Baxter & Jack 2008:550). Harrison et al. (2017:8, 12) refer to the concept of 'bounding' the case study as "essential to focusing, framing and managing data collection and analysis". This has implications for selecting participants, location of field work and topics to be explored. These considerations were applied in the planning of the sampling and data collection processes.

3.3 Sampling strategy

For this study, a purposive sampling strategy was utilised. According to Robinson,

the rationale for employing a purposive strategy is that the researcher assumes, based on the *a-priori* theoretical understanding of the topic being studied, that certain categories of individuals may have a unique, different or important perspective on the phenomenon in question and their presence in the sample should be ensured.

(Robinson 2014:32)

Niewenhuys (2012:178) adds that purposive sampling "is used in special situations where the sampling is done with a specific purpose in mind". These statements are

relevant to this study, since the participants were selected on grounds of practical experience and their demonstrated commitment to improve the standard of their choirs.

In this study the idea was to solicit conductors with established experience of conducting adult community choirs, expecting that they have dealt with the challenges of improving sound quality through the application of warm-ups and technical exercises. It was argued that the selected conductor-participants form a South-African ‘community of practice’ from which much could be learnt.

Participants in this study were carefully selected and individually approached for their participation in the research. Thirteen South African conductors participated in this study, and some of them participated in more than one of the study methods. Based on their experience and the public recognition they enjoy, they could be placed in different categories of expertise. Table 1 provides a summary of the participants according to their level of expertise and involvement.

Table 1: Participants by level of expertise and involvement

Method	Experts	Very experienced	Capable
Semi-structured individual interviews	Respondent 1 Respondent 2 Respondent 5		Respondent 3 Respondent 4
Facilitated individual interviews using concept mapping	Respondent 6	Respondent 7 Respondent 8	
Facilitated focus group session using concept mapping		Respondent 9	Respondent 4 Respondent 10 Respondent 11
Observation of choral rehearsals		Respondent 12	Respondent 3 Respondent 4 Respondent 13

Notes:

- ‘Experts’ refer to conductors who enjoy recognition in choral circles as outstanding, with international exposure
- ‘Very experienced’ conductors have many years of experience and are locally recognised for their choral conducting expertise
- ‘Capable’ conductors are those who are often involved in public performances and choral festivals, but are not known for competitive excellence
- All participants are given a dedicated number to identify their contribution in the data analysis without compromising their guaranteed anonymity.

Table 2 reflects the age and gender profile of the respondents:

Table 2: Age and gender profile of the respondents

Gender		Age	
Male	9	25-35	2
		36-45	3
Female	4	46-55	5
		56-65	1
		65+	2

3.4 Data collection techniques

Exploratory case studies are ideally designed to include a variety of data collection techniques. Multiple data sources aid in considering complex topics by looking at it from different perspectives. The three data collection techniques utilised for this case study are illustrated in figure 1.

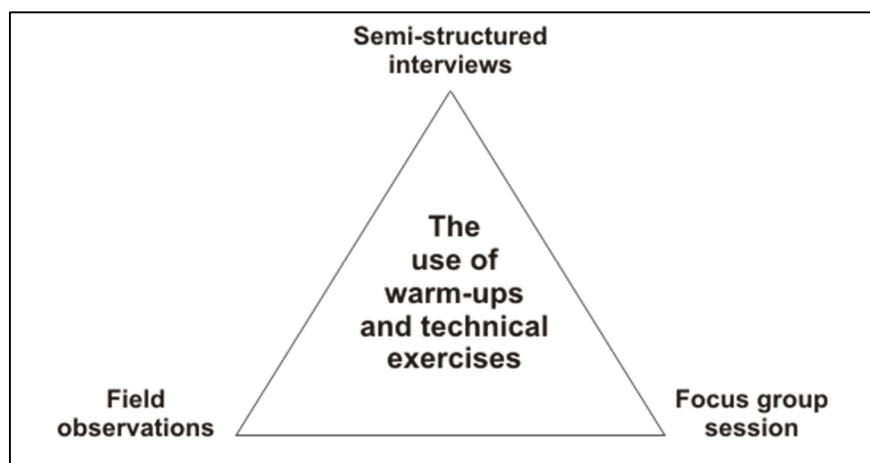


Figure 1: Data collection techniques

3.4.1 Interviews

Two different types of individual interviews were applied, namely semi-structured interviews according to pre-planned questions, as well as individual facilitated interviews using concept mapping. These two interview types are explained in detail in the following sections.

3.4.1.1 Semi-structured interviews

Five choral conductors participated in individual semi-structured interviews and questions were put to them with the help of an interview schedule which I planned and tested before commencing with data collection (See Appendix A). Interviews lasted between twenty minutes and one hour. Three of the five interviews were conducted telephonically, and all the interviews were audio-recorded.

Transcripts were prepared from the audio-recordings and submitted to respondents for sign-off as authentic. Each respondent was appropriately briefed with reference to:

- the title of the study
- the purpose of the study
- voluntary participation and confidentiality
- the importance of them speaking from their personal experience

3.4.1.2 Facilitated interviews using concept mapping

Three individually facilitated interviews were conducted with respondents, using the concept mapping technique of data collection.

A research assistant, who is an expert consultant on concept mapping, was employed to conduct facilitated interviews and a focus group utilising this strategy. He was thoroughly briefed regarding the focus of the study and the research problem, and we collaborated on determining the *a priori* themes before the sessions commenced.

These interviews lasted between 120-140 minutes each. No audio recordings were made, but each respondent had a data capture sheet to complete, while the facilitator used a similar sheet to record respondents' views (Appendix B).

Each respondent was appropriately briefed, using the same approach as with the semi-structured interviews. Additionally the facilitator briefed respondents with regard to concept mapping as a data collection technique. This is explained in more detail in Section 3.4.4 of this chapter. During the interview the facilitator paused at various points

to allow the respondent to capture essential data on the data capture sheet, while he (the facilitator) read his own notes back to the respondent for any changes or additions to be effected before moving on to the next topic of discussion. All data capture sheets were signed and submitted by respondents at the end of the interview.

3.4.2 Focus group

Focus groups and interviews draw from similar techniques of collecting data, that is, open-ended questioning, interrupted by inductive probing questions.

In an attempt to indicate a distinctive difference in the value of using interviews versus focus groups, Guest, Namey, Taylor, Eley and McKenna (2017:693-707) used both methods in an identical data collection process. No significant benefits were reported in their study regarding the use of focus groups in comparison to individual interviews, but one finding pointed to an interesting dynamic, namely, that sensitive and personally revealing information was more readily shared in focus groups. However, Kellmerit (2015:50) mentions particular advantages of using focus groups namely that it offers synergistic responses, where respondents react to and build on the statements of others, rendering them more valuable. They point out a condition, though, that focus groups do not offer this enhancement to data generation if respondents have limited or no experience of the topic. The purposive sampling of respondents in the current study prevented the risk of including inexperienced respondents in the focus group session.

An incomplete concept mapping process was used since it is highly effective in data generation and collection. However, no attempt was made to involve the participants in the data analysis and evaluation process, which would normally be the next step in a classical concept mapping method.

3.4.3 Observations

This method of data collection involved observations of choral rehearsals. Marshall and Rossman (2011:79) define observation as “the systematic description of events, behaviour and artefacts in the social setting chosen for the study. The need for observation serves as an evaluative mechanism to compare observed data with stated [data] as during the interviews”. DeWalt and DeWalt (2002) believe that the goal for using observation as a method is to develop a holistic understanding of the phenomena being studied. Unless the application of warm-ups and technical exercises could be observed during an actual rehearsal, an incomplete picture would result.

In this study the opportunity was created to balance the stated sentiments of conductors with actual practice. It should be mentioned, however, that the conductors of two of the four choirs that were observed were not participants in the interviews or the focus group. Hence it was not the intention to see if respondents executed their stated perceptions and convictions in practice, but rather to collect a set of data describing how warm-ups and technical exercises happen in the weekly rehearsal of adult community choirs.

Four choirs were observed during one of their weekday rehearsals. In order to ensure that I was not being obtrusive, I acted as complete observer, “looking at the activities from a distance” to obtain an “outsider” perspective (Niewenhuys 2016:91). The rehearsals were recorded on video and an observation protocol was used afterwards to analyse the recordings (Appendix C).

The choirs were briefed before the observation session with reference to:

- the title of the study,
- the purpose of the study,
- voluntary participation and confidentiality of the choir members’ and the conductor’s identities,
- the importance to engage in normal rehearsal activities without paying any attention to the recording being made.

Before and after the observations, contact was made with conductors to confirm arrangements and to thank them for their participation. At the start of the session choir members were put at ease and thanked for their willingness to participate.

3.4.4 Explanation of how facilitated concept mapping was used

As already mentioned, facilitated interviews and a facilitated focus group were conducted using concept mapping.

The consultant was briefed with reference to the following:

- The purpose of the study
- The research question and study objectives
- The need for a set of data that will describe the views and practices of conductors with regard to the weekly choral rehearsal
- The importance of a guided process given predefined categories for exploration

- The requirement to use the concept mapping technique of data collection
- The arrangement that some conductors will be subjected to individual sessions, while others will be facilitated as a focus group, using the same topics for exploration and the same method of data collection.

3.4.4.1 Concept mapping defined

The use of concept mapping to visualise concepts, particularly the inter-relationships between concepts, is fairly well-known. Concept maps are tools to organise and display knowledge. Novak and Cañas (2008:1) who are often referenced in articles covering the topic of concept mapping, explain that concept maps include concepts, usually enclosed in circles or boxes of some kind, and relationships between concepts indicated by a connecting line linking two concepts. Words on the line, referred to as linking words or linking phrases, specify the emerging relationship between these two concepts.

Novak and Cañas (2008:29) furthermore suggest that “one of the uses of concept maps that is growing at a fast rate is the use of concept maps to capture ‘tacit’² knowledge of experts”. In its original conceptualisation the construction of a concept map started with the generation and description of ideas, an attempt to show the inter-relationship and finally a quantitative analysis of the data (Burke, O’Campo, Peak, Gielen, McDonnell & Trochim, 2005). Today it seems to have entered the domain of qualitative research, as indicated by Daley (2004) who propagates the advantage of using concept maps in qualitative research studies:

Transcripts [of interviews] tend to represent the spoken language in a linear fashion, whereas the maps represent the interview data in an interconnected and hierarchical fashion. This representation is more analogous to the way we think and to the way we actually discuss concepts.

(Daley 2004:6)

In this particular study the respondents were invited to participate in a concept mapping exercise to capture, define and map the crucial concepts and relationships pertaining to the purposeful use of warm-ups and technical exercises designed to improve choral sound quality. In this sense it was used as a descriptive technique.

Novak and Cañas (2008:2) highlight that concept mapping “starts with a particular question [or] focus question”. In this study the main research question was presented

² tacit: understood or implied without being stated

as the focus question, and six discussion themes were provided as dimensions of the focus question.

3.4.4.2 Themes provided

During the concept mapping exercises the respondents were presented with six *a priori* themes which they had to explore and respond to in order to explain their views and experience of using warm-ups and technical exercises during choral rehearsals as a means of improving choral sound quality.

These six themes were considered key elements of the topic as encountered in literature:

- Preparing the instrument (voice)
- Homogeneous sound
- Intonational awareness
- Collective focus
- Enabling the repertoire
- Voice placement

3.4.4.3 Briefing the concept mapping method

At the beginning of each session where concept mapping was used an explanation of this method was provided to the participant conductors, indicating the following:

- It is an enquiry tool for qualitative research
- It is designed to explore conductors' perspectives and practices (experience, protocols and embedded beliefs related to the research question)
- It focuses on the exploration and description of knowledge and experience (shared assumptions, similar and different insights and typical practices of the participants)
- It aims to show conceptual relationships and links (meaning and thematic connections)
- It is useful for identifying best practices (useful frameworks for thinking and implementing).

Participants were requested to observe the following set of guidelines pertaining to an effective concept mapping exercise:

- Maintain an uninterrupted flow of ideas
- Do not 'audit' one another's ideas, but rather aim to understand and build on them

- Provide information that comes from personal conviction, practice and experience
- Produce statements, not questions
- Focus on things that are relevant and valuable.

Data capture sheets were made available and explained, and respondents were encouraged to write down their perspectives and practices as they pertain to the six themes (Appendix B).

Participants were made aware of the term ‘abstraction levels’ in using the data capture sheet. The latter was explained as follows:

- The centre of the page starts with the ‘why’ and the periphery of the page represents the ‘how’
- ‘Why’ focuses and anchors the interview or focus group session to the purpose of the research
- ‘What’ provides for ideas and concepts to explain their current views, approaches and insights regarding the six themes
- ‘How’ suggests ways to apply these ideas and provide for clarifying examples.

Respondents were asked to indicate whether they are willing to invest approximately two hours for the individual interviews, while the focus group participants were asked to be available for approximately four hours.

3.5 Triangulation to improve trustworthiness

Triangulation refers to the use of multiple methods of data sources in qualitative research to develop a comprehensive understanding of phenomena (Patton 2002). However, there is a perspective that it acts as a validation strategy. Flick points out that this position has come under sharp criticism which led to a more precise explanation. Triangulation in qualitative research is now seen “less as a validation strategy within qualitative research and more as a strategy for justifying and underpinning knowledge by gaining additional knowledge” (Flick 2004:179).

Carter, Bryant-Lukosius, DiCenso, Blythe and Neville (2014:545) summarise the types of triangulation aptly:

- Method triangulation involves the use of multiple methods of data collection about the same phenomenon;

- Investigator triangulation involves the participation of two or more researchers in the same study to provide multiple observations and conclusions;
- Theory triangulation uses different themes to analyse and interpret data;
- Data source triangulation involves the collection of data from different types of people and communities to gain multiple perspectives.

In this study multiple methods were employed and it can be argued that the application of three methods of data collection helped to compound the strength of the findings. However, as valuable as this approach may turn out to be in adding a level of trustworthiness to the findings, it cannot be claimed that each method was designed and executed with a clear set of complementary triangulation objectives in mind.

In a study to investigate whether subjecting the same set of data to different triangulation techniques would change the data findings, Jonsen & Jehn (2009:141) found no meaningful impact. They used tree-graphs, concept mapping and multiple data analysts as methods to review the same set of data, the findings and interpretations. These methods confirmed the findings and revealed no plausible rival explanations or new categorisations. Applying this finding to a single case-study approach (as in this study), I would be hesitant to claim a validation effect from multiple methods of collection *per se*. However, the question can be asked: What would happen in the case of a multiple case study approach? For example, would a separate case study using a different group of conductors of adult community choirs, produce different or similar results? This would be a valuable inter-method and inter-case study triangulation approach.

Nonetheless, it can be reported, as will be clear in chapter 4, that the various methods produced multi-dimensional findings, rendering rich and strongly aligned complimentary data, with some examples of diversity.

3.6 Ethical considerations

All the conductors participating in this research were approached on an individual basis to explain the purpose and methodology of the study and to request their voluntary participation. All participants were requested to sign a letter of consent, indicating their willingness to participate in the research on condition that all their responses and views were treated confidentially.

Participants were given the assurance that they may withdraw at any time without any negative consequences. They were informed that data will be safely stored for 15 years according to the ethical requirements of the university, during which time it may be

reused for additional research purposes. These points were clearly described in the letters of informed consent (Appendices D & E).

3.7 Data analysis technique

Qualitative data analysis is an inductive process, starting with the raw data and finding patterns and codes in order to create broader categories and themes (Creswell 2007:36). This process results in a better understanding of the themes and their inherent links and relationships with each other.

The semi-structured interviews and observations were transcribed, after which repeated analysis and scrutiny took place in order to find codes and patterns that could be organised into emergent themes and sub-themes.

Data from the facilitated interviews and focus group session were similarly analysed. However, six themes were already provided, hence coding was done to reveal the emerging sub-themes.

In both cases the underlying principle was the same: the search for codes and patterns. The more the patterns reappear, the more trustworthy the evidence becomes. Saldaña (2016) explains this simply, but effectively:

They [the patterns] help confirm our description of people's 'five Rs': routines, rituals, rules, roles and relationships.

(Saldaña 2016:6)

The use of individually completed data capture sheets in a focus group setting must be explained, since it may appear that this practice could turn focus groups into 'collective interviews'.

Burke et al. (2005) explain the use of concept maps as a form of individual preparation for group participation:

Concept mapping starts by generating specific individually brainstormed items and ultimately reaches group collective consensus. During the initial stages of the data collection process, participants work independently [...], avoiding typical group dynamic problems, such as a single individual's monopolising of the discussion or the increased likelihood of conformity biases.

(Burke et al. 2005:1407)

During the focus group session, the use of individual data capture sheets was found valuable, thereby balancing individual contributions. Furthermore, the data sheets of

respondents were collected at the end and used to help calibrate the original meaning of individual respondent's views with the group consensus views.

In all the data analyses performed, basic descriptive coding was used, leading to a noun-denominated protocol of themes. However, at times, the opportunity presented itself to use an *in vivo* coding approach where the statements of the participants were used as themes for coding (Saldaña, 2016:97). Examples of the latter can be found in sub-themes that will be encountered in chapter 4, including, amongst others, 'sound stage', 'perfecting overtones' and 'relaxed attention'. Data obtained from the concept mapping collection method was analysed and coded in support of the six pre-existing themes. Hence data collection in this part of the study followed an *a priori* goal (Saldaña, 2016:71).

3.8 Chapter summary

In this chapter the research approach and design and data collection techniques were explained and motivated. The use of concept mapping was introduced as a useful technique for data collection within a qualitative research setting. Special precautions were taken during the data collection to explain the method to be followed. The use of concept mapping data capture sheets was found to mitigate the risks of inhibitive group dynamics. Data analysis approaches were discussed and this should shed some light on how the data analysis was conducted as presented in chapter 4.

Chapter 4: Data analysis and findings

Chapter 4 starts by presenting the different themes as they unfolded during the data analysis process. Themes from the interviews and observational data emerged after data collection and analysis, while the facilitated focus group session was implemented with a set of six pre-determined themes as identified from the literature review. With these two different strategies in mind, the data analysis is presented in two separate sections. This approach obviously leads to a repetition of some themes.

4.1 Data analysis of interviews and observations

After careful analysis of the available data and perusing it for meaningful themes and sub-themes, six themes with their sub-themes were identified and are displayed in Table 3.

Table 3: Themes with sub-themes from interview and observation data

Themes	Sub-themes
1. Integrated application	<ul style="list-style-type: none"> • Warm-ups to prepare the voice and body • Technical exercises to promote vocal training
2. Preventative action	<ul style="list-style-type: none"> • Save on rehearsal time • Raise the quality of the rehearsal • Develop choral sound quality • Prevent bad singing habits • Compete with confidence
3. Proactive planning	<ul style="list-style-type: none"> • Dedicated time during rehearsals • Conscious planning and preparation • Balance between standard content and variety • Effective application
4. Meaningful collaboration	<ul style="list-style-type: none"> • Conductor skill • Guiding the choristers • Positive chorister response • Connection amongst choristers
5. Systematic mastery	<ul style="list-style-type: none"> • Focusing the choir • Preparing the singing voice • Developing singing technique • Improving intonation • Obtaining a homogeneous choral sound • Performing the repertoire meaningfully • Enabling singing to requirements • Reinforcing voice autonomy • Forming a partnership with the choir • Achieving a conductor-dependent sound
6. Heuristic learning opportunities	<ul style="list-style-type: none"> • Observed chorister heuristics • Conductor heuristics • Conductor experiences of success

All themes and sub-themes are described and motivated in the following sections, with evidence from the raw data supporting each aspect.

4.1.1 Theme 1: Integrated application

Although the participants indicated that a distinction can be made between the role of warm-ups and technical exercises, they perceive the application of these two components as an integrated process, both of which contributing to the improvement of choral sound quality. The following response from a respondent supports this perspective:

One can, for example, do warm-up exercises in such a way that one only focuses on vocal training, [but] I think a person can separate the two, although one can also intertwine the two. (Respondent 5)

Another respondent was of the view that there are no distinct differences between these two components and that they cannot really be separated:

I don't think there's a big difference between warm-ups and technical exercises. (Respondent 3)

As can be deduced from the above responses, these two components should rather be seen as complimentary. A fragmented approach to warm-ups and technical exercises might lead to the principles not being applied effectively. By applying them as two interdependent, but integrated components, choristers could be assisted in internalising these techniques.

4.1.1.1 Warm-ups to prepare the voice and body

The voice is the primary instrument of choral sound production and as one participant explained,

It [the voice] must be handled with great precision [...] and you have to care for it. (Respondent 4)

There was general consensus amongst the respondents that warm-ups prepare the vocal folds but also employ the whole body in support. The following responses reflect this notion:

Warm-ups are more physical in nature and [...] understanding what is happening in your body. (Respondent 3)

[Warm-ups focus on] proper breathing, standing correctly, [...] relaxing the upper body and facial muscles, and so forth. (Respondent 2)

Warm-ups are used to warm up the voice, to loosen up the supporting structures, for example the diaphragm and intercostal muscles. (Respondent 4)

The relaxing function of warm-ups assists choristers to produce a desirable choral sound with limited bodily stress.

4.1.1.2 Technical exercises to promote vocal training

Technical exercises start the journey of mastering choral singing technique. While most choristers relate to warm-ups quite naturally, the conductor should apply a strategy of sharing the importance of technical exercises with the choristers:

All the people in the choir don't know of course, what technical exercises are [and need to be educated about the role it plays]. (Respondent 3)

Technical exercises aid in vocal development. This was expressed in different ways:

If you focus on vocal training, you are actually doing technical exercises. (Respondent 5)

All goes hand in hand with techniques [like] when you play an instrument and you have to apply it correctly. (Respondent 4)

Another participant saw technical exercises as an effort to prepare the choir for sound production:

[Technical exercises help choristers to] produce the sound that is applicable to the work that you do and I think technical exercises are to lift up the spirit of the vocal part. (Respondent 3)

It is quite clear that the respondents associated technical exercises with focused attempts that will help develop the singing voice as required for the production of choral sound quality.

4.1.2 Theme 2: Preventative action

Spending proper time to do warm-ups and technical exercises was seen as an essential investment for a successful rehearsal. As such warm-ups and technical exercises become the preventative action a conductor takes to avoid rehearsal problems later on and to pre-empt singing complexities and potential deficits that may present themselves during the rehearsal. Several sub-themes emerged from the participants' responses, which are discussed in the sections below.

4.1.2.1 Save on rehearsal time

Paying attention to warm-ups and technical exercises saves on rehearsal time. One of the participants was very frank and honest regarding his initial ignorance about the value of warm-ups and technical exercises:

As a young conductor I committed the cardinal sin of trying to save time by skipping the choral warm-ups and that's a mistake that most people make [...]. Warm-ups and technical exercises save a huge amount of time in getting the actual technical aspects of the music correct a lot quicker. (Respondent 2)

Another respondent explained

[If] you're going to sing for 45 minutes [on end], [...] people have no energy or voices left if you haven't done warm-ups. (Respondent 4)

Although warm-ups and technical exercises often take up a significant amount of rehearsal time, the respondents agreed that these prevent singing problems that could take much more time to rectify later during the rehearsal.

During an observation of one of the choral rehearsals, the conductor (Respondent 12) reprimanded the choristers for their 'flat' singing during the choir's previous performance. He was referring to their intonation, but it was not clear if all the choristers understood exactly what was required from them. He used the analogy of weight lifting and asked for better projection effort from the choristers. Although the choir exhibited the same problem four more times during the rehearsal the conductor did not use the opportunity to implement a relevant technical exercise to rectify the problem.

4.1.2.2 Raise the quality of the rehearsals

Participants unanimously agreed that failure to do warm-ups and technical exercises impact the quality and results of the rehearsal directly.

I think that it's so important that you don't even need to talk about it [...], therefore all of them [the choristers] just have to do it. (Respondent 3)

Another remarked,

I always tell choristers that the first sound they make, determines the rest of the rehearsal. (Respondent 4)

One participant felt quite strongly about this:

Without meaningful warm-ups and technical exercises [...] ultimately it's a waste of a rehearsal, because it affects absolutely everything. It affects intonation, it affects concentration, focus. (Respondent 2)

This last remark clearly introduces one to the next finding, namely the role that warm-ups and technical exercises play in choral sound quality.

4.1.2.3 Develop sound quality

It was significant to notice that the most experienced conductors were the most outspoken about the causal link between warm-ups and technical exercises and sound quality. One of them warned,

I feel that is one of the biggest problems that most choirs [...] have – they don't know the importance of the choral warm-up in the success of the final product. (Respondent 2)

From the data analysis, it appears that it has become accepted practice that conductors aim to develop choral sound quality through a process of warm-ups and technical exercises. One of the veteran respondents remembers his early days as a choral conductor,

when conductors thought they were lucky if they had a voice in the choir that produced well [...] and they could say: 'copy so and so'. As time passed, [...] the practice of warm-ups developed and specifically technical exercises. I think today we actually can't do without it anymore. (Respondent 5)

Asked to reflect on the importance of warm-ups and technical exercises for choral sound quality, one respondent remarked without hesitation,

I think it is ninety-nine percent of the success. (Respondent 3)

4.1.2.4 Prevent bad singing habits

The use of warm-ups and technical exercises can help prevent bad singing habits from developing. The saying, 'prevention is better than cure' certainly applies to the rehearsal. One respondent stated clearly that yielding to time constraints will mean that,

ultimately what we learn [and teach our choristers] are bad habits, therefore we never actually perfect the music or the actual art of singing, because of a lack of proper warm-ups and the understanding thereof. (Respondent 2)

Poor singing habits, once entrenched in a choir, can become serious barriers to choral sound quality. A respondent with extensive international experience as a conductor was very clear on this topic:

A mistake is often rehearsed repeatedly and later on, the conductor rectifies it in his mind, but the mistake is still there. (Respondent 1)

Singing errors left unattended by the conductor will spoil sound quality and get ingrained in the choristers' singing technique.

4.1.2.5 Compete with confidence

Warm-ups and technical exercises are crucial during preparation for competitive situations. Many community choirs may not aspire to reach competition level, but all of them are likely to share the stage with other choirs from time to time. In such instances, participating choirs are usually assessed comparatively – officially or otherwise – and conductors often find that their choirs' shortcomings are too pronounced for comfort. However, they may not realise that inadequate warm-ups and technical exercises could be to blame. A respondent with extensive adjudication experience made the following comment in this regard:

This is my opinion because there are people who think it is totally unnecessary to warm up. I recently adjudicated [...] and I could hear the difference between those choirs who had warmed-up and those who had not. (Respondent 1)

Another respondent warned,

If I don't do exercises during the rehearsal, they [the choristers] clear their voices more often. [...] It happened once when I was under pressure doing concert work. And then I realised, I have to do it [warm-ups and technical exercises]. (Respondent 3)

4.1.3 Theme 3: Proactive planning

All the conductors who participated in the study shared the conviction that quality sound can be 'taught', but this requires proper planning. In their view, a conductor who makes so-called 'note-bashing' the priority during rehearsals, will quickly end up with singing technique shortcomings in the choristers that could have been prevented with carefully selected technical exercises. As one respondent reflected,

Learning the notes might be the most important thing [for some conductors], but it's actually the least important thing, I mean it's the easiest thing, [...] it is really about technique. (Respondent 2)

There was a positive correlation between the amount of time the conductor uses for formal planning of warm-ups and technical exercises and the length of time dedicated to these activities during the rehearsal. During observations it became evident that

respondents who spend less time on preparation of these activities, often select exercises on the spur of the moment, and dedicate shorter rehearsal time for warm-ups and technical exercises.

4.1.3.1 Dedicated time during rehearsals

During my interview with an experienced conductor, he indicated a noteworthy perspective with regard to new singers:

In the beginning of the choral year [or repertoire cycle], warm-ups are a lot longer and I spend longer time [...], probably more than a quarter of the actual rehearsal time. (Respondent 2)

While all the respondents support the practice of dedicated time during the rehearsal for warm-ups and technical exercises, two distinct time ranges of allocated time for warm-ups and technical exercises were found during data collection. Two respondents indicated that the time they would spend on the warm-up and technical exercise session at the beginning of a weekly rehearsal would be approximately fifteen to twenty minutes, while another two respondents were in favour of a session at least ten minutes longer, approximately 25 to 35 minutes.

However, when I observed the time spent on the warm-ups and technical exercises during the four choral rehearsals I attended, I realised that conductors easily get lured into the rehearsal, forgetting the principles they believe in. Two of the conductors only spent five to ten minutes on warm-ups and technical exercises, while the other two conductors spent fifteen to twenty minutes on these sessions.

4.1.3.2 Conscious planning and preparation

Data analysis strongly indicates the relationship between time allocated for warm-ups and technical exercises during the rehearsal, and dedicated preparation by the conductor for application of these. This observation was confirmed by the two respondents who opted for longer time allocation for warm-ups and technical exercises during rehearsals:

I feel that every single warm-up and technical exercise should be planned [...]. I always look at what I'm about to teach [...]. I always work backwards [to] what the music requires. You should never walk into the rehearsal without having planned for every single aspect. (Respondent 2)

I try to prepare at least for an hour before the rehearsal. Through the week [...] you have it in the back of your mind the whole time, so it [the planning] is usually the whole week until the next rehearsal. (Respondent 4)

Purposeful planning for and application of warm-ups and technical exercises can be seen as conditional to the perceived value and success of such activities. From the respondents' views it became clear that every warm-up and technical exercise session is not always uniquely designed for each rehearsal, and that some balance is required as described in the following sub-theme.

4.1.3.3 Balance between standard content and variety

The respondents had strong views regarding the appropriate application of warm-ups and technical exercises in order to develop choral sound quality and choral blend. Instead of performing mere routine activities, they commented that these should be purposeful and skilfully planned by the conductor prior to each rehearsal. However, several respondents commented that there should be a balance between standard exercises and skilful additions in order to create a systematic approach to develop choral sound quality, without wasting time on teaching a host of new exercises.

Every week I make sure that I keep it interesting. I don't try to do too many new things, therefore, I try to plan the ordinary exercises and add something new. (Respondent 4)

This sentiment was shared by another respondent:

[I] try to keep the warm-ups as fresh and unique as possible without teaching them too many new warm-ups in the same batch, because then you're going to waste a lot of time. I follow a standard rehearsal plan where I touch all the aspects of warming up, for example stretching [...], loosening the muscles [...], from there on going to lip-trills and placement sounds, focus sounds and all the way through to very technical utility exercises. (Respondent 2)

From the above responses, it is clear that conductors successfully integrate both standard content and new exercises to form a practical, yet challenging warm-up session with clear objectives and outcomes

During my observations of four different adult community choir rehearsals, I noticed that in each case, well-known exercises were executed as part of a regular routine without much focus or intensity. The choristers were not briefed regarding the motivation or expected outcome of each exercise, and none of the conductors introduced new warm-ups or technical exercises to facilitate the execution of the specific repertoire. It was evident that exercises done in the warm-up session were not overtly linked to any part of the repertoire works practiced later on in the rehearsal. For the largest part of each rehearsal, the conductors led the choir activities from behind the piano, hampering eye

contact with the choristers. Although two of the choirs had accompanists who arrived later than the choristers, as per appointment, there was no clear improvement of eye contact between the conductor and choristers.

The discrepancy between the conductors' views regarding technical exercises and warm-ups, and their practical execution of these activities during rehearsals, indicate that most community choir conductors find it difficult to link theory with practice. While they may be aware of the importance of such exercises, they are often pressured by time-constraints and focus mainly on teaching music notation instead of clearly linking the technical exercises to the challenges presented by the specific repertoire.

4.1.3.4 Effective application

During the interviews, conductors remarked that warm-ups and technical exercises are often done in an ineffective way, rendering little or no results. One respondent commented on this aspect:

All warm-ups have value if they're taught correctly, [but] a mistake conductors often make is that they have standard warm-ups – they do three exercises, they do it over and over. (Respondent 2)

Another respondent was more direct:

If you don't have a plan with warming-up and technical exercises, rather don't do it. (Respondent 4)

During a visit to one of the choral rehearsals, I observed that although choristers cooperated and took part in all warm-ups and technical exercises, the conductor (Respondent 3) did not make an explicit connection between the exercises and the shortcomings of the repertoire delivery which was to follow. In another choir rehearsal, the conductor (Respondent 4) constantly communicated with his choir, giving instructions such as "more support"; "listen to one another"; "pronounce your words better". However, there was no effort to check for understanding or to show his choir what those instructions meant in practice. Consequently there was no evidence that his instructions had any impact on the quality of sound.

What becomes clear is that each technical exercise should have a specific goal, and should be understood and embraced by choristers as meaningful.

I have listened to a choir where a warm-up was done totally wrong and the conductor missed the goal completely [...]. [The] conductor should know why each exercise is being done. (Respondent 5)

There was also a view that warm-ups and technical exercises cannot be done while the conductor is sitting behind the piano.

There is no connection between them [the conductors] and their choirs [...] because they sit behind the piano, therefore the singers feel, you know, they don't feel like giving their best. (Respondent 2)

From these responses, it can be concluded that both proper planning and effective execution, are critical for warm-ups and technical exercises to bring about a meaningful improvement in choral sound quality and blend.

4.1.4 Theme 4: Meaningful collaboration

The successful use of warm-ups and technical exercises in pursuit of choral sound quality and blend requires meaningful collaboration between the choral conductor and the choristers. Data analysis clearly suggest that both the conductor and the choristers play distinct, yet complimentary roles in the successful application of warm-ups and technical exercises during the weekly rehearsal. The collaboration between conductor and choristers is of utmost importance if warm-ups and technical exercises are to succeed. The different interactions and collaborations between conductor and choristers are illustrated in figure 2:

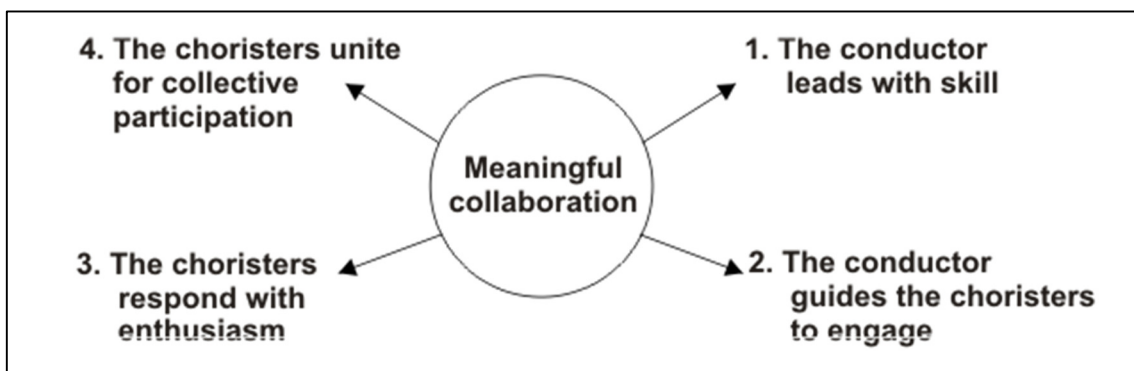


Figure 2: Meaningful collaboration between conductor and choristers determines the success of warm-ups and technical exercises

4.1.4.1 Conductor skill

From data analysis it became evident that conductors of community choirs do not always have formal training in choral conducting; neither do they have formal training in the use

of warm-ups and technical exercises. The majority of respondents could not confirm specific formal training on this topic, while some reported on the importance of self-study, public seminars, peer feedback and master classes.

Apart from the usual reference to musicality, respondents highlighted two particular skills as critical for conductors' ability to use warm-ups and technical exercises as a tool to promote choral sound quality, viz. aural skill and the skill to consciously produce choral sound quality. These two appear to be interdependent:

- **Aural skill to discern choral sound quality and blend**

Conductors with underdeveloped aural skills will find choral sound quality evasive and difficult to blend. One respondent stated,

The choral conductors with the best ears achieve the best results with their choirs in the end. (Respondent 1)

Aural training and development appears to be a good investment for any conductor. Since becoming a conductor of a community choir does not require formal training as a prerequisite, some conductors may not have the innate skill to hear sound problems. In some instances, conductors may stagnate and their choirs may arrive at a sound quality plateau that cannot be exceeded. A highly skilled conductor with decades of experience referred to the danger of developing 'lazy ears':

Later on one does not hear your own mistakes anymore. This is where it is good to invite an experienced choral conductor and ask him to write down everything that is negative – forget about the positive things. Write down what is wrong. (Respondent 5)

However, aural development does not only apply to the conductor. The conductor should be able to develop the choristers' aural skills. In the words of one respondent,

Those conductors who focus more on that [aural skills], in choral warm-ups and rehearsals, are ultimately going to have a better product at the end of the day. (Respondent 2)

Constantly developing and refining aural skills – both for the conductor and the individual choristers – are essential for any attempt to improve choral sound quality and blend.

- **Skill in obtaining good choral sound production**

Data analysis revealed that the core purpose of the conductor is to take responsibility for the sound production of his/her choir. Conductors without a good singing background may seriously lack in this area.

No choral conductor can lead a decent choir unless they have a good singing background. (Respondent 1)

A young conductor reflected how his training as a classical singer added to his skills in this regard:

I don't think I would really have achieved half the sound out of the choir if I hadn't understood the voice. You explore the technical parts of the voice and how the voice works [when you take private singing lessons]. (Respondent 4)

The scope of this study did not allow me to explore exactly how choral sound production is pursued by the conductor. However, respondent 4 mentioned several skills that can be considered conducive to the production of an effective and agile choral sound, as listed below.

- using different approaches to develop vocal parts
- understanding voice ranges and what to expect
- finding the best tone pertaining to voice groups
- working with different vocal textures
- developing the capability of voices through the right warm-ups and technical exercises.

(Respondent 4)

The above list of suggestions became implicit in the data findings – each to a greater or lesser extent – as will emerge from the interpretation of the study's results.

During one of the rehearsals I attended, I observed a good example of where the conductor (Respondent 13) empowered the choir to enhance sound production. The choristers were asked how they want to position themselves for one particular work to boost the choral sound and balance, and they immediately responded by moving to different positions.

4.1.4.2 Guiding the choristers

The conductor's ability to guide the choristers during the use of warm-ups and technical exercises should be a thoughtful process. The conductor should actively endeavour to provide the perspective, understanding and mental models for the chorister to actively engage the warm-ups and technical exercises and to benefit from their application.

- **Explaining warm-ups and technical exercises**

There was no consensus between the participants' with regard to the importance of explaining warm-ups and technical exercises in order to create the right chorister context. However, the main idea was that choristers should be able to participate in these exercises with understanding. One view was that the choristers should enjoy a full explanation and understanding of the expected outcomes of the particular warm-up or technical exercise. For example:

At the beginning of every year [...] I explain absolutely everything so that they [the choristers] understand. As the year progresses, the choir members are always reminded of some of the concepts, but of course with less detail later on because they would have learned [...] and understand what it's all about. (Respondent 2)

A respondent with a similar view explained:

Before the annual concert I had to get the sopranos together on their own. One of the women asked me, 'what is support; you say it in every rehearsal?' She [this chorister] is 72 years [old], and when I showed her, a light went on for her. Three days later the sopranos sang beautifully. (Respondent 4)

On the other hand some participants shared more pragmatic views about the need for explaining the warm-ups and technical exercises.

Surprisingly, the answer I will give, is no, I am not [always] going to give them a technical explanation about why we do certain things. (Respondent 5)

Another conductor commented on this same issue as follows:

You can't get too technical with them [the choristers] because they don't care [about the technical explanations]. (Respondent 3)

The deduction can be made that the conductor should share the meaning, need and purpose of warm-ups and technical exercises with the choristers, depending on the specific context and occasion.

- **Using imagery to create the right context**

Conductors seem to be using imagery frequently during rehearsals to create the right context for choristers to help them visualise or experience a particular sound outcome. One of the typical examples which respondents referred to is the well-known 'hot-potato-in-the-mouth' image to encourage choristers to lift the soft palate to bring about improved

vowel production. A similar image to achieve the same objective was explained by a participant:

I will tell them: 'Let's all smell the carnation' [...] And then you ask them: 'How does that feel?' And then you tell them: 'Now you must keep that position, [...] we're going to sing and we're not going to change anything'. (Respondent 5)

There was no shortage of ideas about the use of imagery from the participants. However, these ideas cannot be used as fixed recipes for creating a desired sound. As one respondent remarked,

There are certain explanations I have stopped using. For example, I won't talk about dropping the jaw or put the hot-potato-in-your-mouth kind of thing [...]. There are expressions that I stopped using because it might create an undesirable sound [...] that I don't like. (Respondent 2)

During one of the choir rehearsal sessions I attended, I observed a conductor (Respondent 13) bringing techniques alive for the choristers. This conductor used these analogies – imagery – to explain what he wanted from the choir. Most of his explanations were vividly demonstrated by means of animated movements.

It is clear that, while imagery is a meaningful tool to help create chorister context for a desired singing style, every conductor needs to find and use the images that make sense to his/her choir and which will produce the desired sound quality.

- **Challenging the choristers**

The conductor should introduce challenges according to the specific level, skill and context of choristers when it comes to warm-ups and technical exercises. From the interviews it was clear that conductors should not hesitate to challenge or shield their choirs from mastering new singing skills. One respondent voiced her dismay:

I cannot believe that [conductors] know the sound which [they] can achieve, and [yet] never achieve the real sound that [they are] looking for. (Respondent 3)

Respondents offered examples of how they stretch their choirs:

I would say their reaction with regard to the warm-ups was a bit strange [...] at the beginning [...]. They were used to sing comfortably – not too high or too low. They didn't like it very much. (Respondent 4)

At every technical exercise I do, I stop immediately when it is not correct. I work with three notes at a time, until it is correct. The result is that you sharpen their [the choristers'] hearing and they start to listen. (Respondent 1)

If possible [...] rather practice in a dry acoustic space than in a warm or lively acoustic venue. Because in a dry acoustic venue one must create the resonance yourself, whereas in a lively acoustic venue, the space does it for you, and one tends to become lazy. (Respondent 5)

From the above responses it becomes clear how important it is for conductors to place high expectations on their choristers. In this way, choristers become actively involved in warm-ups and technical exercises in a mutual quest to improve the choir's sound.

4.1.4.3 Positive chorister response

A positive chorister context is needed for the choir to embrace the idea of, and to submit to the hard work associated with warm-ups and technical exercises. Unless choristers actively engage in warm-ups and technical exercises during rehearsals, the value of these will be diminished and the expected impact on sound quality and blend will not be achieved. This was supported by responses from various participants.

[the choristers] are very responsive most of the time [...]. They have to know that it means something for the rest of the rehearsal, therefore all of them just have to do it. (Respondent 3)

They respect me for taking the time to create warm-ups that are appropriate to the rehearsal, [...] they are all into the fact that that's what is going to make them better. (Respondent 2)

During my observation of a choir rehearsal, I observed that the choristers' responses to the efforts of the conductor (Respondent 3) to focus and collaborate was weak. This may have been caused by poor eye contact by the conductor. Furthermore, both conductor and choristers emitted low energy levels, exacerbating the problem.

The responses of choristers play a key role in the effective deployment of warm-ups and technical exercises. On the one hand, the conductor should energise and motivate choristers; on the other hand, choristers should indicate their commitment to improve their singing abilities by actively engaging in warm-ups and technical exercises as part of the choir singing territory.

4.1.4.4 Connection amongst choristers

Warm-ups bring alignment and focus amongst the choristers and prepare them for collective and productive singing. This concept was vividly explained by one of the respondents who can be classified as an 'expert conductor':

For me, the warm-up session [...] is the start of us being together. When we're not all connected on one kind of playing field or level [...], there is just plain disjointedness. [...] We're a big group of individual people and we all need to be connected in a way that I call the 'Avatar of singing'. (Respondent 2)

With reference to the film, 'Avatar' by director James Cameron (Cameron 2009), the above-mentioned participant tried to indicate that the choir represents the embodiment of an abstract concept or idea, in this case the unifying impact of warm-ups and technical exercises. This illustrates how important it is that everybody is linked by some unseen connecting force to bring about a sense of bonding amongst choristers. One of the respondents (Respondent 3) called this type of experience the "togetherness of the choir" and felt that it was one of the most observable outcomes of warm-ups and technical exercises on her choir.

During my observations I found it difficult to assess the 'togetherness' of each choir. This may be due to me attending only one rehearsal for each choir. In some choirs I could detect an emotional bond between certain choristers, leaving them supportive of one another while being very responsive towards the conductor (for example the choristers of Respondent 12). At one point the sopranos of this choir spontaneously collaborated and supported one another when they realised that there was a problem in the rendering of their voice part. However, observing another choir (Respondent 13), the opposite was observed with the choir displaying an individualistic approach to their singing. A strong forward drive or force absorbed individual choristers paying little attention to others, yet, they were highly committed to what appeared to be a shared team result. A similar effect was observed during the rehearsal of yet another choir, where choristers were responsive to – and focused on – the requirements of the conductor (Respondent 4), although they did not display interactive support amongst themselves. The last choir I observed appeared to be slightly disconnected from the conductor (Respondent 3) as very little eye contact was made; neither were facial expressions used to communicate non-verbally with the choristers, or the choristers amongst themselves.

The variations in connectedness between choristers, as observed during the data collection process, can be explained as relating to the level of connection between conductor and choristers, the personal alignment of each chorister to the task at hand, and their musical alignment as a group of musicians.

4.1.5 Theme 5: Systematic mastery

From the data analysis so far, it can be deduced that planned warm-ups and technical exercises are critical for preparing the choir towards enhanced performance standards and that these activities are perceived as essential for improved choral sound quality and blend. One of the aspects which I explored was to determine whether conductors have particular desired outcomes in mind when they embark on a regime of warm-ups and technical exercises during rehearsals. Ten elements were distilled via data analysis, related to the systematic process of individual objectives which conductors set for themselves – implicitly or explicitly – when they use warm-ups and technical exercises during choral rehearsals. These ten elements are illustrated in figure 3.

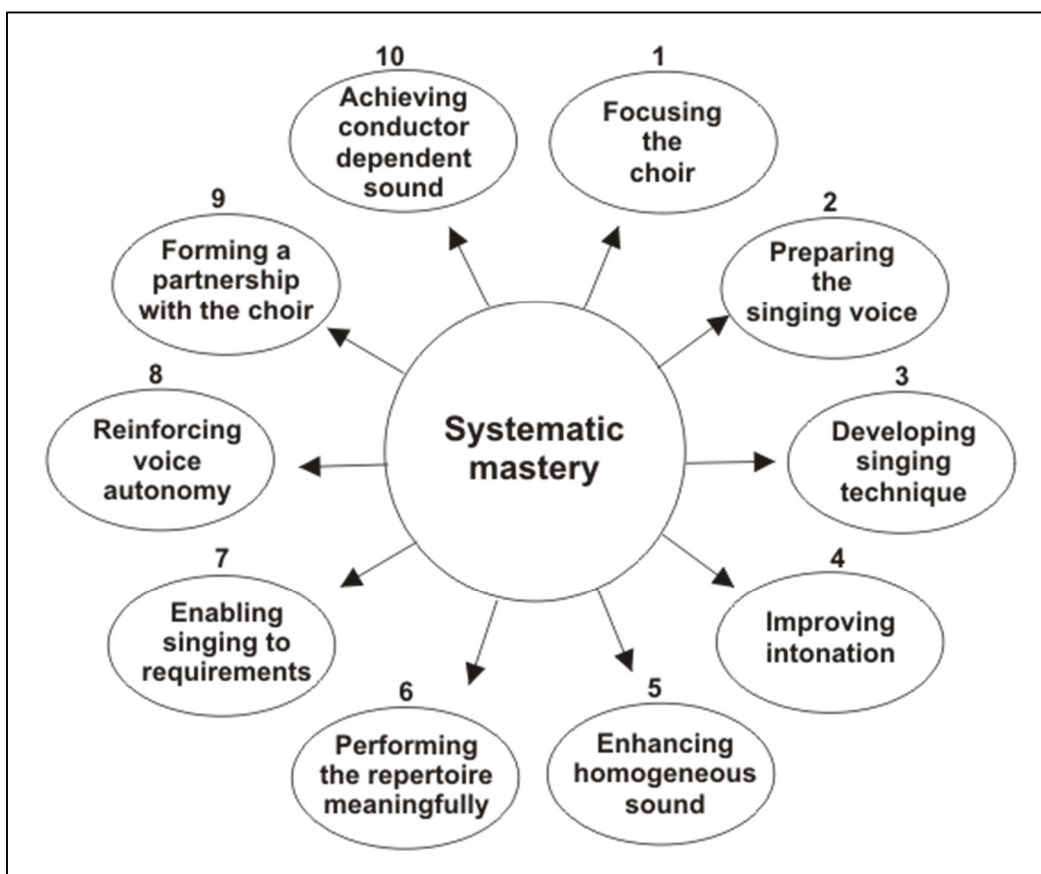


Figure 3: The objectives conductors set for the use of warm-ups and technical exercises

Warm-ups and technical exercises are reportedly used to achieve several objectives, as described in the following sections.

4.1.5.1 Focusing the choir

From data analysis it is evident that the most basic objective of warm-ups and technical exercises is to help the choir to focus on the task at hand. Choristers need to be brought together spatially and mentally in order to become attuned to the singing process and to apply the techniques that will produce quality sound. In the words of one respondent,

Choral singing is a mind game. We don't just sing with our voices, we sing with our hearts and minds as well and we all need to be in the same place. (Respondent 2)

He explained,

Of course the focus-thing cannot be undervalued. When they are out of focus, by doing a proper warm-up, just getting your choir in tune with one another, not just in tune, but in tune in a focus kind of way, is invaluable. (Respondent 2)

Another respondent echoed the same sentiment:

The purpose of the warm-up is to focus everyone and to bring them into a relaxing and appropriate mood for the rehearsal. (Respondent 4)

Once the choir's attention is captured and focused on the task at hand, the attention can move to the voice.

4.1.5.2 Preparing the singing voice

Respondents were unanimous in their perception that the voice should be warmed up before singing. This view was summarily stated by one of the respondents:

You can't sing if you haven't warmed up beforehand. (Respondent 1)

Respondents suggested three elements of voice preparation, namely preparing the voice, relaxing the body, and developing voice agility. This is illustrated in the following remarks by respondents:

Preparing the voice: The vocal cords are muscles and if the muscles haven't been warmed up sufficiently, it would be difficult to sing the necessary interval structures required by the piece [repertoire]. (Respondent 1)

Relaxing the body: Never skip relaxation exercises. [...] choristers of a community choir probably had a long and difficult day and it is positive and pleasant for them to do it [warm-ups and technical exercises]. One can perhaps leave the voice-building a little, but the relaxation exercises must be there. (Respondent 5)

Developing voice agility: Technical exercises are to get agility [into the voices].
(Respondent 3)

The observations I made of the two conductors who spent approximately 15 to 20 minutes for the warm-ups and technical exercises during their rehearsals, followed a similar pattern. One conductor (Respondent 12) paid attention to breathing, range expansion and pitch security exercises, while the other conductor (Respondent 3) focused on breath support, range expansion, vowel alignment and additionally on pitch security exercises.

4.1.5.3 Developing singing technique

It was clear that the participants associate the use of warm-ups and technical exercises with attempts to teach the choir useful singing techniques. Singing technique has to be developed as a prerequisite for choral sound quality and blend. The respondents highlighted different aspects of singing technique that can be attended to by means of warm-ups and technical exercises, as is evident from the responses quoted below.

I think when it comes to technical exercises, it's all about vocal training.
(Respondent 5)

It's all about muscle memory. You train [the choristers] how to create sound, how to feel how the sound is created. (Respondent 2)

Everyone must know how to produce sound, [for example], dynamic expression. (Respondent 1)

So, [with reference to] technical exercises, you will have to look what you need for their voices with regard to breathing, support, posture and so on.
(Respondent 4)

When singing technique is at stake, it makes sense that the conductor will select warm-ups and technical exercises carefully to help develop particular singing skills. As was highlighted earlier, the conductor will be wise to explain to the choristers how specific exercises aim to develop particular singing capabilities or skills.

During my observations of the choirs of Respondents 4 and 13, I noticed that choristers in both these choirs had no discernable intonation problems and appeared to have muscle memory in this regard. This finding can be interpreted as that the conductors regularly include intonation exercises during their regular choir rehearsals. Although a few slight intonation deviations were detected by choristers themselves during these rehearsals, the choristers were challenged by the conductor to self-correct their singing.

4.1.5.4 Improving intonation

The importance of intonation for choral sound quality was continuously raised during the interviews. Intonation is a complex phenomenon to discern, to explain, and to correct. This study confirms that improvement of intonation is a critical objective of warm-ups and technical exercises, or, in the words of a respondent,

Intonation is so overpowering [...]. One should discuss choral sound quality and voice building in the same breath. (Respondent 5)

Whenever intonation was mentioned during the interviews, two topics were raised, namely aural skill and overtones. A good starting point came from a respondent who linked it back to the orientation of the conductor:

If the choral conductor has a positive disposition towards intonation and he is critical and precise with regard to that, then aural training happens automatically within the choir. (Respondent 5).

The development of aural skills is decisive for intonation, as can be deduced from statements like

Fundamentally singing is all about listening [and] a choir sings as well as the conductor hears. (Respondent 2)

Overtones play an important role in improving choral sound quality. This was confirmed by a respondent:

Teaching the choir to hear the overtones is important [and] how your overtones sound is important. (Respondent 5)

Another respondent remarked,

In terms of specifically training [choristers] to listen, it's obviously an important part of what we do as conductors. (Respondent 2)

During observations, I noted that despite the problems the choir experienced with projection, their intonation was carefully attended to by the conductor (Respondent 3) and that reflected in the blend between voices.

From all the above responses and observations, it is clear that the improvement and refining of intonation may be one of the most important yet complex objectives of warm-ups and technical exercises for any choral conductor.

4.1.5.5 Obtaining a homogeneous choral sound

This is one of the critical objectives of using warm-ups and technical exercises during the rehearsal. One of the more experienced conductors commented:

I stand squarely opposed to the principle which I have heard with American choirs, namely that the choir's sound is like a bunch of flowers [...] with different colours and together they form this interesting, colourful sound. I think the ideal is rather that one should make sure that the sound quality, brought forth by each voice group, is a total unit. (Respondent 5)

Further responses from the participants indicated that a homogeneous choral sound is not only a particular objective of warm-ups and technical exercises, but that it should be a continuous aspiration of both conductors and choristers.

I think homogeneous singing is the answer [to sound quality and blend]. If you don't have homogeneous sound, you can forget it. To reach [this] is really difficult. I am now busy with [one of my choirs] for eight years [trying to attain a homogenous sound]. (Respondent 3)

One particular issue that was raised in the context of homogeneous sound by one of the respondents, was the impact of strong solo voices on homogeneous sound.

A soloist can be an advantage, but could be a problem. They [soloists] would like to be heard and that's not what you want; you want a homogeneous [choral] sound. (Respondent 1)

It can be concluded that, unless a homogeneous sound is achieved, choral sound quality will remain compromised.

4.1.5.6 Performing the repertoire meaningfully

Strong evidence emerged from the data that warm-ups and technical exercises should be used to prepare the choir for the repertoire at hand. The following statements confirmed this:

When you chose your repertoire [for the rehearsal], you must be able to determine your warm-ups. (Respondent 1)

[I] contextualise it [warm-ups and technical exercises] with the music I'm going to teach. (Respondent 2)

All warm-ups and technical exercises eventually find their true value in the versatility of voices to perform a wide selection of works with success, as was evident from the following responses:

First, the warm-up must suit the type of genre you are in. (Respondent 3)

Depending on the piece of music with which you are going to work [...] I know beforehand that I will love to warm-up for [...] the suppleness of the intervals. (Respondent 1)

During the observation of one of the rehearsals I attended, I noticed that the choir was constantly struggling with the diction of a specific work. The conductor (Respondent 4) did not anticipate this problem during the warm-up and technical exercises session; neither was this problem attended to during the rehearsal. Therefore this problem with diction persisted for the duration of the rehearsal.

Through a combination of the views obtained from the participants as well as my observations during rehearsals, it becomes evident that, in the selection of warm-ups and technical exercises, the conductor needs to be primarily led by the challenges the particular repertoire presents.

4.1.5.7 Enabling singing to requirements

It takes time to prepare a choir to walk onto the stage and sing to requirements. One of the respondents boldly stated that it starts with the application of warm-ups and technical exercises:

It [warm-ups and technical exercises] has a very big impact [on choral sound quality]. You can clearly hear it in a choir when they walk onto the stage – every choir has a unique sound – you can hear it clearly – if the singers, number one, have a good sound and their technique is good, this comes out in warming-up. So, if it isn't there, then you can go and have a look at what the choir master or conductor does to warm them up and also technical warm-ups. (Respondent 4)

A successful choir should be able to sing the music at hand. This requirement is partly determined by the genre of the music, but also by the conductor's demands for a particular choral sound. The genre may determine a particular singing style and technique, but at times a specific set of skills may be required to sing challenging works and to achieve a particular choral sound ideal.

One respondent explained the need for voice agility and flexibility as follows:

The voice may be required to get used to jumps [sic] and to heights and depths, whatever the requirement. (Respondent 5)

The capability of the choir to render the performance required, without vocal stress and strain, will only be possible with an investment in warm-ups and technical exercises that

are designed to master singing challenges with a level of ease. As one respondent explained,

I would like [...] to be able to manage that everyone knows where the bridge in their voice lies, [...] I will do legato exercises so that the men don't always go into falsetto, but that they can sing the *passaggio* for their voice. (Respondent 4)

This idea was supported by another respondent:

The Germans speak of a vocal spectrum. This is the spectrum [...] where you start with the highest vowel and end with the darkest vowel. (Respondent 5)

Only one of the choirs I observed was able to sing to requirements as set by the conductor (Respondent 13) with a level of confidence and precision. This was largely driven by the conductor's style and personality. Choristers displayed excellent responsiveness to the conductor's instructions and non-verbal cues. Although the choir was very confident about their sound production, the musicality was perhaps secondary in this instance.

The confidence to sing the required notes and style securely by utilising techniques that have been mastered, will only be achieved if the conductor follows a conscious development programme with his/her choir. This objective – namely for a choir to be able to produce a specific sound and singing style on demand – points the way to a more advanced level of mastery that will only come through a focused and determined application of warm-ups and technical exercises.

4.1.5.8 Reinforcing autonomy

Choral quality cannot be achieved with insecure singing by choristers who are over-dependent on the sound produced by others, as pointed out by several participants.

Self-confidence is very important (Respondent 1), [because conductors do not] only teach people to have an enjoyable moment, but they're actually teaching them a skill. (Respondent 2)

Self-confidence in a choral context is all about autonomous singing against the backdrop of other, competing sounds. Participants clearly demonstrated that they have actively experimented with the concept of proximity to develop voice autonomy in their choristers:

The whole thing we try to do in the warm-up, is to make the choral member independent [...] and to sing all by themselves. And what better way to do that than don't sing the same part as them. (Respondent 2)

I mix them [the choristers] around all the time, because now they have different harmonies on either side [...] and that experience lets them know what the music sounds like. (Respondent 2)

One particular approach that was mentioned is the setup of choristers in a way that diminishes the dependence on similar vocal parts in close proximity:

I let them stand apart [and] against each other, it is strange to them. (Respondent 4)

and

I spread them out [...] and they'll sit in a new place [...]. There's always lots of space around them, so they can be independent. (Respondent 2)

This can only happen in an atmosphere of mutual trust and active collaboration between conductor and choristers. If the conductor can succeed with these interventions, the next step can be achieved, namely a solid partnership with his/her choir.

4.1.5.9 Forming a partnership with the choir

One of the distinct objectives of warm-ups and technical exercises is to draw the choir into a joint attempt with the conductor to develop excellent choral quality sound and blend. One respondent stated that,

If there is a problem, everyone has to help me solve that. (Respondent 3)

Another remarked,

If they make a mistake that they know they need to fix, I don't always give them the answer. I tell them: "You know how to fix it, so try to fix it." (Respondent 2)

During my observations, I noticed that a conductor (Respondent 3) forfeited the locus of control to individual choristers. Although this technique can be effectively applied in some instances, it cannot succeed with a choir of lesser maturity. One chorister who arrived late and missed the warm-up session, was left unattended and continued to use his mobile phone while the rehearsal was underway.

To form a collaborative partnership with the choir is certainly one of the most advanced goals of a choral conductor and will require a meaningful level of maturity on the part of the choristers. One of the research participants with an outstanding reputation as conductor, explained the level to which he takes the partnership objective:

I work with them [the choristers] individually in front of the choir until everyone sings correctly. It is unbelievable what the psychological impact is when you test them one by one. I don't stop until the voice is right. Eventually they realise it's the best for the choir. After that they sing fantastically and they also develop self-confidence. I then add the other voices one by one. I tell the choir members to mark the problem area and when we get there and there's still a problem, we do it again [to let them sing one by one]. It is very seldom that one has to do a [piece] again. (Respondent 1)

When the choir starts to take this level of individual and collective responsibility to help the conductor in an effort to improve choral sound quality and blend, one can truly state that a partnership has developed and the collective capability of the choir is unlocked.

4.1.5.10 Achieving a conductor-dependent sound

During interviews, I detected that all the conductors strive to develop a particular, unique choral sound under their leadership, and that this can be achieved with patience and determination. Although all conductors eventually arrive with their choirs producing a particular sound, this may not always be the sound they had in mind. Alternatively, this sound may have developed by default. The objective shared by expert conductors is that warm-ups and technical exercises are valuable tools to achieve a particular sound, pre-imagined by each conductor, and constantly worked towards. This is sound by the design of the conductor, the sound of each choral conductor's 'instrument'.

Choral sound is the sound which is required by the leader of the choir. In other words, the conductor must know the sound in his or her head. (Respondent 1)

The same respondent raised the condition that the conductor must be able to describe or illustrate the sound he/she is aiming for.

Therefore, you must be able to present the sound yourself, or your description must be so good that the members of the choir know what you're looking for. (Respondent 1)

Other participants substantiated this position:

All conductors have their own idea of a good choral sound and how they implement it into their choral warm-ups and choral rehearsals. (Respondent 2)

A person has, as conductor, probably an ideal sound in your head and to realise this sound ideal [...] one is compelled to do technical exercises. (Respondent 5)

Only one choir I observed (Respondent 13), could be credited for having a specific choral sound in mind and the conductor was working with the choir to achieve this goal. He followed an innovative approach by deconstructing the music in particular measures.

Each musical challenge was explained while he focused on the sound that was required, even to the point of the desired language accent of the piece.

Whether the 'conductor dependent sound' is really that unique may perhaps be of lesser importance in the search for exceptional choral sound quality and blend. However, to achieve choral sound quality and blend that can be confidently presented to an audience as the best the choir could achieve under their training and conductorship, is possibly a more important objective and strongly pursued by conductors.

4.1.6 Theme 6: Heuristic learning

In this final section of respondent and observational data analysis, the theme of learning is explored as it manifested itself during the application of warm-ups and technical exercises. Data analysis revealed that conductors and choristers often learn from experience, awareness, and intuition. The term 'heuristic learning' appears to be a useful concept to explain this type of learning that enables conductors and their choristers to move beyond conceptual knowledge about singing and conducting towards emergent learnings about the improvement of choral sound quality and blend. The role of intellectual understanding cannot be underestimated; yet the presence of learning through trial and error was very prominent throughout the data analysis process. This observation will be discussed in more detail as part of the discussion of findings at the end of this chapter.

While it was not an objective of the study to determine the learning styles at work during rehearsals, this theme of different learning styles of conductors and choristers presented itself at various times. Heuristics help to explain how learning appears as momentary gems of insight and improvement *en route* to the achievement of choral sound quality and blend.

An attempt is made to capture some of the awarenesses and insights pertaining to warm-ups and technical exercises, as explained by the participants. These aspects – relating to the heuristic nature of opportunities for informal learning offered during community choir rehearsals – is illustrated in figure 4.

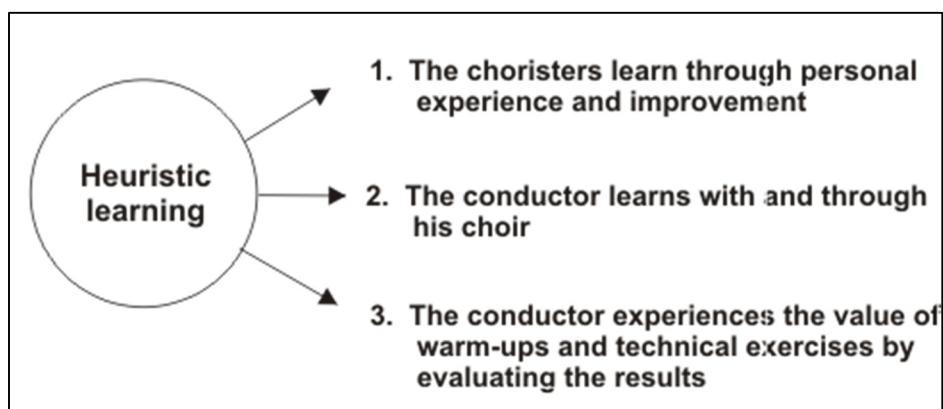


Figure 4: Opportunities for learning created by warm-ups and technical exercises

The study did not provide for data collection from choristers, however, the choral conductors who acted as respondents provided data on their own choristers' reactions and behaviour as observed during weekly rehearsals. These learnings of the choristers from the conductors' perspectives, as well as the conductors' reported personal learning experiences are concisely summarised in the following sections.

4.1.6.1 Observed chorister heuristics

Warm-ups and technical exercises lend themselves ideally to experience, sense and feel the possibilities of enhancing choral sound. Even being aware of small details and experiences can help choristers to consciously improve their individual sound quality and the overall choral blend. Observations of and interviews with the research participants clearly point to this finding. The impact of unhurried, almost intuitive attention to the choirs' learning and development is illustrated by the following responses:

Sometimes when I say, 'lift up your cheekbones and open your eyes', they find that there's a quality something; something happens with them, even if it is a little improvement. (Respondent 3)

They look and they hear [...]. I let the other members of the choir listen if it's correct [...], just to let them hear. (Respondent 3)

The result of these heuristic moments of learning and improvement leads to chorister confidence. One of the respondents explained:

The feeling of the singers has also changed. They have developed respect for the voice and they know how to use their voices. They are not ashamed of their voices. They develop self-confidence through the warm-ups and technical exercises. Their [the choristers'] reaction when they started hearing what their voices could do and learning to know their voices, was very good. (Respondent 4)

The role of personal awareness, experience and exploration of possibilities appear to be paramount to the successful enrolment of choristers in the use of warm-ups and technical exercises.

4.1.6.2 Conductor heuristics

Conductors learn with and through their choirs. It is often in the heat of the battle to unlearn the wrong singing habits in choristers, while leading them to acquire the desired singing techniques, that the conductor develops personal skills and grows a portfolio of training methods.

All the participants were very aware of their own heuristic experiences, and most of these were illustrated by means of reflections on the use of warm-ups and technical exercises. One respondent reflected,

It isn't always so easy to do what I'm doing, or [to know] whether it's going to work or not. (Respondent 3)

Similarly, another reflected,

You should not push up the chest register; I didn't know that. [...] It is not a good exercise, that's why I now do it from the top. This is definitely an improvement [in my own skill as conductor]. This was before I really learned to know the voice. (Respondent 4)

The conductor needs to stay attuned to how the choir experiences his/her attempts to improve choral sound quality. Reflecting on the importance of using warm-ups and technical exercises to shape choral sound quality, one of the participants warned,

If you need to tell the choir every time that what they're doing is not right, try this, try that, you will progress very slowly. (Respondent 5)

It is clear that impatience and insensitivity will not help to improve choral sound. One of the respondents summarised his experiences as conductor very eloquently:

[It] takes time, it takes research, it takes experience, it takes phone calls [...] to colleagues, or friends, or attending conferences, or reading your choral journal, or whatever the case might be. I mean, it's a lifelong journey. It's not easy, and that's the biggest problem. (Respondent 2)

4.1.6.3 Conductor experiences of results

Finally, respondents were asked to judge their own experiences of the most obvious impact that warm-ups and technical exercises had on their choirs' journeys to improve choral sound quality and blend. Their succinct responses are varied and point to the fact

that each conductor has a different expectation of warm-ups and technical exercises. Moreover, conductors make different connections between these activities and the resulting development of choral sound quality observed in their choirs. Their responses can be summarised as follows:

Focus, teamwork [and the] ability to fix problems. (Respondent 2)

Homogeneous sound, [and the] togetherness of the choir. (Respondent 3)

Intonation, confidence [and] homogeneous sound. (Respondent 4)

Choral sound quality, intonation [and] breath control. (Respondent 5)

As such these responses act as reminders that conductors are exploring, trying, learning and re-learning as they perform their task as teachers and mentors of their choirs.

Summary of interview and observational data analysis

The data rendered meaningful and practical insights into the convictions respondents hold about the use of warm-ups and technical exercises during the rehearsal, the practices and methods they follow and the perceived value they derive for improving choral sound quality and blend. The six themes and their sub-themes emerging through data analysis lend themselves to various ways of organising and constructing warm-ups and technical exercises, which may lead to useful models of thinking about the topic. In the following sections, this possibility will be explored.

4.2 Analysis of data obtained from the facilitated interviews and focus group session using concept mapping

Six themes were selected from the literature regarding the conductor's quest to improve choral sound quality and used as focal points during the concept mapping based interviews and focus group session. No definitions or explanations of the themes were given to the respondents in order to allow them to consider and think through these themes in an unencumbered way.

These *a priori* themes as provided to respondents are seen in column one of Table 4, while the sub-themes emerging from the concept mapping focus group session appear in column two.

Table 4: Themes and sub-themes in support of the development of choral sound quality

Themes (provided)	Sub-themes that emerged
1. Preparing the instrument	<ul style="list-style-type: none"> • Moving from the speaking voice to the singing voice • Whole body awareness • Enabling the choral voice
2. Homogeneous choral sound	<ul style="list-style-type: none"> • Choral blend • Signature sound • Sound-on-demand
3. Intonational awareness	<ul style="list-style-type: none"> • Understanding the science of intonation • Sound positioning • Perfecting the overtones
4. Collective focus	<ul style="list-style-type: none"> • Relaxed attention in the choir • Unity and connectivity • Preparation by the conductor
5. Enabling the repertoire	<ul style="list-style-type: none"> • Creating an appropriate singing style • Deconstructing musical challenges • Fixing execution problems
6. Voice placement	<ul style="list-style-type: none"> • Vocal balance and blend • Chorister voice identity • Utilising the sound stage

The sub-themes that were gleaned from the data are graphically displayed at the beginning of each theme.

4.2.1 Theme 1: Preparing the instrument

The vocal folds are the human instrument that produces speech and singing. The choral conductors – who acted as respondents in this study – agreed that warming up of the vocal folds is vital for effective singing. Figure 5 illustrates three emerging sub-themes which could be distilled from the available data.

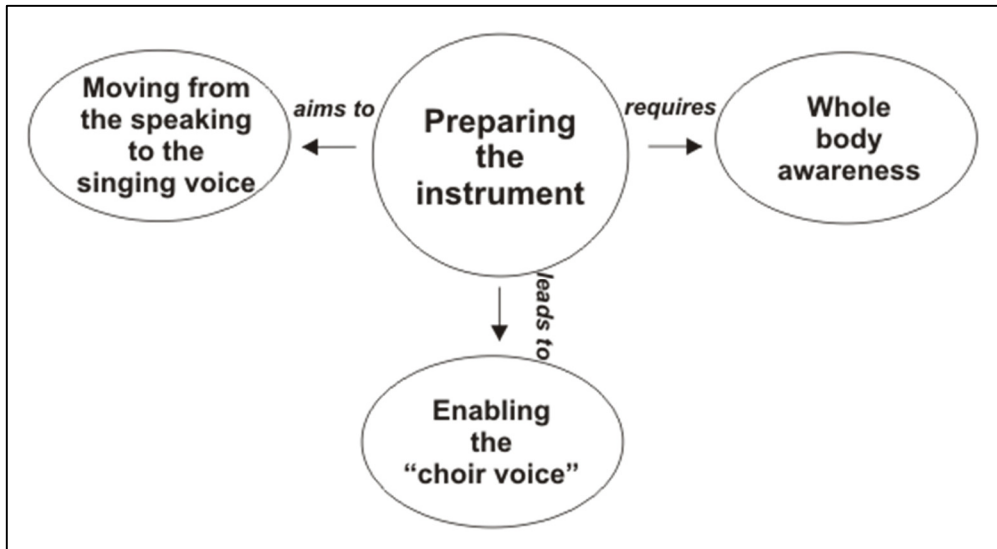


Figure 5: Emerging sub-themes for preparing the instrument

4.2.1.1 Moving from the speaking voice to the singing voice

The preparation of individual voices to participate in collective singing requires dedicated time and effort to gradually enable the voice to respond to the demands of choral singing. This was clearly supported by the participants:

Listen for signs of strain and tension in the voices and use exercises to smooth out the tensions to make them melodious and sonorous. (Focus Group)

Warm-ups increase blood flow to the vocal folds and move the voice from speaking mode to singing mode. (Focus Group)

4.2.1.2 Whole body awareness

From the analysis of the respondents' views, it appears that warming-up exercises go beyond the warming up of vocal folds. The whole body needs to be brought into a state of readiness to enable the production of quality sound, as motivated by the following responses:

Warm-ups engage the whole body. (Focus Group)

Stretching, breathing and moving the diaphragm must be used. (Focus Group)

I teach them [...] awareness of the capability of the body, for example, how lung capacity is accessed. (Respondent 6)

Body posture is important and must be included in the warm-ups. (Respondent 7)

4.2.1.3 Enabling the choral voice

By warming up the individual chorister voices, the mutual ‘choral voice’ of the whole choir is eventually unlocked and channelled towards collective sound production. Respondents were in agreement that the outcome of warm-ups and technical exercises was a collective ‘choral voice’, able to produce quality sound:

Warm-ups develop awareness of how primitive sound naturally evolves into healthy singing habits. (Respondent 6)

Collective warm-ups have a centring impact [and] lead to warming up the choir voice. (Respondent 7)

4.2.2 Theme 2: Homogeneous choral sound

Producing a homogeneous choral sound is a primary objective for conductors. All the data provided by participants pointed to this as a highly desirable element of developing choral sound quality.

The primary objective of warm-ups and technical exercises is to improve homogeneity of sound. (Focus Group)

Several data sub-themes or elements of homogeneous sound were identified as displayed in Figure 6.

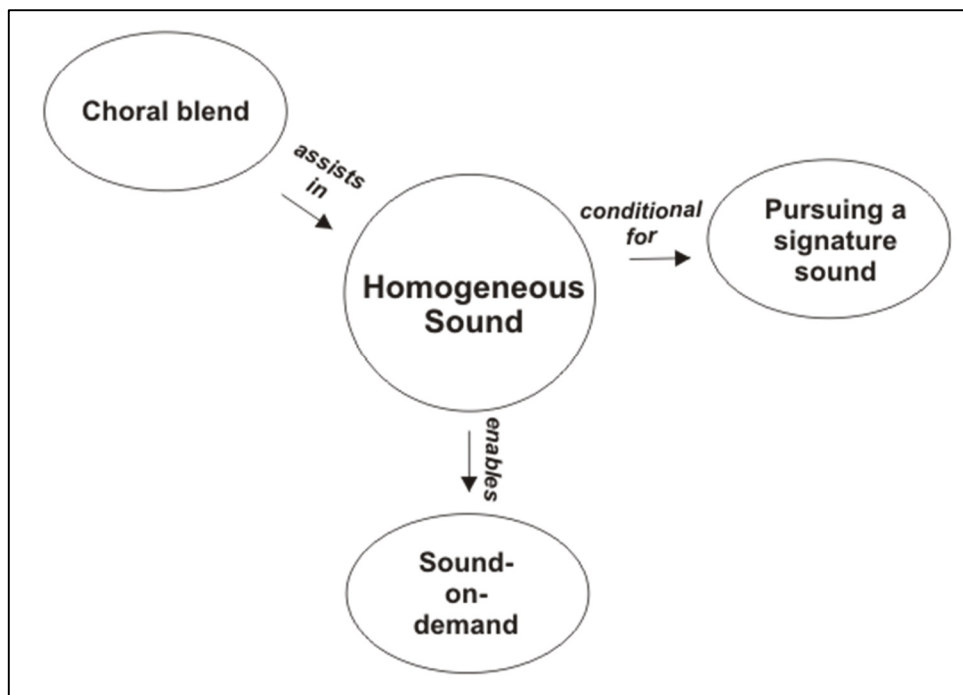


Figure 6: Homogeneous sound in context

4.2.2.1 Choral blend

A choir is not merely a collection of singers and similarly, choral sound is not the mere sum total of different voices singing together. Creating choral blend and shaping the collective voices into a single sound instrument is a long and tedious process.

I talk about walking the tight rope. I teach the choir to sustain vocal discipline irrespective how high or low they sing. (Respondent 6)

This does not imply constrained singing, but rather singing technique that is shaped by warm-ups and technical exercises that eventually allow quality sound production through a unified process of singing. Blending the sound is the result of perfecting sound pitch, unified vowel production, and tone colour. These aspects were strongly accentuated by respondents:

I teach the choir to achieve a full 'vocal cycle' without changes in pitch, that is, vowels are changed without changing pitch through mouth manoeuvring techniques. (Respondent 6)

In singing, the mouth is important in the same way that instruments are built to produce a particular sound. (Respondent 8)

Give the choir exercises to develop uniformity of the vowel sounds. (Focus Group)

I insist on identical vowel sound. This brings the right blend. (Respondent 6).

Choral sound is carefully blended into a homogeneous sound where individual voices are merged into a single choral sound coming from a particular voice group and eventually from the choir as a whole.

4.2.2.2 Signature sound

It appears that conductors, either by default or design, aim to achieve a specific and distinct choral sound over time. This can be called the conductor's 'signature sound'. A signature sound was mentioned in particular by the more experienced and confident conductors who participated in this part of the study. They recommended a conscious effort on the part of the conductor to be clear on the choral sound they expect and to teach the choir to produce that desired sound. One participant referred to the importance and high value she places on this aspect:

Go for a particular sound signature. Make your expectations clear and then start to teach the choir the sound you want as a conductor. (Respondent 6)

Other respondents explained that this signature sound is achieved by means of singing techniques and referred to the importance of diction, particularly in the multi-cultural context of South Africa.

Conductors should have a clear objective for the sound [...] and [blending of] the sound by means of singing techniques. (Focus Group)

Teach a shared sound and diction, particularly when people come from diverse backgrounds and cultures. (Focus Group)

The implications are clear: choristers' singing technique and style should be shaped through repeated exercise to fit the particular sound profile or characteristic the conductor wants to achieve.

4.2.2.3 Sound-on-demand

During the facilitated sessions it became clear that the conductors of more prominent choirs insist that their choirs are trained and conditioned during warm-ups and technical exercises sessions to be able to produce a specific choral sound as contemplated and required by the conductor. Choristers should not merely produce a sound which they find comfortable or familiar. Hence it can be argued that choristers should be able to produce sound-on-demand. This 'sound-on-demand' depends on the conductor's expectations, the requirements of the particular genre and work at hand, and the intended interpretation the conductor aims for. Whether choristers will eventually achieve this level of singing capability remains a major challenge for all conductors. Sound-on-demand is dependent on the conductor's ability to develop "individual voice ability". (Respondent 7)

Two dimensions of the capability to produce 'sound-on-demand' were identified, namely the technical dimension and the psychological dimension.

The technical dimension

The technical dimension of 'sound-on-demand' refers to the choristers' capability to produce the sound exactly as required by the conductor. This asks for a conscious and focused effort by choristers:

Correct choral sound can be achieved through helping people to pay personal attention to their singing, [...] to experience the difference between their default sound and the required sound. (Focus Group)

The skills to produce the desired sound require a systematic process of continuous correction and improvement until choristers master the desired singing technique. This was clearly pointed out during the focus group session.

Use warm-ups and technical exercises to fix wrongs immediately before they become [bad] habits. (Focus Group)

The following responses provide particular examples of the technical dimension regarding:

Language: Technical exercises should look at the impact of the language of the song.

Posture: Sound quality has a physical dimension. A relaxed posture is important and the choir must understand how this is achieved.

Vowel formulation: Vowel formulation and sound production, using the mouth cavity as the resonance space, must be addressed.

(Respondent 8)

The above aspects all point to dimensions of singing technique.

The psychological dimension

Choral sound quality requires more than technical perfection. 'Sound-on-demand' requires that choristers sing with confidence.

Conductors should develop confident singing capabilities [in their choristers], for example, confidence in their own voices, appropriate usage and achieving the required sound. (Focus Group)

One respondent referred to this confidence as follows:

[The choir needs] vocal courage when it comes to difficult and uncomfortable parts. (Respondent 6)

One of the group respondents commented that she tries to get choristers to

sing loud and wrong to accentuate confident participation and contribution to keep it challenging and [to] encourage risk-taking before the sound correction process starts. (Focus Group)

The respondent's idea was to let the choir experience the importance of spontaneous and confident singing, as a critical element of the choir's capability to produce sound-on-demand. This was further explained by a respondent who commented that

the choristers must be in command of the execution. This is the psychological dimension, [the choir's] self-presentation, appearance and confidence. (Respondent 8)

Clear evidence was found that a psychological dimension was present in choral sound production.

4.2.3 Theme 3: Pursuing intonational awareness

The importance of intonational awareness in both conductor and choristers emerged strongly during data analysis. Intonational awareness and skilful development of choral intonation -not only complex for the average choir member, but also for conductors. Yet, raising intonational awareness and improving the skill needed to produce a distinct improvement in choral sound quality, can be achieved through purposeful application of warm-ups and technical exercises. To aid this element of developing choral sound quality and blend, considerable aural skills and an emphasis on perfecting the overtones appear to be essential.

The dimensions of intonational awareness that were revealed by the data analysis are illustrated in Figure 7.

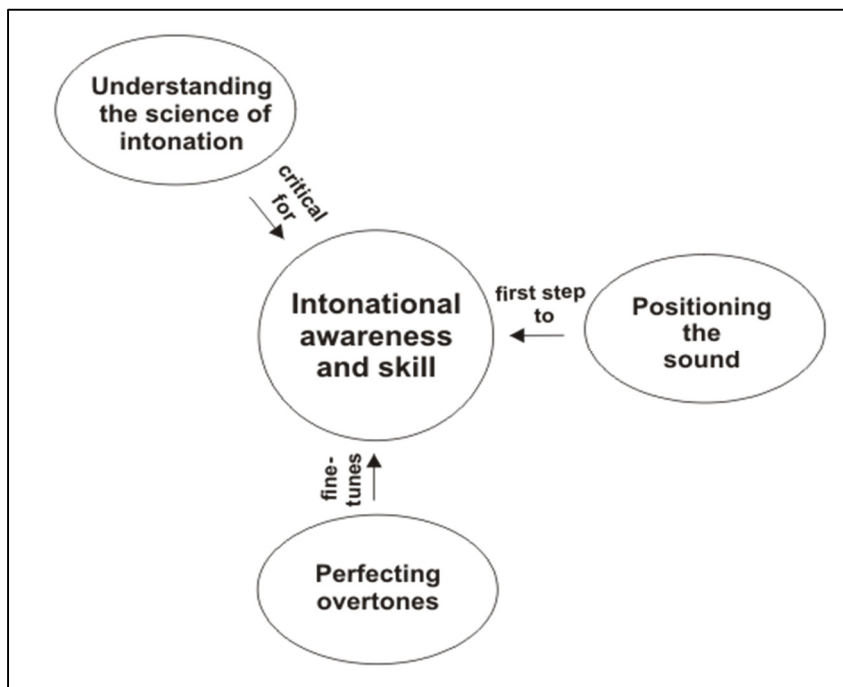


Figure 7: Pursuing intonational awareness in choral singing

4.2.3.1 Understanding the science of intonation

To teach a choir to sing in tune is most probably one of the major challenges a conductor faces. Intonational problems often stem from poor vocal technique and the conductor has an excellent opportunity during the rehearsal to use technical exercises to correct such problems. In the words of one of the respondents,

The idea of technical exercises is to establish intonation skill in the choir.
(Respondent 7)

The data clearly indicate that intonation needs a deeper understanding by the conductor and an appreciation by the choir for the role that it plays in the development of choral sound quality. An exploration of the meaning of intonation in the development of choral sound quality and blend, rendered three very valuable explanations by three different respondents:

Firstly:

There is a science of intonation. The overtones of every note is a scientific reality and the conductor must hear this. Through hard work overtones can be mastered. (Respondent 8)

The above respondent also referred to the tonic sol-fa approach with hand-signals that can be used as a technique to help the choir to visualise and sing notes in tune, for example, a perfect fifth interval, do-so.

Secondly, a very experienced conductor with a reputation for developing excellent choral sound quality in her choir(s), similarly motivated the importance of overtones and insisted that choristers should be trained to first hear it:

Overtones are critical for sound quality. During the rehearsal choristers must first 'hear it' before they can sing it. (Respondent 6)

She used the concept of 'sound positioning' to explain how intonation can be enhanced. This statement is further explored in section 4.2.2.3.

Thirdly the idea of individual and collective responsibility for intonation was introduced:

Individual [as well as] collective intonation must be pursued at all times to achieve choral sound quality. (Respondent 7)

The above participant's view is that collective intonation – first at a particular voice group level and then at total choir level – cannot be successfully pursued unless the individual

members of the choir can hear the intonation problems and master the correct intonational skills. To this end she promoted

specific focused exercises [...] that will address individual and collective intonation. (Respondent 7)

This process can be visualised as a 'staircase of exercises' to

- overcome individual intonational shortcomings;
- develop collective intonation at voice part level;
- blending the voice parts through collective intonation to produce whole choir sound quality.

Two skills which conductors should possess – that stood out as conditional to teaching good choral intonation – were firstly aural skills to help position the choir's sound perfectly, and secondly the capability to perfect the overtones. Both of these are advanced skills and it was clear that the conductor should master them personally before being able to develop them in choristers.

4.2.3.2 Sound positioning

The theme of 'sound positioning' is used in this study to refer to the efforts of the conductor to find the perfect sound 'slot' for each voice. As one respondent suggested,

Slot each voice into the musical grid, in other words, the perfect sound position. (Respondent 6)

Given the previous sub-theme namely the science of intonation, it can be assumed that this sound positioning will apply to both individual intonation as well as collective choral intonation.

Three elements of sound positioning were highlighted by respondents:

- Firstly the importance of aural training (the ear-voice connection);
- Secondly, self-other sound differentiation (relational intonation);
- Thirdly, imagery to help the choir to project the right note.

These elements are substantiated by respondent observations.

The ear-voice connection is critical for intonation and is required at conductor level as well as chorister level. The respondents all agreed on the importance of ear-training exercises to improve intonation.

Ear training is key to develop intonational skills. (Respondent 7)

The second element of the skill to position the sound correctly, refers to the self-other differentiation in the sound. This requires the conductor and chorister to listen to – and to hear – the self-other sound regarding contrast and similarity. This can be referred to as relational intonation, as explained by the following response:

Listening to yourself, [to] people around you [in the same section], and [to] other sections [the choir as a whole]. The conductor must teach the choir until they can hear themselves and others. (Respondent 8)

One particular approach to develop relational intonation is to move choristers around to experience different ‘sound environments’.

Imagery also appears to help conductors to teach sound positioning successfully. One could call this the ‘mind-voice connection’ that enables the chorister to sing a note with the right intonation by using a mental image to align the sound. Conductors explained that, if the chorister’s mind’s eye can ‘see’ the sound, the voice can follow and emulate the image.

This was explained by one of the participants as follows:

During the rehearsal imagery is an important tool, like a pole vault athlete that generates energy for the upward movement by ‘seeing’ it. (Respondent 8)

He continued to give examples of images that help his choir to grasp the exact position of the sound that is expected of them:

I use images, e.g. a barbell for scooping the sound, the fish eagle to take the note, the washing line to see the notes. (Respondent 8)

The successful positioning of the sound is clearly a critical element of intonation and requires continuous aural skill development.

4.2.3.3 Perfecting the overtones

On the journey towards a homogeneous choral sound, a conductor should keep in mind that there is a relation between tones and that every tone is a compound sound, consisting of the fundamental sound (the strongest sounding tone) and a sequence of overtones. One participant’s view is that, in order to improve intonational awareness,

the conductor must find a process to help the choir to focus the sound, almost like a high-definition zoom lens. (Respondent 6)

The process of perfecting overtones is an advanced skill. This participant advised conductors to

teach the relationship of notes [intervals] and train [the choristers] to hear the overtones. It greatly improves sound quality. (Respondent 6)

She subsequently gave a vivid demonstration of how the concept of overtones can be taught to choristers to raise their awareness and to help them select the right pitch. In a very enthusiastic display, the respondent played a note [the fundamental] on the piano, withholding the hammers to allow the sound to reverberate through the room. The overtones were compellingly clear and could be sung – precisely as she stated in her explanation. The participant expanded,

I explain the octave and sing the [higher] note, then demonstrate the next note [overtone], and let them hum the note. (Respondent 6)

Overtones as referred to in the above response can be notated as follows:

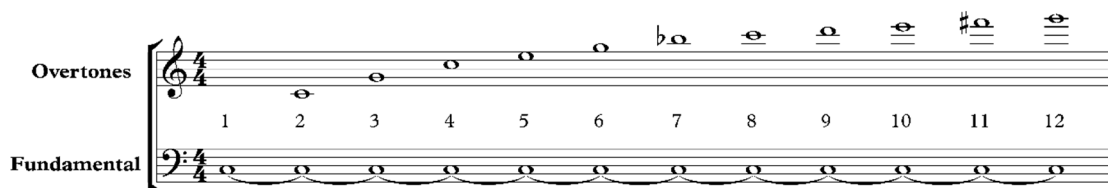


Figure 8: Overtones as noted by Hinds (2010:36)

4.2.4 Theme 4: Collective focus

Collective focus points to the impact that warm-ups and technical exercises have in creating a sense of focus, readiness and collective responsiveness in the choir. The confident opinion of one of the participants was

Collective focus by choir members is the primary effect of warm-ups. (Respondent 7)

The idea was generally supported that a warm-up regime brings the choir into a position of shared responsibility for productive singing. Several sub-themes were identified as critical elements of collective focus, as displayed in Figure 9:

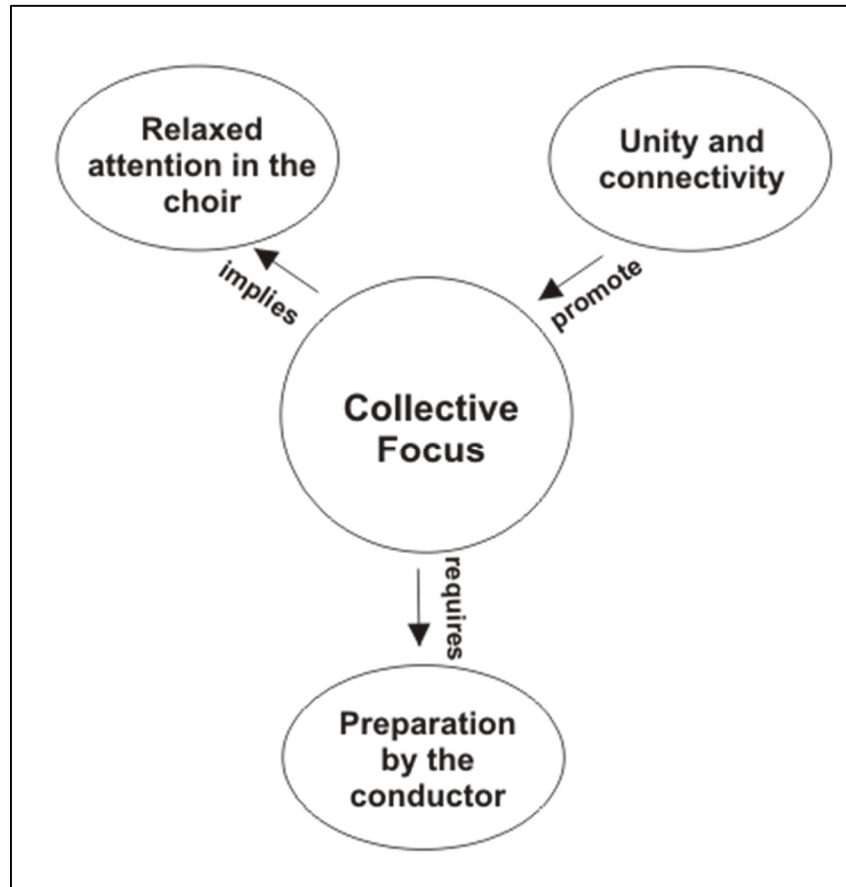


Figure 9: Critical elements of collective focus

4.2.4.1 Relaxed attention in the choir

According to the participants choristers usually find themselves emotionally preoccupied and relationally fragmented at the start of the rehearsal. For choristers to naturally submit to the rigour and concentration that choral singing requires, seems unlikely.

Focus can be seen as ‘relaxed attention’ and comes through the personal involvement of the choir and the dedicated engagement of the conductor. (Respondent 6)

This view was also supported by other respondents:

Choristers arrive preoccupied with stuff. (Respondent 8)

They need to be de-rolled [changed to the role of chorister] and de-stressed. (Respondent 8)

Start with activities that will let them wind down and bring calmness, soothing and even silence. (Focus Group)

A pre-warm-up regime is important to relax and prepare the choir for participation in the rehearsal. (Respondent 7)

Warm-ups and technical exercises create the opportunity to relax and prepare the choir in anticipation of the collective work that awaits them, or in the words of respondents,

[Warm-ups and technical exercises] must prepare the choir to move from 'socialising' to 'working hard'. (Focus Group)

4.2.4.2 Unity and connectivity

A sense of connectivity is a first step to success. Conductors and their choirs who aspire to achieve better results, particularly if they start participating in choral festivals, competitions or Eisteddfods, sooner or later realise the importance of excellent sound quality, and this requires focus, discipline and collective effort.

Warm-ups bring people in synchronisation with one another and with the music. (Respondent 8)

This unity and sense of connectivity are conditional for the achievement of excellent sound quality and hence the importance of focus, discipline and collective effort. The following observations put this in clearer perspective

Warm-ups and technical exercises must be performed by all choristers collectively to bring unity and discipline. I lead them to surrender individuality to the collective interest and aspiration of the choir. (Focus Group)

[Conductors] must create a sense of bonding and connection in the choir to promote trust, transparency and camaraderie. It may even include touch. (Focus Group)

The focus needs to move from 'me' to 'we' if the choir is to produce a blended, quality choral sound. One participant summarised this sentiment very eloquently:

Collective sound production is the tipping point that announces the end to a successful warm-up. (Respondent 7)

4.2.4.3 Preparation by the conductor

Preparation by the conductor is a complex process and requires an awareness of many different dimensions, for example, the environment where the rehearsal will take place, the requirements of the selected repertoire and the balance of choristers knowing their notes and singing them beautifully. This was confirmed by the following response:

Conductor preparation is crucial for a successful rehearsal. It includes preparing the music, the rehearsal programme, the venue, spacing, light and comfort, and so on. The rehearsal does not start and end with what is often called 'note bashing' amongst conductors, but it is an opportunity to teach the choir singing skill. Therefore proper preparation by the conductor is of utmost importance. (Focus Group)

Some of the dimensions that justify preparation by the conductor were mentioned and represent some of the most common, yet difficult challenges facing the conductor:

A good rehearsal demands preparation and starts with a well-planned set of warm-ups and technical exercises. (Focus Group)

Typical variables that confront the singer are diction, dynamics and sound colour, amongst others.

It is critically important to prepare to deal with the variables presented by the music – it needs homework. (Respondent 8)

Singing obstacles can present themselves in various formats, for example range challenges, difficult intervals, dissonant chords and sight-reading problems, to name but a few.

The conductor's role is to remove the singing obstacles by using appropriate tools and applications. (Focus Group)

Because the well-prepared conductor approaches the warm-ups and technical exercises session with confidence, he/she can create an atmosphere of fun and excitement, which could determine the tone for the rest of the rehearsal. Choristers respond to the solving of problems or obstacles more readily when the conductor stays focused, in control and positive.

If the conductor is well prepared and stays focused, the choir will pick this up and respond positively. (Focus Group)

From the above it is very clear that preparation by the conductor should not be trivialised. It is difficult, it is time consuming and it will play a determining role in the successful application of warm-ups and technical exercises to improve choral quality sound and blend.

4.2.5 Theme 5: Enabling the repertoire

The role that warm-ups and particularly technical exercises play in enabling the choir to master the repertoire and to interpret and perform it well, was clearly prioritised by respondents. Three sub-themes could be distilled from this main theme, as illustrated in figure 10.

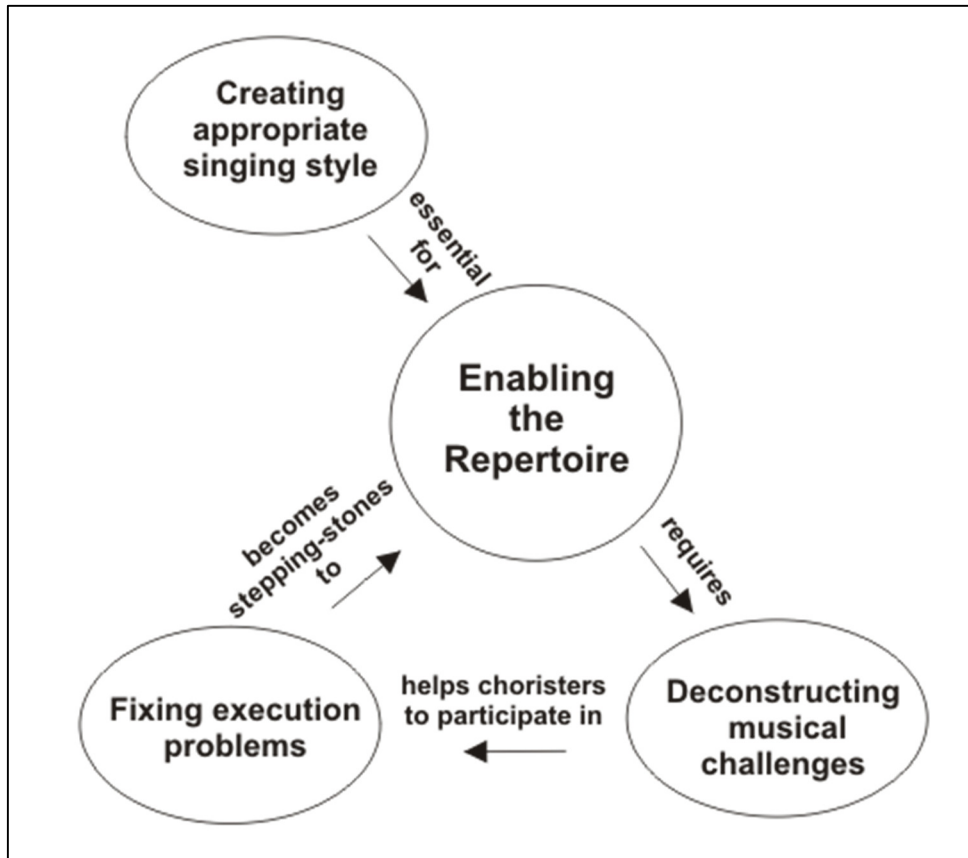


Figure 10: Elements enabling the repertoire

4.2.5.1 Creating an appropriate singing style

One way to look at choral sound quality is to ask the question about the appropriateness of a particular singing style given the work to be performed. Respondents were in agreement on this topic:

The choir must master different languages, genres and the cultural context of the music. (Respondent 8)

Conductors demand a particular choral sound given the sound colour of the notes, singing style required and the genre of the piece. (Respondent 6)

The conductor must know the music, [he/she] must know the challenges the piece will present to the choir, the skill that will be needed and the techniques that must be applied according to the style period and atmosphere relevant to the composer's intention. (Focus Group)

Technical correctness is not the same as musical interpretation. Choral sound will usually be judged against the requirements of interpretation and performance given the

backdrop of the genre, style period and cultural context of the work. This is one of the trademarks of masterly musicianship and skilful conducting.

4.2.5.2 Deconstructing musical challenges

The musical challenge should be made concrete and manageable for choristers to feel that the problem will be solved one step at a time.

Break the work up into its component parts and prepare how the choir will be helped to master it. Let them see the big picture and let them help develop the road to mastery. (Focus Group)

Data analysis made it evident that the quicker musical problems are resolved during rehearsals, the faster the choir will progress. More supporting positions came in the form of the following:

Planned exercises with proper time allocation will help to fast-track solutions. (Respondent 7)

It can be very demoralising for a choir to struggle with the same problem over and over. If the conductor can prevent this from happening by means of helpful and effective warm-ups and appropriate technical exercises, the choir will certainly feel that they are on a fast-track to achieving choral sound quality.

Part of the conductor's preparation is to visualise the harmonic and structural content of the piece and to deconstruct the music into manageable parts. (Focus Group)

This is an important observation and if the conductor can help the choir to imagine the same picture, a meaningful step will have been taken to consciously blend the choral sound.

4.2.5.3 Fixing execution problems

One of the key tasks of the conductor is to identify and fix problems which the choir may have in executing music appropriately. Such problems were referred to as 'stress-points', and the role of warm-ups and technical exercises in this regard was widely reported and eloquently stated by respondents:

There must be a conscious link between warm-ups and technical exercises and stress-points. (Respondent 7)

Select the right warm-ups and technical exercises to address the stress-points systematically. (Focus Group)

However, there were also ‘warnings’ from participants suggesting that problems need to be ironed out without turning it into insurmountable dilemmas for the choir.

Don’t belabour problematic parts until they turn into psychological resistance. (Respondent 8)

Don’t overstretch the choir [...] beyond the need to demonstrate that the note can be sung by the choir. (Focus Group)

Remove people’s fear about the music by dealing with their psychological barriers. Give them exercises to master, for example, making transitions, getting a high note, simplifying melismas, and so forth. (Focus Group)

It is quite clear that the most important purpose for a warm-ups and technical exercise regime in any choir is to fix singing problems before they become bad habits, which may compromise choral sound quality or act as psychological inhibitors.

4.2.6 Theme 6: Voice placements

Voice placement in this study refers to the choices the conductor makes in placing choristers in a choir formation in ways that will enhance desired sound quality. The concept ‘sound stage’ is a poignant description of this notion, as described by one of the participants:

Ear training and intonation skills can be promoted by opening the sound stage. (Respondent 8)

The above comment points to the idea that a different sound dynamic may be achieved by moving choristers around. The placement of choristers on the performance stage could be utilised to benefit from the specific venue’s acoustical possibilities. While changing choristers’ positions in the choir, different sound dynamics and tone colours could be unlocked to allow the choristers to hear themselves and others in a changing context. This interplay is what the respondent referred to as the ‘sound stage’.

Analysing the participants’ feedback on the topic of voice placement, three considerations were identified as illustrated in Figure 11.

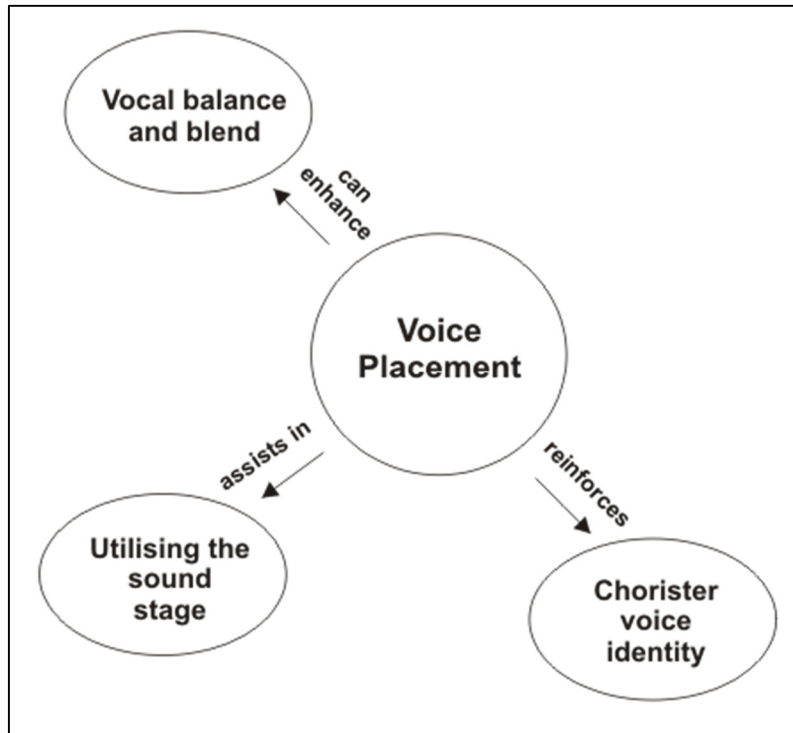


Figure 11: Voice placement considerations

Each of these aspects are described in the following sections.

4.2.6.1 Vocal balance and blend

Warm-ups and technical exercises present the ideal opportunity for the conductor to explore different possibilities to balance and blend the multitude of voices into an optimal choral sound quality. Hence the observation by the focus group during the concept mapping session:

Voice placement fits into the process of warm-ups and technical exercises. (Focus Group)

This activity requires a holistic consideration of the capability of the choir, utilising key voices in particular positions to gauge the impact on choral sound production. Additionally, the requirements of the particular repertoire directly influences the placement of voices. The following contributions support this idea:

It [voice placement] needs conscious and purposeful experimentation and exploration to improve choral sound quality. (Respondent 7)

Repertoire genre and style may dictate positioning of individual voices or voice parts to create a particular sound. (Focus Group)

This is a useful technique to improve choral blend. (Respondent 7)

Choral sound balance and blend may be the most important advantage of using the sound stage optimally. However, there are more benefits to experiment with the sound stage than balance and blend, as explained in the following sections

4.2.6.2 Chorister voice identity

Choristers' singing confidence and a strong sense of voice identity have a significant impact on choral blend and quality of sound. One technique a conductor can use to build singing confidence is to change choristers' default positions in the choir – the routine sound stage –and move them around until an optimum choral sound is produced.

The following contributions from participants explain this phenomenon:

Spatial changes help to develop individual voice identity and strength. (Respondent 6)

Placing choristers in random positions independent of the voice parts, develops singing confidence. (Respondent Group)

To open the singing space is a form of personal empowerment, [that is] you take responsibility for your own voice and singing space. (Respondent 6)

Moving choristers around highlights the 'me/us' versus 'you' sound differences [like individual sound production and voice part differentiation]. (Respondent Group)

The principle that emerges here is that as choristers lose the support of similar or familiar voice parts in close proximity, they become more aware of the individual contribution they could and should make towards choral sound production and quality. This builds stronger voice identity and confidence.

4.2.6.3 Utilising the sound stage

As mentioned earlier, the conductor can also experiment with possibilities to open up the sound stage by moving choristers around. One of the key elements of utilising the sound stage has to do with the interplay between one's own voice and hearing other voices in relation to the acoustical characteristics of the performance stage. The first factor refers to the spacing between singers, which will most likely impact balance and blend. The second factor is the amount of reverberation and echo in the room that the choral conductor can explore. Both of these factors form part of the warm-ups and technical exercises regime.

The above factors were highlighted by respondents as pointed out in these remarks:

Voice placement is important to place the sound [effectively] in the current acoustic space. (Respondent Group)

To make music work optimally, may require placing of voices to achieve a different sound. (Respondent 8)

While voice placement can help to balance and blend the sound and develop singing confidence, it may be counterproductive with very small choirs or choirs with limited choral capabilities.

It was interesting to observe that this topic [of moving choristers around], was more prominent in the thinking of the younger generation respondents and can as such point to a more recent development in warm-ups and technical exercises in particular and choral singing in general.

Summary of concept mapping data analysis

The concept mapping technique of data gathering was applied at an individual level as well as at a group level. The findings were dealt with in an integrated way. In this part of the study the data analysis rendered rich explorations and explanations informing the sub-themes that emerged and developed through data analysis. It became clear that choral sound quality and blend can be developed and improved through the use of appropriate and well-executed warm-ups and technical exercises.

Data analysis provides a deep insight into the complexities and wide-ranging effects of a well-structured regime of warm-ups and technical exercises in the weekly rehearsals of community choirs. Eloquent descriptions extend the knowledge and understanding of how warm-ups and technical exercises contribute to choral sound quality and blend.

4.3 Discussion and interpretation of findings

While the themes of the two different sets of data gathering appear to enjoy internal logic, coherence and meaningful support from respondents, the relationship between the themes of these distinct data sets needs further exploration and will be presented and discussed in relation to existing literature.

First, the emerging themes and sub-themes as presented and described in the previous two sections of this chapter (4.1 and 4.2) are consolidated into a single set of themes and sub-themes that embody the results or findings of the study. Secondly, three

superordinate themes are extracted to provide another perspective and add a systemic context to the findings.

4.3.1 Themes and sub-themes

Table 5 presents the integrated list of themes and sub-themes as they emerged from the interviews, observations and facilitated concept mapping sessions. Some subtle changes are made through integrating and synthesising these two data sets in order to arrive at a deeper level of understanding and interpretation of the study's findings.

Table 5: Final set of themes and sub-themes

Themes	Sub-themes
1. Targeted use	<ul style="list-style-type: none"> • Warm-ups to prepare the voice and body • Technical exercises to promote singing technique
2. Proactive planning	<ul style="list-style-type: none"> • Dedicated time during rehearsals • Conscious planning and preparation • Balance between standard content and variety • Effective application essential
3. Preventative action	<ul style="list-style-type: none"> • Save on rehearsal time • Impact on the value of the rehearsal • Imperative for choral sound quality • Prevent bad singing habits • Critical for competitive situations
4. Meaningful collaboration	<ul style="list-style-type: none"> • Conductor skill to discern choral sound quality • Guiding the choristers • Positive chorister response
5. Systematic mastery	<ul style="list-style-type: none"> • Focusing the choir • Preparing the singing voice • Developing singing technique • Improving intonation • Enhancing homogeneous choral sound • Performing the repertoire meaningfully • Sound-on-demand • Voice placement • Forming a partnership with the choir • Achieving conductor-dependent sound
6. Heuristic learning opportunities	<ul style="list-style-type: none"> • Chorister heuristics • Conductor heuristics • Conductor experiences of success

The relevance, implications and order of these final themes as listed in table 5 deserve more reflection, and each theme will be discussed in relation to related literature.

Theme 1: Targeted use

In the original analysis of interview data, the first theme was named 'integrated application' (see Table 3). In retrospect this may not be the best description. An integrated approach to using warm-ups and technical exercises appears to be logical and defensible, but may distract from a key observation, namely, that warm-ups and technical exercises are discernable techniques and should perhaps be used in a more conscious and targeted way. This theme focuses on the use of choral warm-ups and technical exercises in order to develop singing technique, corresponding with Apfelstadt (2011:6) who implores conductors to develop musicianship in choristers and her examples all point to developing choral singing capabilities. It may be more useful for conductors to use these exercises in a targeted way: warm-ups to prepare the voice and body for singing; technical exercises to promote singing technique. This change in description may also do more justice to the concept of repertoire-based technical exercises in support of the repertoire.

Targeted application of warm-ups and technical exercises will be needed if conductors were held accountable, either by their principals or choristers to produce better results. McConnell (2010), referring to education standards for tertiary institutions in America, explains that conductors are expected to "perform with artistic integrity, giving careful attention to accuracy of pitches, rhythms, dynamics and articulation" (2010:45). The countercheck is whether the choristers are cognisant of what makes a performance to comply with artistic integrity, proficient execution and personal mastery. Such clear standards cannot be achieved without a targeted approach.

Themes 2 and 3: Proactive planning and Preventative action

In Table 5, the order of these two themes are swapped around from the way they were arranged in Table 3 to place proactive planning first. Preventative action should consciously be considered during the planning by the conductor. The concept 'proactive planning' points to the importance of anticipating problems that should be addressed. While the sub-themes of 'preventative action' can be seen as a motivation for why warm-ups and technical exercises are done, they justify more specific consideration during planning. For example, 'prevent bad singing habits' could lead to the conscious identification and purposeful correction of such habits during the planning process that the conductor uses. The literature provides evidence to substantiate this finding, namely that conductors should plan proactively. Folger (2012:44) boldly states, "Thorough

preparation is necessary to avoid wasted rehearsal time, incomplete music-making, frustrated performers, disservice to the composers, and musically unsatisfied audiences”.

Similarly, planning should show evidence that appropriate steps have been taken to identify and prevent undesirable choral practices from developing. Nix (2007) asks conductors to pay attention to four preventative actions to match the repertoire successfully to the chorister reality:

- assessing the strengths and weaknesses of choristers
- carefully placing singers in appropriate voice parts, given their *tessituras*
- assessing the choir’s maturity, personality and preferences
- considering the level of musicianship of the choir.

This example illustrates that hurried preparation will not suffice for the successful conductor.

Theme 4: Meaningful collaboration

The importance of meaningful collaboration between conductor and choristers appears to have intrinsic legitimacy. However, during the data analysis this theme pushed itself onto the foreground indicating the need for more explicit investigation. The importance of the collaborative dimension of the relationship between the conductor and choir members seems to be gaining support. Hirokawa (2015) refers to the responsibility of the conductor to create a safe environment for the choir; build a supportive community; stimulate collaborative endeavours; create an interdependent learning environment; and develop trust. Wis (2007) motivates for a ‘servant leadership approach’ as the most effective leadership style for modern conductors. He explains,

the leader functions more as a coordinator of efforts, an expert guide who helps individuals achieve a mutually beneficial goal. There is greater involvement by all participants [...], more accountability, leading to a deeper, more meaningful experience.

(Wis 2007:xi)

Meaningful collaboration will have particular relevance for the conductor who plans to enrol his choir for the process of developing choral sound quality.

Theme 5: Systematic mastery

Figure 12 illustrates how the data sets discussed in sections 4.1 and 4.2 were integrated to constitute theme 5 with its ten objectives.

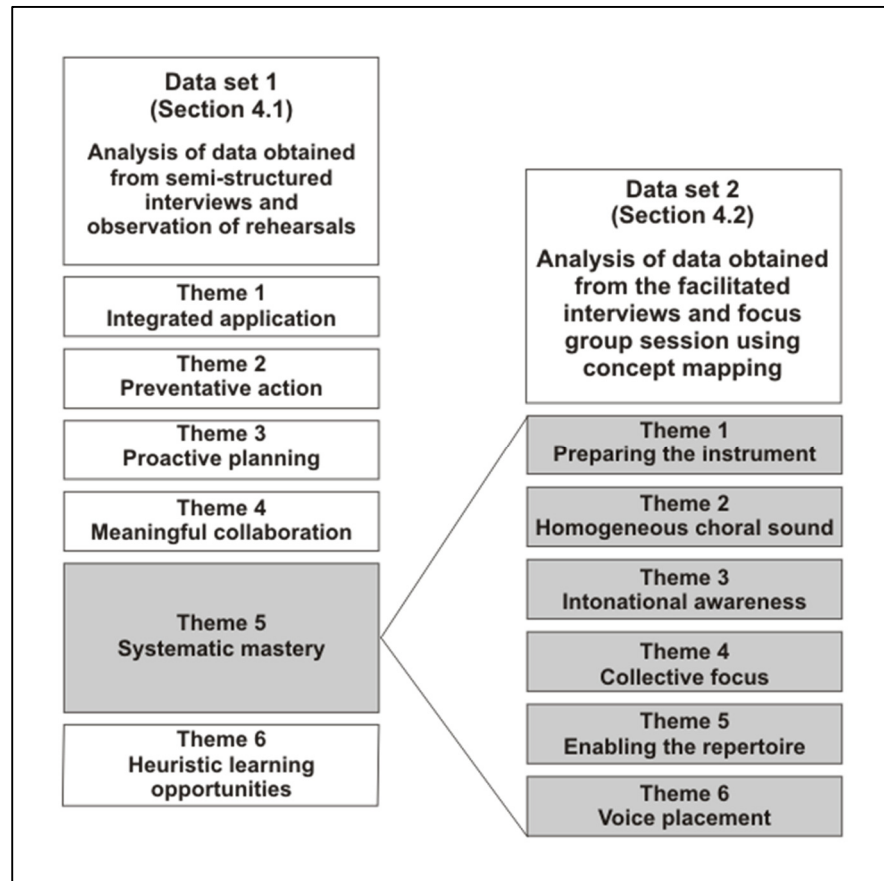


Figure 12: Integration of themes from two data sets

This combination not only gives credence to the importance of the ten objectives that the conductors reported, but added richer meaning to the explanations of each sub-theme.

Theme 5 should be seen as the ten specific objectives that emerged for the application of warm-ups and technical exercises. The order of these have been carefully considered and are ranked in terms of what appears to be a logical progression from easy to complex achievements. The successful application of the above objectives will require conductor discipline and determination. Ulrich (2009:49) emphasises that “how the conductor teaches the ensemble on a day-to-day basis is the critical factor in reaching a successful and rewarding musical experience”, to which Van der Sandt adds,

The choral conductor is primarily responsible for structuring rehearsals that lead singers to greater performance proficiency [as] the effective conductor always works towards a goal.

(Van der Sandt, 2013:139)

The application of such goals should be pursued in a purposeful and systematic way.

Theme 6: Heuristic learning opportunities

Theme six can be considered as an unexpected result. It points to the way that choristers learn and conductors provide learning opportunities within the choral rehearsal context. This may be an important consideration for planning the rehearsal, and more particularly the application of warm-ups and technical exercises, to stimulate mutual learning and honing of skills. It appears that this process of learning is not a linear process, but rather dynamic and experiential, and it is referred to as 'heuristic learning'. A concise description of heuristics may be useful to provide an appropriate perspective within the context of this study. Moore and Ryan (2006:441) refer to "heuristic insight" as learning which develops in an experiential setting. They explain this phenomenon as insight and understanding that "give rise to new ideas [...], to imply recommendations or imperatives for change, or to stimulate specific action on the part of the respondents". Kleining and Witt (2000) expand on this idea and state that heuristics is "a methodology for discovery in a qualitative research approach". They postulate that heuristics try to "bring back the qualities of exploration and discovery" and report that their research as a 'dialogic' procedure, revealed a better way to "observe the 'inner space' of experience more directly".

Furthermore, Fernando (2013:156) refers to heuristics as 'rules of thumb' that listeners use to anticipate musical regularities, particularly melody. Pointing at the probabilistic structure of music, he reaches the conclusion that "this implies that musical learning is heuristic in nature, and that heuristic learning is the basis for music expectation". Warm-ups and technical exercises may represent a heuristic learning experience where the conductor and choristers 'grapple with the challenge' of producing a choral sound quality that they have not been able to achieve. It may be that the conductor and choristers achieved success in choral sound quality by default, which represents the 'trial and error' situation embedded in heuristic learning. They now want to achieve it by design, hence it will have to be repeatable. Learning by experience, awareness, and trial and error – which represent heuristic learning – lead to assimilation of the solutions.

4.3.2 Superordinate themes

By closely examining all the above themes, an additional three superordinate themes could be extracted that assist in refining and structuring the findings into a systemic framework. These themes form broad categories under which the main themes and sub-themes resort, which will be explained and discussed in the following sections. The superordinate themes are expressions of a conscious approach to present the themes as three systems that enable choral sound quality and blend. Figure 13 provides an illustration of the superordinate themes, which are identified by the letters A, B and C. The six main themes as well as the three superordinate themes are placed in a clockwise direction in this figure.

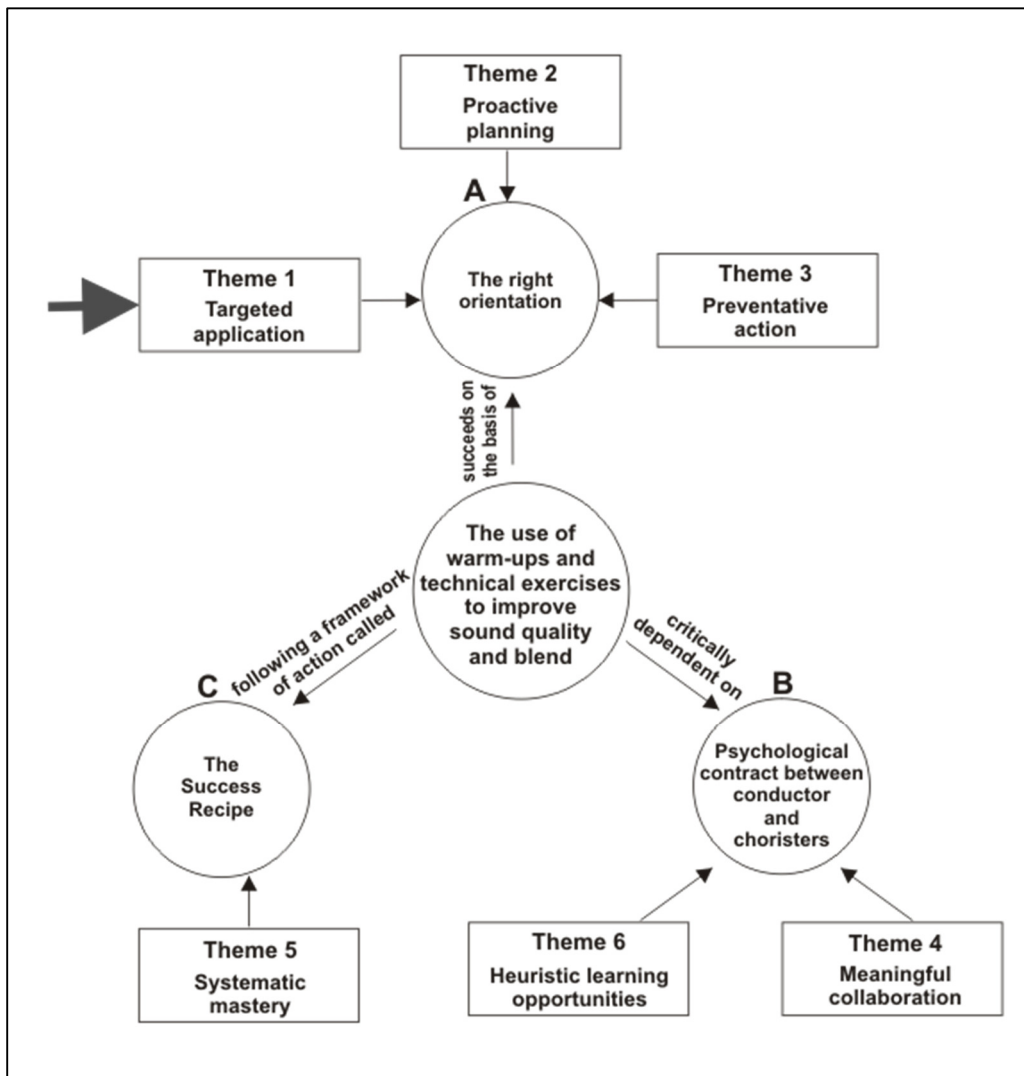


Figure 13: Superordinate themes

Superordinate theme A: The right orientation

The first superordinate theme that can be identified is the importance of the right orientation towards warm-ups and technical exercises as an essential mechanism to improve choral sound quality and blend. This contrasts strongly with Harper (2013:5), who displays a strong anti-warm-up sentiment by challenging the value and time involvement of traditional warm-ups. Harper comes to the conclusion that these activities “accomplish very little towards the music”. However, he proposes a useful concept namely that the conductor can act “as rehearsal technician”. Harper explains that, in this capacity as an effective rehearsal technician, the conductor has the opportunity to engage every member of the choir and unlock their full potential to become a fine choral ensemble. While the respondents in the current study support the idea of an integrated approach, it is clear that warm-ups are associated with preparing the singing voice and supporting body structures, while technical exercises are seen as activities to promote singing technique.

Respondents propagate the idea that warm-ups and technical exercises are performed in anticipation of the potential problems and pitfalls that they may encounter during a rehearsal. A clear position is taken that warm-ups and technical exercises can assist the conductor to take preventative action, for example, to ‘stop bad singing habits in their tracks’.

The analysis also points to proactive planning by the conductor as essential to turn ritualistic warm-ups and technical exercises into a meaningful and effective process. In this regard it was noticeable that the conductors who spend the most time during the rehearsal on warm-ups and technical exercises, strongly promote the importance of careful, thoughtful and repertoire specific planning before the rehearsal.

Superordinate theme B: Psychological contract between conductor and choristers

The second superordinate theme relates to the concepts of meaningful collaboration and heuristic learning, and represents a psychological ‘contract’ existing between two parties namely the conductor and choristers in a choir. The first party – or conductor – offers particular skills to the choir that are essential for successful warm-ups and technical exercises. In exchange, the choristers – as second party in the contract – reciprocate with positive responsiveness while eagerly participating in the warm-ups and technical exercises. The combined efforts of the two parties stimulate a sense of collective focus and shared determination to produce sound quality.

The surprising element of the psychological contract is the mutual awareness and even expectation by both parties that they will be given the opportunity to learn and grow in ways that are only possible through doing things together. In this case it means to use warm-ups and technical exercises to achieve the best sound quality and blend that is possible.

Perhaps the most unforeseen finding is what appears to be a shift in sentiments with regard to the role of the choristers in the quest for choral sound quality development. Repeated indications were found for more pronounced and meaningful collaboration between conductor and choristers. Felipe and Hoover (2017:48) take a first step to refer to the need for unity and agreement on the principles underpinning this conductor-chorister relationship. They explain, “the mission is to guide singers in healthy vocal production; to help them mature as intelligent, thoughtful and sensitive musicians and to prepare them for lives rich with music in various forms”. Within this collaborative environment, the conductor-chorister relationship demands attention at both personal and professional level. Freer (2009a:45) highlights another element of this emerging partnership, namely, instructional transparency. In his view, the “choral experience becomes a collaborative process more overtly shared by conductor and singers”. The current study confirms that the conductor should make the purpose, methodology and hoped-for improvement results of warm-ups and technical exercises known to the choristers as an important step to make them co-responsible for improving choral sound quality.

Superordinate theme C: Success Recipe

The third superordinate theme is called the ‘success recipe’. When the conductor actively pursues a systematic and logical set of objectives with the conviction that they should be mastered to render a choir with excellent choral sound quality and blend, this can be viewed as a success recipe.

To implement these objectives effectively, pursuant to choral sound quality and blend objectives, cannot be the sole responsibility of the conductor. While a choral conductor has a vital role and needs a certain “charisma [which] is generally seen to be both indispensable and unteachable” (Garnett 2009:192), a participative style has become more preeminent and this impacts the conductor’s approach and potential effectiveness. This was illustrated in the practice I observed amongst the younger generation conductors, namely that they explain warm-ups and technical exercises to their

choristers, they ask choristers for their help in fixing singing errors, and they even challenge the choristers to correct problems themselves.

The need for a systematic approach to the use of warm-ups and technical exercises was reported, but was not meaningfully encountered in the literature. The emphasis by the respondents was more on 'why we do this' and the emerging objectives to be achieved, while the frameworks encountered in the literature tend to focus on 'how does it work', and the mechanisms of the particular exercise. Valuable concepts were introduced by respondents like 'music-on-demand'; 'opening the sound-stage'; and 'reinforcing voice autonomy' that appeared aspirational and bold.

Despite the above attempts to motivate for and explain the value and feasibility of using warm-ups and technical exercises to improve choral sound quality and blend, there were still recurring fundamental problems that conductors continue to encounter and for which effective solutions are not obvious. Most of these problems are not new, such as the aural skill of the conductor to discern intonation problems; the ability to effectively connect warm-ups and technical exercises to the repertoire demands; a lack of knowledge about sound production by the human voice; obtaining a desirable singing technique from choristers; and developing the choir's musicianship. While a strong notion exists that a conductor needs a "capacity to impose his personality on the ensemble" without which "the conductor is nothing but a 'mere time beater'" (Garnett 2009:192), this study indicates that there may be possibilities for conductors to overcome seemingly unsurmountable problems through dedicated effort, and through a close collaboration and partnership with the choristers.

4.4 Chapter summary

Data analysis in this chapter indicates that choral sound quality is a complex phenomenon and that the respondents have different, yet complementary perspectives on what it is and how it can be achieved. There was unanimous agreement during interviews that the use of warm-ups and technical exercises are essential for the systematic development of choral sound quality, while the observations of rehearsals confirm the practice of doing warm-ups and technical exercises at the start of the rehearsal is the most conducive toward this goal. The concept mapping sessions provided an additional and in-depth understanding of the phenomenon, leading to an integrated discussion of findings in relation to relevant literature. In the next chapter, the

research questions are answered and recommendations for future research are provided.

Chapter 5: Recommendations and conclusion

5.1 Introduction

This final chapter provides a synthesis of the findings, answering the research questions and illuminating how the gaps in the literature are supplemented. The limitations of the study are described and the chapter ends with some suggestions for future research.

The study proceeded from the premise that the conductors of adult community choirs aspire to achieve better results with their choirs because they often verbalise their need for some level of direction and assistance to improve their conducting skills and to take their choirs on a development path. A case study research design was chosen for this qualitative research project. Utilising a purposive sampling strategy, experienced conductors with a commitment to the use of warm-ups and technical exercises were selected. Exploring the philosophies and practices of these experienced conductors enabled me to collect, analyse and describe data explaining their application of warm-ups and technical exercises during choral rehearsals. This allowed me to gain an in-depth understanding of the contribution that choral warm-ups and technical exercises may make towards a meaningful improvement in choral sound quality.

5.2 Research findings in context of the research questions

The findings of the study provide information and perspectives that not only shed light on the main and secondary research questions, but also accentuate a number of unanticipated themes. Two examples that were discussed are heuristic learning and the psychological contract between conductor and choristers. These turned out to be of specific relevance to the development of choral sound quality and blend.

The respective themes provide meaningful answers to the secondary research questions as set out in chapter 1. These questions act as stepping stones to develop new perspectives in relation to the main research question. Therefore the following sections will provide detailed answers to each of the secondary questions, which in turn will answer the main research question.

5.2.1 Secondary research question 1

How are conductors using warm-ups and technical exercises during their weekly choral rehearsals?

Themes 1, 2 and 4 from the data analysis provide compelling answers to this question, as explained below:

- Warm-ups and technical exercises are used in a targeted way to prepare the choir for mastering the repertoire. Warm-ups are used to achieve unconstrained, sonorous sound production, while technical exercises are used to teach singing technique that will promote sound quality and blend.
- The following are conditional for the successful application of warm-ups and technical exercises:
 - dedicated time of between twenty to thirty minutes should be made available at the start of the rehearsal
 - every exercise needs to be purposefully planned and implemented given the challenges and complexities of the repertoire, and
 - exercises need to be kept fresh and varied, while mindless repetition of a mundane collection of exercises should be avoided.
- The conductor sets the tone for enthusiastic engagement and purposeful application of these exercises.
- The choir sings as well as its conductor can hear. The conductor's aural abilities and skill to unlock exceptional choral sound production are *sine qua non* for the development of choral sound quality and blend.
- Conductors who are fully committed to the use of warm-ups and technical exercises actively guide their choristers:
 - they explain the exercises to choristers to ensure purposeful participation
 - they use imagery that enable choristers to 'see and hear' the sound before they sing it, and
 - they challenge their choristers to do better, with full confidence that the choir can succeed. The best conductors maintain a balance between being demanding and being encouraging.

- Choristers play a critical individual role in the successful application of warm-ups and technical exercises in order to ultimately impact overall choral sound quality and blend. Active engagement, collaborative focus, and cohesion were mentioned as factors related to the choristers' role. Moreover, it was noticeable that the confident conductors with a reputation for excellence, were more egalitarian in their expectation that enthusiasm, energy and commitment are responsibilities for both the conductor and the choristers.

5.2.2 Secondary research question 2

What are the conductors' perceptions regarding the purpose and value of warm-ups and technical exercises in relation to the quality of sound in their choirs?

An awareness of the preventative role that warm-ups and technical exercises play in avoiding choral singing problems seems to influence the perspective and practice of the conductor. They use warm-ups and technical exercises as tools to lay the foundation for productive and proficient choir singing. The investment they make during the rehearsal reflects in more effective rehearsal time, fewer singing barriers to overcome and eventually, the achievement of choral sound quality and blend. The mastery of singing technique and blending the voices into homogeneous choral sound, require the systematic application of warm-ups and technical exercises.

Themes 3 and 6 provide specific answers to the above secondary research question:

- The dedicated use of warm-ups and technical exercises is essentially preventative in nature. The choir 'pays the price' of compromised choral sound quality and blend if they fail to instil a meaningful regime of warm-ups and technical exercises.
- The purposeful use of warm-ups and technical exercises avoids time-wasting pitfalls and hurdles during the rehearsal, prevents poor singing habits and provides choristers with improved singing stamina.
- Warm-ups and technical exercises are imperative for choral sound quality. The latter is not dependent on a number of good voices, not even excellent solo voices, but rather individual and collective intonation and homogeneous blend of all the voices.
- In pursuit of excellent choral sound quality conductors and choristers actively learn from and with one another. Personal awareness, growth experiences and exploration of possibilities work together to create heuristic learning opportunities.

5.2.3 Secondary research question 3

How can warm-ups and technical exercises be integrated into a planned and structured framework to enhance the development of choral sound quality and choral blend?

Theme 5 provides thought-provoking and promising answers to the question whether warm-ups and technical exercises can be integrated into a framework for developing choral sound quality and blend.

- While the respondents all eagerly offered arguments, examples and explanations in support of a meaningful ‘programme’ of objectives for warm-ups and technical exercises, none of them demonstrated that they were following a clear set of objectives and measured their progress against these. If they were asked, ‘do you have a theory or recipe that you follow’, the most likely answer would be ‘no’. Yet, the data they provided was not focused on the type of exercises they used, but rather on the expected outcomes they were aiming for.
- Through intensive, iterative analysis of the data, the building blocks of a process for the systematic improvement of choral sound quality and blend emerged.
- In retrospect it is clear that the respondents do follow an internal compass of what needs to be achieved to develop choral sound quality and blend. They do not follow steps, but rather pursue clear objectives.

5.2.4 Answering the main research question

The main research question guiding this study was:

What is the role of warm-ups and technical exercises during the weekly rehearsal regarding the development of sound quality and choral blend in adult community choirs?

To answer the main research question, all the findings of the study have been reworked, rephrased and reorganised several times to distil and formulate what could be proposed as a systematic, progressive framework of objectives to underpin and direct the use of warm-ups and technical exercises.

All the elements included in this systematic framework of objectives emerged during data analysis, and is described here as a logical and conscious process guiding the conductor’s planning and application of warm-ups and technical exercises. The

conscious and systematic application of this process improves choral sound quality. This process should be seen as a process of ‘systematic mastery’ to indicate the importance of systematic and effective achievement. The successful implementation of this process depends on the right orientation of the conductor and a meaningful psychological contract between the conductor and the choristers as were evident in the preceding parts of this chapter.

While the respondents did not attempt to systematise the objectives they mentioned, I have made an attempt to categorise these findings into a useful sequence in order to demonstrate how the objectives could possibly become part of a systematic approach to put the choir on the road of mastering choral sound quality and blend, taking complexity and competence into account. Figure 14, graphically displays this systematic process as an ascending staircase:

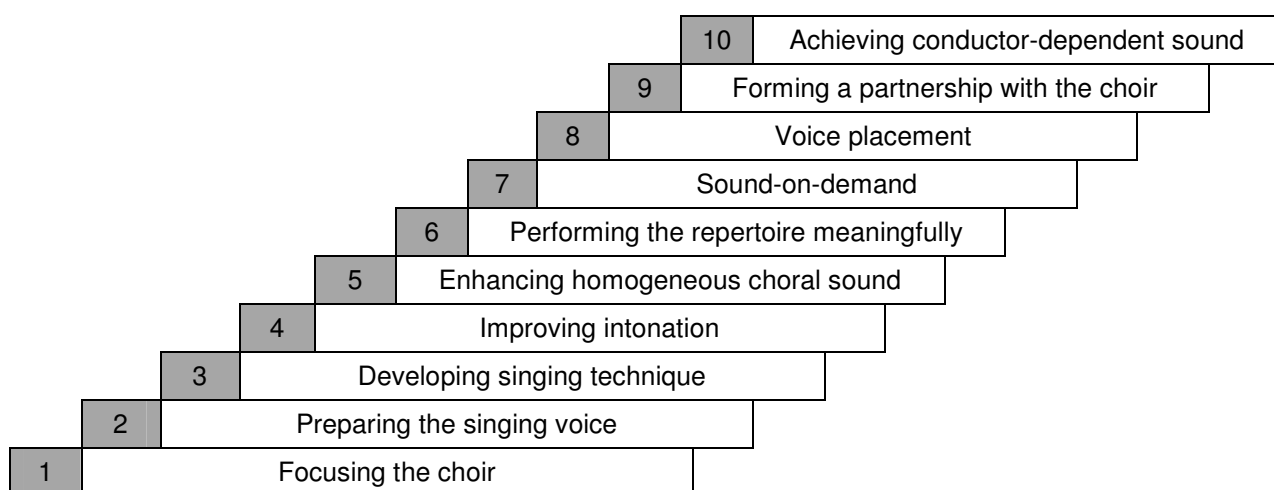


Figure 14: The systematic process for using warm-ups and technical exercises

A closer look at the ‘staircase of objectives’ reveal another level of categorisation that may be useful to the prospective user:

Objectives 1-3 can be seen as elementary level or ‘foundational’ objectives for the choral conductor to lay the foundation for productive singing. Step 1 in this systematic process is that the conductor teaches the choir how to focus, while step 2 indicates the adequate preparation needed to prepare choristers’ singing voices. The objective for step 3 is that the conductor needs to develop the choristers’ singing technique.

Objectives 4-6 can be seen as ‘proficient’ level objectives which are more difficult to attain, but which are conditional for choral sound quality and blend. Step 4 is a crucial objective namely that the conductor needs to develop secure personal and relational intonation skills. Step 5 involves developing a blended, homogeneous sound, while step 6 relates to the conductor guiding the choristers to perform the repertoire meaningfully.

Objectives 7-10 speak of confident conductorship and mature choristers. These objectives are ‘advanced objectives’ and point to competence, confidence and co-determination. Step 7 of this advanced level of skill requires both conductor and choristers to work towards the achievement of ‘sound-on-demand’ where choristers can confidently and efficiently execute the sound as required by the conductor for a particular music genre or style. Step 8 involves the skilful placement of voices to optimise the relational and acoustic possibilities that are available, while step 9 points to the conductor forming an effective partnership with the choir to jointly own sound quality. Finally, in step 10, while sharpening and refining expert conducting and choral singing skills, the choir becomes able to attain a conductor-dependent sound or signature sound, a goal which exceptional choirs and conductors are determined to achieve.

5.3 Limitations of the study

The scope of this study did not allow me to spend extensive time with each choir, observing several rehearsal sessions, or conducting interviews with choristers to gain insight into their perceptions of the research topic. The findings of the study are therefore limited to the perspectives provided from the conductors’ point of view. Since the purposefully selected participants for this data collection strategy are mostly high profile conductors in different provinces of South Africa, they have extensive conducting responsibilities and schedules, and some of them had to make special arrangements to accommodate me on an individual basis. Therefore, facilitated concept mapping interviews were arranged individually for these conductors. As this is a case study with only a limited number of participants, no generalisations can be made. However, the expert opinions of high profile conductors add in-depth perspectives and breadth of understanding of the research topic.

5.4 Recommendations for future research

The following suggestions are made for possible future investigation and research:

- Since the findings of this research are based on a case study with a limited number of participants, it could be useful to widen the study to a broader base of conductors in South Africa, particularly with regard to the emerging 'new approach' of the conductor as established in this study.
- There is a need to investigate to what extent courses in choral conducting are offered at tertiary institutions in South Africa, and whether such programmes offer training in choral warm-ups and technical exercises.
- Research should be conducted to explore the need of community choir conductors for additional exposure and training in the use of warm-ups and technical exercises as a mechanism to improve the choral sound quality of their choirs. Such a study could ascertain what strategies could be implemented in order to facilitate such in-service training courses.
- A promising research topic, which is pertinent to the current study but beyond its scope, would be to involve choristers from a variety of choirs for interviews or focus groups. Using qualitative methods, their expectations and aspirations to enter into a more meaningful and collaborative relationship with the conductor could be explored. Such a study could try to determine the feasibility of co-ownership of the objectives of the rehearsal, and more particularly an active partnership in pursuing the development of choral sound quality and blend.

5.5 Conclusion

The musically adept, technically refined and publicly applauded performance of the choir can be seen as their moment of truth. Tracing their steps back reveals hours of rehearsal time, exercises, frustrations, repetitions, feedback and eventual victory. This is the praxis of the conductor at work.

In this study a multi-technique data collection process enabled me to tell the story of how thirteen South African conductors go about their work by using warm-ups and technical exercises to develop and shape sound quality and choral blend in their choirs. The story imparts their perceptions and convictions about the purpose and value of these

exercises; the way they plan and apply them during rehearsals; the objectives they set and the results they achieve through the use of these exercises. The story concludes by pointing to the potential that is unlocked by planned execution – and the lost opportunities caused by ineffective application or omission.

When community choirs convene for their weekly rehearsals, the choristers arrive with expectations of a social nature and aspirations of a musical nature, while the conductor arrives with personal passion and a professional vision of what is possible. On these converging paths towards musical excellence and personal accomplishment, choristers and conductors find their respective roles, develop their skills and enter into a relationship of meaningful collaboration.

Through exploration of the perspectives and practices of the conductors who participated in this study, new perspectives about the unique contribution that choral warm-ups and technical exercises make towards enhanced choral sound quality and blend, have come to light, revealing the importance of a musical partnership. In this partnership between the choral conductor and the choristers, the conductor carries the lion's share of responsibility for choral sound quality and blend, while the choristers cooperate with their leader to 'work the magic'.

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Appendix A: Semi-structured interview schedule

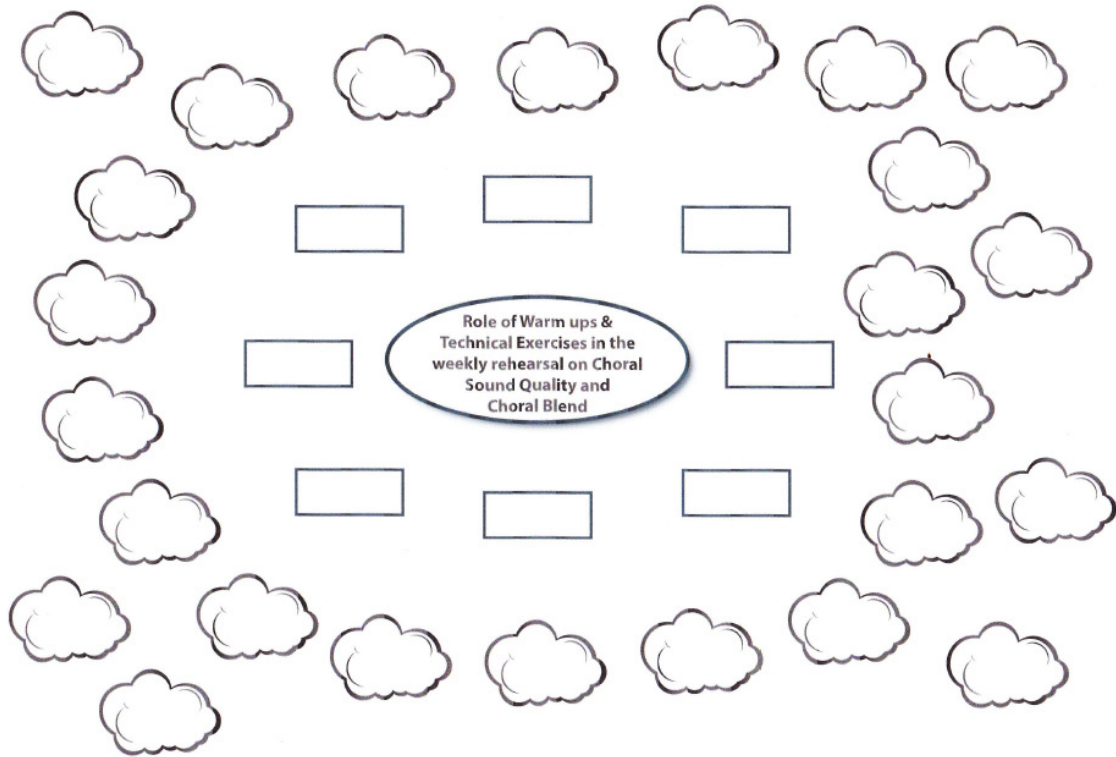
To be used during semi-structured interviews with choral conductors

1. What are your views about warm-ups and technical exercises as part of the weekly choral rehearsal? What is your overarching or long-term goal with these activities?
2. How would you describe the difference between warm-ups and technical exercises during a choral rehearsal?
3. How much time (if any) do you spend in preparing your warm-ups and technical session before the weekly choral rehearsal? Please explain.
4. How would you describe the purpose of the following:
 - warm-ups during the rehearsal? Please elaborate on your answer.
 - technical exercises during the rehearsal? Please elaborate on your answer.
5. How do you plan and implement these activities for weekly choral rehearsals? Please elaborate on each of the following aspects:
 - warm-ups
 - technical exercises
 - the timeframe for each of the above activities
6. During your weekly choral rehearsal, what are the specific objectives you aim to achieve with
 - warm-ups
 - technical exercises
7. How do you approach starting with the warm-ups and technical exercises during the weekly rehearsal? For example, explaining what you are planning to do during the session, etc.) Please elaborate.
8. What are your views regarding the development of choral sound quality? What strategies would you use?
9. When, or if, you fail to do warm-ups and technical exercises during the weekly choral rehearsal, what do you observe as the consequences, if any? Please elaborate on your answer.

10. What is your view regarding the methods to solve problematic areas in choral works? Please elaborate.
11. How does your choir react to choral warm-ups and exercises?
12. What development and/or training did you have in the practice and application of choral warm-ups and technical exercises?
13. What – if any – are some of the practices regarding warm-ups and technical exercises that you have discontinued using? Please explain why you are no longer using those exercises.
14. What is your view regarding aural skills in relation to choral sound quality? Please elaborate.
15. What, in your opinion, is the ideal timeframe(s) for warm-ups and technical exercises during the choral rehearsal? Please explain.
16. In conclusion, what are your general reflections regarding the use of warm-ups and technical exercises with your choir? Please elaborate on each of the outcomes.

Thank you for your willingness to participate in this research.

Appendix B: Data capture sheet for concept mapping
to be used during facilitated concept mapping sessions, both for individuals and during the focus group session



Appendix C: Focused observation protocol

To be used during observations of warm-up and technical exercise section of choral rehearsals.

Aspects which will be observed	Comments
What is the atmosphere and time-management at the beginning of the rehearsal (e.g. how long does it take for the conductor to get choral members to settle down and begin with the first exercise?).	
What approach is followed during the warm-up session? (E.g. explanations provided before each exercise regarding the purpose of the warm-ups, benefits of technical exercises etc. for that specific rehearsal).	
How does the conductor start the warm-up and exercise session? (E.g. by demonstrating an exercise and expecting choral members to imitate it, by playing exercises on the piano etc.)	
What are the dynamics between conductor and choral members during the session?	
What body language and other non-verbal communication can be observed from individual participants during the session?	
How do the choristers react to challenging exercises during the rehearsal?	
How does the conductor approach challenging exercises? (Anticipating difficulties, providing support, etc.; how are solutions suggested when one of the SATB sections struggle with certain aspects?)	
What overt attempts – if any – are made to connect the technical exercises to rehearsal or repertoire difficulties or challenges?	
How do choristers respond to the application of technical exercises to the musical work which is being rehearsed?	
How does the locus of control ³ move around between choristers and conductor, and between choristers and choristers during the rehearsal – especially if challenging sections are encountered?	

³“Locus of control is one’s tendency to attribute the consequences of actions to internal or external sources” (Madsen & Coin (2002:266).

Appendix D: Letter of informed consent for conductors



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Music Department
Faculty of Humanities
University of Pretoria
Date:

Dear Participant

I am currently enrolled for my MMus (Music Education) degree at the University of Pretoria for which I am conducting a research project. I would greatly appreciate your involvement since your expertise and experience as a choral conductor could be of great value to my research.

Title of the study

Developing sound-quality and choral blend in adult community choirs through weekly warm-ups and technical exercises

Aim of the study

Through this study I aim to determine how conductors of community choirs use warm-ups and repertoire-based technical exercises during their weekly choral rehearsals. Their perceptions regarding the value, importance and relevance of such warm-ups and technical exercises towards the improvement of sound quality in their choirs will be explored. Through an in-depth investigation of participants' views, I aim to distil possible 'best practice' for warm-ups and technical exercises, thereby extending knowledge of a structured approach in order to enhance choral sound quality and choral blend.

Research procedures

I would appreciate it if I could attend one of your weekly choral rehearsals at the venue where the choir practices regularly. During the rehearsal I plan to observe the warm-up and technical exercises sector as well as the rest of the rehearsal. I will make an audio-visual recording of the proceedings of the evening.

I would also appreciate an hour of your time (at your convenience) after the rehearsal to conduct a semi-structured interview, which will be audio-recorded. After data collection, the interview will be transcribed and sent back to you for member-checking. Thereby you will be able to verify that your views are accurately represented.

Confidentiality

All information will be treated as strictly confidential. Only I (researcher) and my supervisor will know your identity, but this will not be revealed in any of the research outputs. All audio- and audio-visual recordings, and transcripts of the interview with you and observation of your choir, will be held safely at the University of Pretoria for a period of 15 years, after which they will be destroyed. Data may be reused during this period for research purposes.

Potential risks and benefits

There are no known risks to participate in this study. There will be no financial benefits by partaking in this study and participation is entirely voluntary.

Participants' rights

Participation in the study is voluntary and should you wish to discontinue at any time, you will be free to withdraw without having to provide reasons to do so, and with no ill consequences. In such an event, the data will be destroyed.

Contact details of researcher

Karien Steyn
E-mail: karien@rgaconsulting.com
Cell: +27 82 570 3085 (SA) or
+44 771 401 4264 (UK)

Contact details of supervisor

Dr Dorette Vermeulen
dorette.vermeulen@up.ac.za
+27 12 420 5889

Appendix E: Letter of informed consent for expert facilitator



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Department of Music

Dear Expert Facilitator

I am currently enrolled for my MMus (Music Education) degree at the University of Pretoria for which I am conducting a research project. I would greatly appreciate your involvement since your expertise and experience as a concept mapping facilitator would be of great value to my research.

Title of the study

Developing sound-quality and choral blend in adult community choirs through weekly warm-ups and technical exercises

Aim of the study

Through this study I aim to determine how conductors of community choirs use warm-ups and repertoire-based technical exercises during their weekly choral rehearsals. Their perceptions regarding the value, importance and relevance of such warm-ups and technical exercises towards the improvement of sound quality in their choirs will be explored. Through an in-depth investigation of participants' views, I aim to distil possible 'best practice' for warm-ups and technical exercises, thereby extending knowledge of a structured approach in order to enhance choral sound quality and choral blend.

Research procedures

I would appreciate it if you could facilitate a focus group session – utilising the concept mapping strategy – with a group of choral conductors in order to extract information regarding their perspectives about and use of warm-ups and technical exercises to improve choral sound quality.

I would also appreciate it if you could facilitate selected individual interviews utilising concept mapping with participants who are not able to attend the focus group session. Before the facilitated sessions commence, I will have a detailed discussion with you

regarding the research problem and research focus in order to ensure that the data obtained has relevance for the study.

Confidentiality

All information will be treated as strictly confidential. Only I (researcher) and my supervisor will know your identity, but this will not be revealed in any of the research outputs. All transcripts of the facilitated concept mapping interviews and focus group, will be held safely at the University of Pretoria for a period of 15 years, after which they will be destroyed. Data may be reused during this period for research purposes.

Potential risks and benefits

There are no known risks to participate in this study. There will be no financial benefits by partaking in this study and participation is entirely voluntary.

Participants' rights

Participation in the study is voluntary and should you wish to discontinue at any time, you will be free to withdraw without having to provide reasons to do so, and with no ill consequences. In such an event, the data will be destroyed.

Contact details of researcher

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Contact details of supervisor

Dr Dorette Vermeulen
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Appendix F: Consent form for research participants



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Department of Music

If you agree to participate in this research, please sign the following letter of consent.

I, _____ (name of conductor) hereby acknowledge that this research has been explained to me, and that my participation is entirely voluntary. I understand what is required from me and that I may withdraw at any time should I wish to do so without having to provide reasons for my withdrawal.

I will be interviewed by the researcher, and the interview will be audio-recorded, after which I will receive a transcript of the interview in order for me to check if my views have been accurately presented. I also understand that I will be observed during a choral rehearsal which will be video-recorded. I understand that my identity and details will not be made public at any time and will only be available to the researcher and supervisor for the purpose of this study. The data will be kept safely at the University of Pretoria for a period of 15 years, during which time it may be reused for further research purposes. Should I indicate that I would like to obtain the results, a copy of the dissertation will be sent to me electronically.

_____	_____	_____
Name and Surname (optional)	Signature	Date
_____	_____	_____
Researcher	Signature	Date
_____	_____	_____
Supervisor	Signature	Date