Capturing music teachers' experiences of professional learning with mixed methods and survey tools

Sue Arney, Melbourne Graduate School of Education, The University of Melbourne

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Institution: Melbourne Graduate School of Education, The University of Melbourne

Abstract

Professional learning plays an essential role in extending, strengthening, and updating teachers' professional knowledge and practice throughout their career. Whilst a significant body of research has examined the impact of professional learning on teaching practices, less research has considered the specific needs of music teachers. This study reports on a mixed methods approach to explore the experiences of music teachers in classroom, instrumental and ensemble positions in school education in one Australian state. Research was conducted in two phases: an online Scoping Survey (297 respondents) followed by an investigation of emerging themes through a second online Depth Survey (50 participants). Data were analysed for perceptions of the elements of effective professional learning for music teachers. The findings were evaluated against existing literature and research into the characteristics of effective professional learning that identified general and distinctive features. The study proposes a set of seven guiding principles for professional learning in music education that offer new insights for education leaders and providers to strengthen professional learning tailored to the needs of music teachers.

Background to the study

Whilst the impetus for this study had been brewing for over 30 years as I traversed a career in music education that has taken me through a range of classrooms, school settings, and leadership positions, it was spurred on when I entered a period of employment as Professional Learning Coordinator with the Victorian-based Association of Music Educators (aMuse) between 2012-2016.

It was during this time of designing, managing, and promoting professional learning programs for music educators that I engaged in conversations about what was happening in a wide range of teachers' schools, changes in their individual career paths, and their own evolving needs for learning in general. This period was significant in that anecdotal reports began to surface from school-based music teachers about new hurdles emerging in accessing appropriate and effective professional learning that contributed to their continual growth and improved teaching practice. Teachers began to speak of school professional learning reorienting towards a whole-school approach in which most of the professional learning time and budget was directed towards programs for the staff as a whole, limiting access to discipline specific professional learning.

A desktop audit of research and policy in this period from 2012 to 2016 provided specific advice for schools and teachers in general but appeared to forego any significant advice on discipline specific professional learning, and, in particular, music. A deeper investigation was undertaken in the form of a literature review which supported this initial search and encouraged further involvement in this study.

The problem that arose in this context was: Do the professional learning needs of music teachers differ from those of other teachers? I became deeply involved in the consideration of what music teachers perceive to be valuable, and what they see as "effective" professional learning in music education. I was also intrigued by the possible hidden voices that spoke of the distinct needs of those working in classroom, instrumental, and/or ensemble positions across primary and secondary settings and wondered how similar and/or different their needs were. My experience as a professional learning participant, presenter, and coordinator up until this time had been to focus on passing on knowledge and information – through practical workshop and lecture-style sessions – that would appeal to a critical mass of teachers without knowing the specifics of their work context and what they desired to learn.

I brought this perspective to my research, as it has inspired my curiosity to build a deeper understanding of the motivating factors impacting music teachers' needs in professional learning. Developing a more refined insight into and awareness of the characteristics of effective professional learning could inform more strategic approach to designing worthwhile learning that is more accessible to music educators across all sectors.

Research aims, questions, and importance of the study

The aims of the research were:

- To explore the experiences of music teachers across Victoria, (rural, regional, outer metro and metro, primary and secondary), in the classroom, instrumental, and ensemble settings in order to build a clearer understanding of their preferences and the barriers and issues they experience in accessing learning that meets individual needs.
- To examine the range of ways in which music teachers engage with professional learning, both formally and informally, with a view to better understand what is occurring, what is being received positively, and to identify areas of need.
- To investigate what elements of professional learning music teachers perceive to be valuable and effective for them individually and build an understanding of teacher beliefs and perspectives about professional learning.
- To consider ways in which professional learning for music teachers could be re-designed to better ensure it meets the needs of the profession.

These aims led to the development of the central question: What do music educators perceive to be the most important elements of effective professional learning?

And the following sub-questions:

1. What factors influence school-based music educators when selecting professional learning?
2. What are the similarities and differences in the professional learning needs of primary classroom, secondary classroom, and instrumental/ensemble music teachers?

Using a mixed methods approach that combined the use of two online questionnaires, this study did not intend to measure the impact or outcomes of professional learning events, but rather sought to examine to what extent the professional learning needs of school-based music educators were being met, and if the architecture of professional learning delivery could be redesigned to better meet their needs.

I adopted phenomenology as the philosophical paradigm underpinning the study to deeply explore individuals' personal perceptions of and responses to their own experiences. In the social and behavioural sciences, this can include the examination of many different phenomena including experiences, intentions, attitudes, and culture (Johnson & Onwuegbuzie, 2004). The research questions reflect the problem that I wished to investigate; they seek out the lived experience of the participants and the meanings people draw from them (Denzin & Lincoln, 2018; Johnson & Christensen, 2004). Phenomenology resonated with me as a lens to place over and guide this research as I was interested in gathering the perspectives of teachers working across various music education settings about what they understood was effective for them, rather than

investigating the impacts of teacher professional learning on student outcomes.

The phenomenological approach aligns with the aims of the research, which examine the thoughts and perceptions of the individual in their lived world. Steward and Rae (2012) propose that throughout this process the researcher collects, interprets, and analyses information (data), makes decisions as to what is important and what is not, and investigates the thoughts and actions through participants' words and actions, which "involves the description of things as one experiences them, or of one's experiences of things" (Hammond et al., 1991, p. 1). It allows the researcher to interpret the phenomena "in terms of the meanings people bring to them" (Denzin & Lincoln, 2018, p. 9). This methodology allows a deep exploration of the elements and characteristics of effective professional learning in music education through participants' examination of their sensory responses to the phenomena, such as what it is like, what it looks like, what it sounds like, and what it feels like. It sought to capture participants' responses to what they believe, remember, wish, or imagine; and in some cases, it could include emotions such as apprehension, excitement, or anger at the phenomena (Hammond et al., 1991).

The research questions were vital in framing the research design and organising the course of the investigation: its direction, relevance, and coherence, as well as shaping the type of data that was collected (Onwuegbuzie & Leech, 2006). At the outset I believed the research questions could best be answered through a purely qualitative approach, where data collected is based on responses expressed in words, and data analysis involves looking for themes in the text and interpreting to find the larger meaning (Creswell & Guetterman, 2019). A scan of recent research focusing on the two themes of *perceptions of teachers* and *professional learning*, was undertaken to explore examples of methods used in similar studies. The commonalities noted were the use of a survey to recruit respondents for further research and to collect behavioural and attitudinal data (Brace, 2018), using both quantitative and qualitative strategies, in combination with semi-structured interviews to respond to initial responses by asking probing follow-up questions and to gain insight into how the research topic is perceived. This led to the decision to implement a mixed methods approach that utilised quantitative and qualitative strategies incorporating an online survey and semi-structured interviews.

A diagram of the three-phase research design is presented in Figure 1.

The original intention was to conduct research through a series of 30 semi-structured individual interviews with a cross-section of school-based music teachers comprising:

- 10 primary classroom music specialists;
- 10 secondary classroom music teachers; and
- 10 instrumental/ensemble teachers.

The objective was to collect the stories and experiences of music teachers across these three settings to compare and contrast their views on what constitutes effective professional learning. The focus on teachers in these three settings enabled analysis of the similarities and differences in what they needed, what they could access, and what was appropriate, and explored common and distinct elements of what they felt worked for them in their situation. The attention to these focus areas was driven by my interest, as a Professional Learning Coordinator, to know where professional learning opportunities should be targeted to a particular group and where they needed to be developed to meet the discreet needs of teachers in each setting. To identify these 30 teachers from three distinct settings a Scoping Survey was implemented to gather initial responses and recruit participants for the research.

Data collection was planned to take place over an 18 to 24-month period and follow this process:

1 An initial online Scoping Survey to provide general data on music educators' experiences, preferences, and perceptions of professional learning.
2 Face-to-face interviews to focus on the themes highlighted in the Scoping Survey and to delve

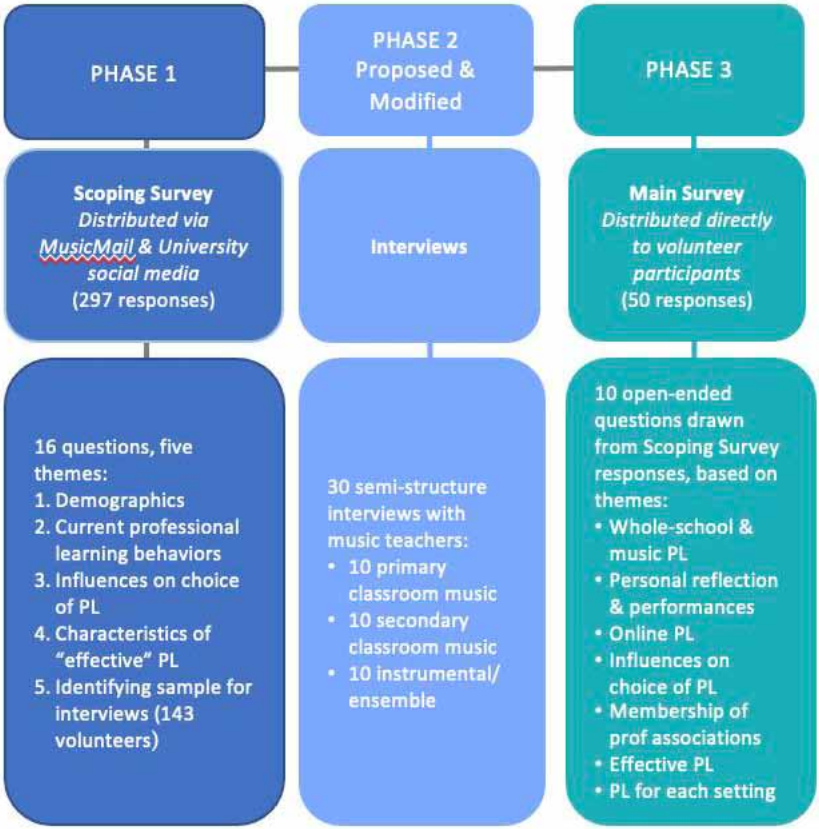

Figure 1: Research Design Sequence

deeply into these emerging issues. The semi-structured interviews aimed to provide an opportunity for teachers to reflect on and speak openly about their experiences and thoughts surrounding effective professional learning.

3 Two phases of feedback, re-prioritising and reflection by the teachers interviewed, further exploring the data collected from the interviews. The interviews were to be coded, with grouping of the major themes around what participants perceive to be the characteristics of effective professional learning collated into a document for further clarification and validation for participants.

Phase 1: Scoping Survey

The Scoping Survey was constructed and distributed to capture a snapshot of teachers' level of interest in this topic and in contributing to the study. It would also gauge whether there would be sufficient information in these responses to find contrasts between the literature around universal teacher professional learning and that of discipline specific areas, in particular, music. As a recruitment questionnaire, it also hoped to capture a pool of 30 participants who were willing to be interviewed and who would be suitably representative for

further study (Brace, 2018). The quantitative aspect of the survey aimed to provide a cross-section of participants that would allow a representative selection of teachers to be chosen for the semi-structured interviews, thus ensuring that these voices epitomised the experiences of teachers of various ages and levels of experience in a range of teaching sectors across a wide geographic area.

A survey tool was selected as an ideal method of collecting original data to describe a population too large to observe (Babbie, 2016; Rea & Parker, 2014). The ability to collect both quantitative and qualitative data from a large number of willing informants (Creswell & Guetterman, 2019; Denscombe, 2010; Kervin et al., 2006; O'Toole & Beckett, 2013) also ratified the decision to utilise a survey. The Scoping Survey enabled me to capture a snapshot of the population and to collect information of three types: descriptive, behavioural, and attitudinal, in a way that produced reliable standardised data (Rea & Parker, 2014). The use of a well-designed survey as a strategy for collecting data had the advantage of being inherently ethical; participants voluntarily consent to being involved, knowing the nature of the research and their involvement, and can have the option of remaining anonymous (Denscombe, 2010; De Vaus, 2002; Kayam & Hirsch, 2012). Surveys are also well suited to collecting relatively straightforward facts, as well as thoughts, feelings, and reflections (Denscombe, 2020).

Such questionnaires, however, have limitations, as clearly identified by Kervin et al. (2006) and O'Toole and Beckett (2013), in that the respondent may take longer than anticipated to complete answers and lose interest or answer inaccurately. The authenticity therefore cannot always be regulated, as a respondent may miscomprehend an item; surveys also rely a great deal on trust on the part of the respondent that the data will not be tampered with and will remain confidential, and trust in the researcher and that the data will be used for good purpose.

The Scoping Survey comprised a combination of 14 multiple choice items, two open-ended items and the option for each participant to self-nominate for participation in further research by choosing to include personal details. It was constructed and distributed using the online software *Survey Monkey* (https://www.surveymonkey.com/). A web-based electronic survey offers the opportunity for diverse sharing through online email and social media platforms and presents a medium for collation and analysis. As an online, cloud-based survey tool, Survey Monkey was used as it afforded a user-friendly interface compatible with a range of devices, making access straightforward in the greatest number of settings; this mode of data collection has the benefit of being geographically wide-reaching and inclusive, with time and cost advantages (Denscombe, 2010; Hewson, 2014; Kayam & Hirsch, 2012; Rea & Parker, 2014).

The survey was first piloted by several colleagues who were aligned with the eligibility criteria for the study. Participants were asked to complete the questionnaire under survey conditions, and to provide feedback on the clarity of items, whether the questions posed were in a logical order and aligned with the research questions, and the completion time (Brace, 2018; Rea & Parker, 2014). Some minor adjustments were made to the design. The completion time of 12 – 15 minutes was deemed acceptable and below the average attention span of 20 minutes for online surveys (Macer & Wilson, 2013, as cited in Brace, 2018). As well as being clear, logical, and straightforward to complete, the survey could be easily executed on desktop and laptop computer and mobile phone which would make it attractive and accessible to respondents (Babbie, 2016). The survey was intended to provide data on two levels (Table 1).

By inviting survey respondents to start with describing their individual situations, it was hoped that they would understand the representative nature of their response and build a sense of value and trust in the research prior to reaching the open-ended questions. The two open-ended questions spoke directly to the over-arching research question

Table 1: Purpose of the Scoping Survey Items

	Type of Data	Purpose	Method
1	Broad settings in which participants worked and experienced professional learning (i.e. demographic data, current professional learning behaviours, influences on selecting and attending professional learning)	To ensure a reasonable representation of teaching experience and settings. To provide a sample from which to select: 10 primary classroom music teachers; 10 secondary classroom music teachers; and 10 instrumental/ensemble teachers.	Quantitative. 14 multiple choice items to collect demographic data
2	General snapshot responses to two items about professional learning	To provide direction for the semi-structured interviews by collecting brief responses in relation to the research question.	Qualitative. 2 open-ended items

in asking participants to pinpoint immediate reflections on the characteristics of effective professional learning in music education alongside an example of their best professional learning experience. These short, open-ended items would form valuable themes to compare with the literature around effective professional learning in general, as well as an indication as to whether there was the capacity for more interesting and valuable data to be drawn from such a study through the subsequent interview process.

The multiple-choice items reflected Onwuegbuzie and Leech's (2006) recommendation that "good quantitative questions should identify the population" (p. 482), with the final section built around qualitative questions that encouraged respondents to describe experiences (Creswell, 1998), as well as to "capture the complexity of our users" (Vaughn & Turner, 2016, p. 41). Specific categories for the items were developed to address the research questions, while other items were expanded to gather more information and ensure greater trustworthiness of the instrument. Four categories, with a number of sub-categories, were decided upon:

1. Demographic information
2. Current professional learning behaviours
3. Influences on selecting and attending professional learning
4. Open-ended responses regarding best professional learning experience and characteristics of effective professional learning.

The purpose of the Demographic section, Items 1 – 7, was to ensure legitimacy of the data with a broad representation of teachers from across the system. Using targeted questions accompanied by drop-down boxes offering multiple choice responses, these Items aimed to capture explicit information on the position, setting, system, location, years of experience, and age group of the respondents.

Items 8 – 11, explored current involvement with professional associations, attendance at professional learning activities (both whole-school and music-specific), and how the opportunities are paid for and sourced. A range of options were provided, representing those commonly recognised as the strongest organisations representing school music teachers in Victoria, with respondents being invited to respond with details of "other" if they held membership of an association beyond this list.

Items 12 – 14 explored the ways in which music teachers currently select professional learning events. This data was essential for exploring the juxtaposition between the present reality of teacher attendance and what teachers need and want.

It was in the two open-ended items (Items 15 and 16) where respondents were able to freely address the crux of this study. These responses were designed to capture authentic statements of value, experience, and preference of effective professional learning. Respondents could choose to remain anonymous or, after responding to these

items, could offer to be involved in the Phase 2 data collection by leaving contact details.

Distribution of the Scoping Survey took place in the following ways:

1. MusicMail – a free Victorian-based email stream for music educators hosted by the Association of Music Educators (aMuse) of Victoria (http://www.amuse.vic.edu.au). MusicMail is a service with free subscription available to all music teachers, however, only aMuse members are permitted to post messages.
2. Social media (Facebook)– distributed via the Music Education at Melbourne Facebook page, a University of Melbourne officially sanctioned social media platform for music education.

There were 155 responses received within the first 42 hours, with a further 122 received over the following two weeks (totalling 277). This first dissemination date was during the winter school holidays for Victorian teachers and may have arrived in work email inboxes whilst teachers were on leave, so the Scoping Survey was shared via social media a second and final time at the end of July, resulting in a further 20 responses.

The initial social media posts resulted in multiple sharing incidents akin to a *snowball sampling* (Creswell & Guetterman, 2019; Denscombe, 2010; Vogt, 2010), where initial contacts recommend further contacts, based on the assumption that members of the target audience know or are familiar with one another. Perhaps, more appropriately, it closely resembles *respondent-driven sampling* (RDS), which, based on snowball sampling, is useful for uncovering hidden or unknown groups (Heckathorn & Cameron, 2017). RDS was evident in the way the Scoping Survey was picked up by others and dispersed through various professional music education organisations, primary and secondary music teacher networks. The survey was circulated by community arts and community music networks, and by friends/colleagues beyond the music education setting. All of this dissemination enabled the survey to reach audiences with whom I may not otherwise have had contact.

The sample size of 297 was very encouraging as it indicated participants' enthusiasm in offering their views about professional learning. As previously indicated, it was from this initial Scoping Survey that I had hoped to elicit 30 respondents representing the three music education settings for interviews to take place over the following 12-18 months. I did not foresee that the invitation to take part in Phase 2 data collection, would result in 143 of the 297 offering to participate in face-to-face interviews. The responses from teachers working in each of the three initial settings – primary classroom, secondary classroom, and instrumental/ensemble – indicated enough interest to proceed with the Phase 2 interviews, however, the high number of those who indicated working in a combination of primary and secondary classroom, and combination of classroom and instrumental/ensemble was unexpected and warranted some review of the process moving forward.

The quantitative multiple-choice items were examined through use of the Survey Monkey filters, then downloaded into Microsoft Excel for statistical analysis using the IBM statistics software SPSS23. Items 15 and 16, the two open-ended items in the Scoping Survey, were downloaded first into Microsoft Excel and then imported into QSR NVivo 11 for the identification of themes that would inform Phase 2 of the research. A rapid analysis of the data was carried out to identify themes, key phrases, and commonalities in the responses. A text database was developed that included single words, phrases and text segments that were divided into broad categories (Creswell & Guetterman, 2019). Once coded, responses to the two qualitative items were scrutinised to consider to what extent they addressed the original research questions. In this process, the interview protocol for the next intended phase of the study, the face-to-face interviews, was appraised with a view to designing the follow-up phase of data collection.

Phase 2: Interviews

Item 17 of the Scoping Survey invited respondents to leave their name and contact details if they were willing to participate in Phase 2 of the research: a 45-minute face-to-face interview. The extraordinary response of 143 prompted a major review before embarking on the next phase of the study.

The face-to-face, semi-structured interview had initially been selected as it provides an opening for unexpected responses and insights to be collected, and for responses to be clarified and/or expanded on further (O'Toole & Beckett, 2013; Vogt et al., 2012). Semi-structured interview questions were planned and devised with a view to collecting data about the interviewees' best professional learning experience, whole-school-based offerings, barriers to access, how choices are made, and which models of professional learning work best for the individual. Additional questions were prepared for directors of music/music coordinators and teachers in regional areas. Semi-structured interviews had been chosen as they support the gathering of more qualitative information and allow for a variety of responses or opinions within a given framework, ensuring there is a proportion of common data (O'Toole & Beckett, 2013).

With the total number of respondents far exceeding initial expectations, and a strong representation in each of the three settings, it was deemed a sufficient sample size to continue with the study. In addition to embodying the views of those from each of the proposed settings, these numbers provided representation of setting, experience, location, age, and school sector, and therefore the scale of the study had the ability to contribute "common understandings of significance" (Yates, 2004, p. 127), as well as having the capacity to be "statistically significant" (Dowling & Brown, 2010, p. 140).

On examination of the raw data, it was noted that all 297 survey responses were complete, with only a small number of items without responses, and none abandoned midway. The two open items (Q15 and Q16) were completed with considered and lengthy statements of at least one or two detailed sentences. The high response rate and rapid response timeframe indicated a genuine interest in this area, and the number of those offering to be involved in further research indicated a genuine desire to discuss issues around professional learning for music teachers in greater depth.

This situation presented an opportunity to capture the responses of all 143 volunteers in the next phase of data collection in place of the original target of 30 respondents. It was decided that the original interview questions could be modified to create a second online survey that would meet the original intentions. This also presented an opportunity to address issues arising from the open-ended questions from the Scoping Survey, so, as a result, the "Main Survey" would be distributed to all 143 respondents who had offered to be involved in the next phase of data collection and would replace the planned Phase 2 interviews.

Bresler's (2014) statement that "researchers learn about what is most worthwhile to study *as* they study it" (p. 608) was pivotal in the decision to modify the planned Phase 2 interviews in favour of a different approach that was responsive to the unfolding data, and, as such a new Phase 3 Main Survey was designed and undertaken. Matsunobu and Bresler (2014) note that qualitative researchers are often respondent to the possibilities and constraints of the research, with strategies emerging and subject to change throughout the research process.

Phase 3: Main Survey

The Main Survey comprised of ten open-ended items developed from the emerging themes in Q15 and Q16 of the Scoping Survey, evaluated against the original research questions and the planned interview protocol for the face-to-face interviews. Each question grew from an interest in gaining a broader perspective on responses in the Scoping Survey by zooming in and moving closer (Bresler, 2014) and probing deeper for elaboration on the original responses (Creswell & Guetterman, 2019).

Each item was prefaced with relevant results from the Scoping Survey in the form of exhibit items where respondents are given information to examine "to draw out a recollection, an interpretation, perhaps a judgement" (Stake, 2010, p. 97), as a way of feeding back the findings to those who had demonstrated an interest in the research. It was also anticipated that these statements would establish an impetus for individual responses to the items.

Fifty responses to the Main Survey were received. All 50 had completed questions with fully formed sentences that addressed each item in detail. These responses were added to those from the Scoping Survey for analysis.

Data analysis

The data collected from both the Scoping Survey and the Main Survey were prepared for analysis. The Scoping Survey responses were downloaded in Microsoft Excel, and each was allocated a number (e.g., R1 = Respondent 1) to enable tracking of the demographics against the open-ended responses, and to align the responses from the Main Survey. There were 154 anonymous responses, with 143 providing name and contact details to be involved the Phase 2.

Whilst initially distributed within Victoria, the snowball effect produced a number of responses from other states as well as two teachers situated internationally. To create a more robust and focused discussion around the issues of professional learning for school-based music teachers, all non-Victorian responses were removed to allow for analysis of responses in alignment with the state's education policies and employment situations. The responses from these 253 Victorian school-based music teachers form the basis of the discussion that follows.

Before formal systematic data analysis took place, I undertook a preliminary exploratory analysis to obtain a general sense of the data. First, I immersed myself in the data to become familiar with the responses, the patterns, the informative, and the unexpected responses; this included scrutinising the filtering capabilities of Survey Monkey to understand the various demographic combinations that could be created from the responses, as well as exploring the themes arising from the open-ended responses in each survey through the Word Cloud capabilities of both Survey Monkey and QSR NVivo 11. This pre-coding emphasised the chaos and complexities of the data (Babbie, 2016; Kervin, 2006), however following a process of reading and reviewing data, colour-coding, making manual notes, and journal keeping was invaluable in becoming familiar the extent of the data collected, which extended beyond my initial notion.

Quantitative data analysis

The survey design resulted in a plethora of rich data. The multiple-choice responses to Items 1 - 14 of the Scoping Survey were analysed utilising the filters in Survey Monkey and transferring data to Microsoft Excel. A spreadsheet was set up for each item that allowed for a great deal of cross-filtering to be applied and visualised, creating depth and precision in the examination of the demographics of the respondents. From there it was possible to create in excess of 1600 data sets by cross-referencing various elements of each response. These data were additionally examined through the lens of IBM statistics software SPSS23, but due to the capacity of the Survey Monkey filters and the Excel organisation to be cross-checked for accuracy and to provide evidence to address the research questions, SPSS23 played a minor role in this process.

Responses to Items 1 – 7 were analysed to verify that an acceptable sample had been achieved across the following demographic factors.

1. Teaching position
2. School setting
3. School system
4. School location (Australian state or territory) – this data was removed, as it became irrelevant once non-Victorian responses were removed
5. School location (metro, outer metro, regional, rural)
6. Years teaching in school system
7. Age group

The responses showed a broad cross-section of respondents from each demographic and, when filtered and examined in relation to each other, form a representative sample of music teachers in Victoria. The raw score and percentages of representation from each demographic was captured in bar graphs produced in Microsoft Excel.

Qualitative data analysis

Responses to the two qualitative responses from the Scoping Survey and the ten responses to the Main Survey were downloaded into Microsoft Excel against their corresponding Respondent number. Manual cross-checking took place to ensure accuracy of this information against both the Survey Monkey entries and the Excel data.

From here the open-ended responses were upload to QSR NVivo 11 in preparation for coding. A code dictionary was established by highlighting words and phrases that broadened to encompass emergent themes and categories as groundwork for inductive analysis (Creswell, 2018; Vaughn & Turner, 2016; Zelenak, 2014). These categories were used to structure the discussion points throughout study. When necessary, individual thoughts and opinions expressed in both surveys were also retained as quotes to provide an authentic representation of the range of responses.

Open-ended items required text-based responses which were analysed both qualitatively and quantitively. An example of this is Item 16 which asked respondents to identify what they believed to be the characteristics of effective professional learning in music education. These text-based responses were analysed in QSR NVivo 11 creating a first set of variables which were counted and treated quantitively. When responses from the Main Survey were added, many of these text-based responses aligned with the existing variables and a few new variables were created. Once categorised and counted qualitatively patterns began to emerge that would support and expand on the data analysed in the Scoping Survey closed questions.

Issues encountered

The familiarity of the researcher to potential research participants provided a possibility that the respondents may overly represent one or more demographic (for instance, age, teaching position, school system), and so the respondent demographics were mapped against data from the Australian Bureau of Statistics to ensure a reasonable cross-section was obtained.

All participants in the study, including those who provided names and contact details to be included in the second phase, were treated anonymously. Each was allocated a respondent number to ensure the researcher would not address the data with any bias or background knowledge.

The high completion rate of all 297 original Scoping Surveys and 50 Main Surveys, along with the detailed responses, demonstrates a commitment to participating fully in this research. Whilst the individual motivation for this is known, there appears to be a genuine interest in contributing to this body of knowledge.

Reflections and advice to prospective researchers

Whilst I hold an element of melancholy at having to abandon the face-to-face interview phase of the data collection, as I had been looking forward to spending time in hearty conversation with a range of colleagues, the unexpected number of responses to both surveys was both heartening and a little overwhelming. As a result, I feel the data collected is deeper and richer than first anticipated, and is more representative of the broad reaches of the music teaching profession than had I selected just 30.

Survey research has proven to be a powerful and valuable approach for this study. Careful design of the questions has led to an immense capacity for cross-filtering of both quantitative and qualitative data which has fed this thesis, but much of which has also needed to be "parked" for further analysis and writing. I recommend examining the extent of survey management tools available in survey software

that supports deep analysis and the production of a range of graphics. It has been a glorious and unexpected outcome of the data collection that the research has led to tables figures that describe the preferences and barriers to professional learning for music teachers across the state, but also data on the breakdown of position held and teaching focus across primary classroom, secondary classroom and instrumental/ensemble teaching.

My advice is to respond to the data and be willing to get excited about the new and unexpected findings that arise. It is the openness to flexibility and changes along the way, alongside the "what if . . .?", "how about . . .?" conversations with my expert supervisors that led me along this exhilarating path. For me, the journey was more important than the outcome, but I am thrilled that it has ultimately culminated in my initial hope - the proposal of a set of seven guiding principles for professional learning in music education that offer new insights for education leaders and providers to strengthen professional learning tailored to the needs of music teachers.

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Sue Arney is Lecturer in Teacher Education at The University of Melbourne's Graduate School of Education where she teaches music education into the Early Childhood, Primary and Secondary Master of Teaching courses. Having originally trained as a secondary classroom music, instrumental and ensemble teacher, Sue has since worked in a variety of settings from early years to tertiary in both regional and metropolitan Victoria. Sue's Doctor of Education research stemmed from many years of planning and delivering professional learning in a range of settings, along with committee roles with professional music education associations leading to Professional Learning Coordinator at the Association of Music Educators (aMuse) Victoria, and the current position as Chair of the Australian Society for Music Education (ASME) Victoria.