The Sydney Conservatorium Early Music Ensemble:
An activity-theoretical study of the impact of period instruments,
historically-informed performance and a unique pedagogy on
tertiary group-learning experiences

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Abstract

This PhD thesis is focused on the learning experiences of students in the Sydney Conservatorium Early Music Ensemble (EME). It sheds light on an area that remains relatively under-researched to date: the group-learning experiences of tertiary-level music students. EME provides its members with an opportunity to experiment with period instruments and to explore repertoire from the late Renaissance to early Classical periods with a historically-informed approach to music making. The tutors of the ensemble, all of whom are expert practitioners in the field of historically-informed performance (HIP), have nurtured a pedagogy that embraces elements of informal peer learning and stimulates active participation and collaboration. The main claim of the thesis is that period instruments, HIP, a broadly constructivist tutor approach and collaborative peer learning all play a significant role in stimulating deeper learning and actively engaged music making.

As part of the purely qualitative research design twelve EME students are interviewed about their experiences of learning to play period instruments and their perceptions of a collaborative learning environment, including the role of peers and tutors. A series of open-ended interview questions serves to gain insights into the principal research questions: what learning possibilities do the instruments offer and how do the students experience this alongside the mental and physical rigours of HIP, the unique approach of the tutors and interactions with peers?

In seeking a theoretical framework to help explore the interrelationships between the materials and the 'actors' in EME, Cultural-Historical Activity Theory (CHAT) offers a particularly helpful perspective. This research approach incorporates both 'tools' and the learning community as integral influences in the learning process. As such it facilitates a holistic investigation of the learning and teaching relationships in the specific EME environment and the 'affordances' or learning potential of the materials involved.

My research claim is firmly supported by the findings in this study. The students provide ample evidence of a broad range of deep learning experiences associated with period instruments and HIP. In addition the benefits of multiple elements of group-learning are identified: a continuum of formal and informal learning, collaborative peer learning, and a reflective tutor approach that embraces active participation. The study contributes to CHAT in the realm of the arts and has positive implications for the role of period instruments, HIP and the value of group-learning situations in western-style conservatoires and other tertiary music institutions.

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Contents

List of Figures

Chapter 1 Introduction

1.1 Research background

My first experience of playing period cello strung with raw gut was at the Royal College of Music (RCM) in London in 1989. I was invited by a currently-enrolled student to participate in a chamber class of music from the Baroque period, using 'period' instruments and bows (see Section 1.2). It was a shock to go through a routine that I had been familiar with for 15 years (playing the cello), but for the sonic and physical sensations to be almost entirely different. At the RCM, after the initially disconcerting impact of the new 'materials' I quickly became at home with the yielding grainy texture of the gut strings and the springiness of the baroque bow. By the end of that first session my interest was piqued! I enrolled in a postgraduate early music course at the RCM and within a year I was playing in professional ensembles in the field. The learning curve during my year of study was steep, challenging and intensely rewarding. It was as if I was falling in love with my instrument all over again.

FIGURE 1.1 SYDNEY CONSERVATORIUM EARLY MUSIC ENSEMBLE IN A DRESS REHEARSAL

Twenty-five years later I am one of the tutors in the Early Music Ensemble (EME) at Sydney Conservatorium of Music (SCM). Students emerging from the ensemble often provide positive feedback of their experiences, with associations of intense learning similar to those I experienced at the RCM. Their lights are switched on, their passions ignited. This phenomenon fuelled a desire to

investigate the learning dynamic within EME and it prompted my research as an expert practitioner (Ethel and McMeniman, 2000) into the influence of period instruments and historically-informed performance (HIP) on the learning experiences of those involved. I was curious to find out whether students developed the same intensity of connection with their instruments as I had done at the RCM, and I was also motivated to explore their reactions to the discipline of a historically-informed approach to music making.

1.2   Period instruments and bows

Period string instruments from the violin family are set up in a different way to their modern counterparts. In the former the fingerboard is fixed at a shallower angle to the belly of the instrument and the supporting piece of wood under the belly, known as the bass bar, is lighter and more slender. In addition, gut strings are used in preference to metal. The combination of these factors leads to a smaller string tension and a very different quality of sound, associated with a different spectrum of overtones. Period cellos are played without a spike; period violins and violas are usually played without a chin rest or shoulder rest, and this has an inevitable impact on instrumental techniques. The baroque bow is made of snakewood, whereas the modern bow is made of pernambuco – these are both Brazilian hardwoods with different characteristics that are ideally suited to the unique technical requirements of bowing in a variety of styles. Baroque bows have a slightly convex shape and a pointed tip, in contrast to modern bows, which have a concave shape and a heavier, blunter tip. The historical shape of the baroque bow is well represented by an illustration in Leopold Mozart's treatise (1756), reproduced in Figure 1.2.

FIGURE 1.2 LEOPOLD MOZART ILLUSTRATION – BAROQUE VIOLIN AND BOW

1.3   Sydney Conservatorium Early Music Ensemble

Established in 2005 the Sydney Conservatorium Early Music Ensemble (EME) provides students with a highly-specialised practical training in HIP. The general curriculum supports this endeavour by exploring the historical and socio-political contexts of the early repertoire, as well as its associated harmonic language. In addition those students who are enrolled in HIP-specific units of study, such as 'continuo' class or principal study of a period instrument, are encouraged to assess the evidence for historical performance by surveying the practical treatises of the eighteenth and nineteenth centuries.

Although there is a nominal 'director' for every EME concert the students are encouraged to direct themselves and to take individual responsibility for the music making. Each semester there is a new intake of students – this varies considerably but the figure is around 50% of players on average. At the time of undertaking this study the intake comprised a mixture of students: some were first-study Historical Performance Unit students, some had volunteered to participate and others were rostered into EME as part of the Orchestral Studies program at SCM. Many students in EME have already experienced other ensembles within the Orchestral Studies component of their degree. The majority of players in EME are provided with period instruments at the first rehearsal and asked to create sounds with no prior experience of these instruments. In a short space of time the students are expected to:

develop their technical skills on period instruments

create sounds from first principles

develop their musical skills

learn to read from manuscripts and facsimiles of old editions (often with old notation and print styles) in conjunction with pedagogical treatises (tutors) to interpret composers' intentions in a historically-informed way

adapt to new tuning systems

observe tutors and other students as part of the learning process

operate as collaborative chamber musicians, taking initiative, forming their own opinions and developing their interpersonal skills

1.4   HIP

The two principal elements that distinguish EME from other large ensembles at the SCM are the physical materials – the period instruments and bows – and the approach to music making. The HIP movement seeks to take into account the written and audible evidence (when it exists) of performance style from any particular period of time in musical history within the context of modern-day performances. The approach has transformed from one of attempted 'authenticity' in the 1970s and 80s to one that now incorporates a greater degree

of intuitive musicianship and musical instinct, whilst continually questioning the meaning of all these terms. The initial impetus for this study emerged from my curiosity about which of these two elements – period instruments and HIP – might be the more powerful influence on the students. The history, underlying philosophy and current practices of the HIP movement are explored in detail in Section 2.14.

1.5   Students' experiences and tutor approach

As general inspiration for research into the learning and teaching processes in EME I include the following thoughts from one of the participants (Kenji) in this study, as they are representative of the experience of many of the students in the group, expressed in the feedback forms at the end of each semester:

> I have done Symphony Orchestra and Chamber Orchestra before, and to me EME is a much more intimate group where students get to know what they are actually playing and how they are supposed to play. Of course, it is hard to actually imagine how all the music could have sounded back then, but through discussions and bits of information from teachers and pupils, the music really comes out very nicely. I think this process is not only like an intellectual conversation between musicians, but also actually implementing the ideas into reality.
> On the whole I would personally classify myself more of a Romantic era style performer, but EME really made me think about music in many different aspects (such as performing and historical backgrounds). I am not sure if I will ever be a Baroque person, but it doesn't matter at all, because I appreciate the enthusiasm in every individual as well as all of them working in unison that achieves something extraordinary that I have not heard or felt before.

Although these words come directly from a student, they also encapsulate the spirit of EME from my own perspective as a tutor. After my initial curiosity about the role of period instruments and HIP in the students' learning process I began

more keenly to observe the interactions between all the members of EME, and subsequently to ask questions about our approach as tutors and its impact on group dynamics. When the ensemble was created in 2005 there were no discussions about how the three principal tutors would coach the members of the group. We simply plunged in, guided by our instincts, which I believe were shaped by a combination of individual teaching experience and a shared affiliation with the HIP approach. At that stage I already had a notion that we were all reflective practitioners, with an exploratory approach to music making – a process of continual discovery and 'reframing' of our musical journey. I also had a conviction that the tutors would all define their approach as broadly constructivist with its incorporation of HIP – in essence a voyage of exploration and knowledge as co-construction between all participants. Certainly in my case these factors have steered my teaching and coaching towards 'guided discovery' (Young, Burwell and Pickup, 2003, p. 142, 155) rather than a strict adherence to long-established pedagogies. The sense of pioneering adopted by Arnold Dolmetsch in early stages of the HIP movement at the turn of the twentieth century, and subsequently by a whole generation of instrumentalists and vocalists in the 1970s, is still with us today and it is likely to have given rise to democratic (Allsup, 2003) and 'open-ended' (Young, Burwell and Pickup, 2003, p. 143, 155) teaching strategies amongst many of the tutors within the current HIP movement. While acknowledging all of these convictions as a tutor in EME my curiosity as a researcher has led me to question whether the students perceive us in the same way – from their perspective we might be more autocratic than I imagine.

1.6   Observations of EME

As a tutor and researcher I am aware that EME students are asked to embrace many concepts and new modes of learning all at once. As my findings will confirm, students appear to be able to do this effectively. My observations of the ensemble at the outset of this study are summarised here. Students appear to engage with the period instruments and bows with interest and relatively little fuss. Students adopt HIP principles relatively quickly, adapting to different

playing styles by listening, observing, copying and asking questions. The group dynamic varies considerably within one rehearsal session – sometimes formal and at other times more relaxed. At times the rehearsal process is orderly, with clear direction from one of the tutors and a discernable sequence of questions and answers between members of the ensemble. At other times the proceedings are relatively chaotic, with several conversations occurring simultaneously; these may be internal discussions within sections on technical or musical matters, or if players are losing concentration they may be having private conversations about unrelated matters. During the weeks leading up to the concert the three tutors take turns as 'directors' of the rehearsal process. At times they step aside and let the group 'self-direct', calling on different members of the ensemble to lead certain phrases or movements within a piece of music. Tutors also encourage all members of the ensemble to discuss musical and technical matters by regularly asking questions.

1.7   Research themes, proposition and method

During the early stages of my research the formation and distillation of research themes was influenced by the literature review, choice of theoretical framework and to some extent the data collection. For this reason the final research themes and associated questions are listed in Chapter 4, after the literature review in Chapter 2 and the detailed explanation of Activity Theory in Chapter 3.

My ultimate research proposition also took considerable time to emerge – it is stated in its final form in Chapter 11, Section 11.2. From a researcher's perspective I developed an early 'working' proposition that the reports of positive learning experiences and vibrant group dynamism in EME could be related to a combination of several factors: the 'affordances' (McGrenere and Ho, 2000) or action possibilities of the period instruments; an engagement with HIP; the approach of the tutors, including their reflective practice (Schön, 1984, 1987) and their humanness, friendliness or 'congruence' (Rogers, 1961, p. 287; Ramsden, 1991, p. 75 ; Allsup, 2003, p. 35); a combination of formal and informal learning practices (Jaffurs, 2006) and an emphasis on collaborative peer

learning. In this thesis I investigate all of these factors from the perspective of twelve students within the ensemble by conducting one-on-one interviews and making video a recording of a rehearsal. I seek answers to my research questions by exploring the direct learning experiences of the twelve participants in the study. Open-ended interview questions are designed to elicit as much information as possible about these experiences without any obvious suggestion of my research motive. The transcripts of the interviews provide rich data for coding and 'interpretation.' While the approach in this study has resonance with phenomenology, in that I seek to gain insights into learning phenomena from the perspectives of others, I have not claimed this as my methodology as I am too involved in the EME arena to 'bracket myself out' effectively as a researcher (Smith, Flowers and Larkin, 2009). Instead, I have chosen Activity Theory as a lens through which to view EME.

1.8   Tutor as researcher

My dual role as a tutor and researcher in this study has a potential impact on data collection, in that my authority as a tutor is likely to influence the students' responses to the interview questions. The overt discrepancy in power may cause students to feel inhibited in their descriptions of learning within the EME environment. For example there is a possibility they will feel uncomfortable in expressing reservations about EME or revealing doubts about the virtues of period instruments. As a consequence they might choose to align their comments with what they think I want to hear, modifying or holding back on statements for fear of hurting my feelings or eliciting some greater reprisal within the Conservatorium.

At the outset of this study, while acknowledging the limitation this issue might impose on the study I considered it worthwhile to proceed, for several reasons. First, I suspected that the informal and collaborative dynamic within EME might give the students greater incentive to be honest in their interviews. Second, while all the tutors specialise in HIP they are also involved in 'modern' professional music making situations both within and outside the Sydney

Conservatorium and they consciously promote open-mindedness across multiple music making contexts – it is hoped that this will prevent the students from feeling pressured into expressing a loyalty to HIP and period instruments. Third, even if the students do bias their answers towards the favourable end of the spectrum, the results are still likely to be of interest, in terms of positive impacts on learning, with the caveat that there may also exist some unarticulated drawbacks.

1.9   Theoretical framework

My fascination with the influence of period instruments and HIP on musical learning processes prompted a consideration of a theoretical framework that recognises these elements as an integral part of the learning and music making environment. Cultural-Historical Activity Theory (CHAT) lends itself particularly well to this requirement, as the links between the participants and materials are seen to be equally as important as the relationships between the participants themselves. In an activity system the *subject* (participant) engages in an activity with an orientation towards an *object* (goal); the employment of *tools* or *artefacts* can 'mediate' or influence this process and lead to an unpredicted learning *outcome*. Within the EME *community* the interrelationships can be explored between the students (*subject*), period instruments/HIP (*tools/artefacts*), musical learning/music making (*object*) and peers/tutors (*community*), revealing an *outcome* at the end of the study.

1.10   Thesis structure

Chapter 2 contains a review of the literature on aspects of learning and teaching that I consider to be particularly relevant to EME. In Chapter 3 I justify my decision to use a purely qualitative research design; this is followed by a more detailed description of Activity Theory. My research themes and questions are introduced in Chapter 4; these are followed by a description of the methods used to collect data – interviews and video footage. The analysis of the interview transcripts is then explained and illustrated with examples. Chapters 5 to 9

contain an analysis of all the elements of the EME activity system, listed in the preceding paragraph, as experienced by the students and reported in their interviews. In Chapter 10 further data is presented from my perspective as a researcher, in the form of an observational commentary on the video footage of an EME rehearsal. Finally, in Chapter 11 all of these elements are discussed in relation to each other and the literature.

Chapter 2 Literature Review: Learning, Teaching and HIP

This chapter aims to place EME in its educational context in a western-style conservatoire. It contains a review of the literature that relates to the content and processes of learning and teaching in EME. In my dual role as tutor and researcher within EME I seek insights into learning from the perspective of students, so the chapter begins with a description of the relatively recent trend towards student-centred learning in tertiary education. As all of the students in EME are enrolled in solo performance studies within their degrees I present a brief discussion of one-on-one instrumental tuition and the master–apprentice model, contrasting this with group-learning experiences in western-style conservatoires. Because my research proposition implies that multiple types of learning may occur simultaneously within a group situation, I explore the literature on constructivism, peer learning, formal and informal learning, collaborative learning, democracy, leadership, and Variation Theory. Reflective practice is also discussed along with tutor 'congruence' (Rogers, 1961, p. 287). An assessment of the origins and development of HIP is also included because it emerges as a significant influence on the students in their learning experience. Finally, I justify my consideration of all the above factors in terms of my perception of the learning processes in EME. Multiple speculative assertions are made, to be tried and tested by an analysis of the data obtained from interviews and video footage.

2.1 Student-centred learning

The twentieth century saw an emergence of many influential educational theorists and researchers such as Vygotsky, Dewey, Piaget, Blacking and Bruner, all of whom contributed to a desire amongst later generations to understand learning from the perspective of students. The curiosity was not limited to those working within educational environments; sixty years ago Carl Rogers made these statements about the nature of education in relation to his observations as a psychotherapist:

I believe I am accurate in saying that educators too are interested in learnings which make a difference. Simple knowledge of facts has its value… but I believe that educators in general are a little embarrassed by the assumption that acquisition of knowledge constitutes education. (Rogers, 1961, p. 281)

Rogers' exploration of the benefits of client-centred therapy led him to suggest a more student-centred approach to education. Since then there has been much discussion about different philosophies of learning and teaching and how to optimise the learning environment.

The aim of teaching is simple. It is to make student learning possible. Teaching always involves attempts to alter students' understanding, so that they begin to conceptualise phenomena and ideas in the way scientists, mathematicians, historians, physicians, or other subject experts conceptualise them – in the way, that is to say, that we want to understand them. (Ramsden, 1992, p. 5)

Ramsden (1992) is one of many educationalists to explore the belief that the quality of teaching is improved by building a greater awareness of learning from the student's perspective. He augments this key concept (p. 6) by citing Eble: 'Learning and teaching are constantly interchanging activities. One learns by teaching; one cannot teach except by constantly learning.' Brandes and Ginnis (2001) draw on a wide body of literature to shed light on the principles of student-centred learning, providing a useful practical guide to educators. Learners are encouraged to take greater responsibility for their own learning and to develop an awareness of their learning goals. The teacher becomes a facilitator rather than an instructor and learning is seen as a process of discovery via 'unhampered participation in a meaningful setting' (Brandes and Ginnis, 2001, p. 13, citing Illich).

Many education authorities in recent decades have pushed for teachers to have a greater awareness of what students actually experience in their learning process.

The theory is to give students a more active role in their education, a clearer idea of their learning goals and also to encourage self-motivation. In many subject areas it has led to more cooperative project-based work in smaller groups, as a complement to the transmission of facts and ideas in lecture theatres. O'Neill and McMahon (2005, p. 29) summarise a range of views on student-centred learning:

> …it appears from the literature that some view student-centred learning as the concept of the student's choice in their education; others see it as the being about the student doing more than the lecturer (active versus passive learning); while others have a much broader definition which includes both of these concepts but, in addition, describes the shift in the power relationship between the student and the teacher.

After a survey of the literature the same authors conclude that 'Student–centred learning is not without some criticism but in general it has been seen to be a positive experience…' (p. 34).

The significance of a positive shift towards student-centred learning is highlighted by the following definition, formulated for the European Higher Education Area (EHEA) in 2010:

> Student-Centred Learning represents both a mindset and a culture within a given higher education institution and is a learning approach which is broadly related to, and supported by constructivist theories of learning. It is characterised by innovative methods of teaching which aim to promote learning in communication with teachers and other learners, and to take the students seriously as active participants in their own learning, fostering transferable skills such as problem-solving, critical thinking and reflective thinking. (ESU and EI 2010b, p. 5)

There are still serious concerns amongst some academics and educators about the general shift towards 'progressive' education, as epitomised by student-

centred learning. Hirsch (2006), for example, argues that education has become ineffective and over-romanticised in an attempt to prioritise the learning process over accumulation of knowledge.

2.2   Western conservatoire culture, one-on-one instrumental tuition and master–apprentice models

In Western societies classical conservatoires have been created, amongst other reasons, to provide a formal environment for the development of technical mastery and the disciplined learning of classical compositions of formidable difficulty. 'It is the technical demands of this particular repertoire which demand the intensive supervised learning regimes found among high achievers' (Sloboda, 2000, p. 399). The single-mindedness required of students in tertiary performance programs is deemed necessary to 'give elite performers a competitive edge' (Carruthers, 2008, p. 130). Within conservatoires it is still the norm for instrumental and vocal students to receive one-on-one tuition from expert practitioners (Ethel and McMeniman, 2000). The use of the word 'receive' in this context is indicative of a relatively passive role for the learner. In the traditional master–apprentice approach to teaching the 'master' imparts his wisdom in the form of nuggets of information, either passed down from previous generations of teachers or learned through performing within the music profession.

Burwell (2013, p. 288) highlights many of the common assumptions about the master–apprentice relationships in instrumental teaching and learning, including 'the acquisition of experiential knowledge or skill; the use of demonstration and imitation; the master positioned as representative of the practice, with a high level of expertise; the apprenticeship as a source of identity for the learner…' Such features may be of great benefit to the learner in a conservatoire setting, however there are potential drawbacks in terms of the levels of control exerted by the teacher. In the same article Burwell also points to the complexities of the 'power relations in the apprenticeship setting', noting

that the associated characteristics do not all 'sit comfortably with the aims and learning outcomes espoused by the modern university' (p. 288).

Jørgensen (2000, p. 70) identifies the dilemma faced by teachers wishing to adopt a more student-centred praxis:

> Those [teachers] who dominate the instrumental lessons seem to give their students limited possibility to assume responsibility for their own learning and musical development, and they seem to disregard or neglect highly accepted theories about the importance of active participation from the student for an optimal outcome of learning. On the other hand, to give or demand full responsibility in learning and musical decision-making from all students may also be dysfunctional for some of them. This is related to individual differences in personality, which is important for mastery of freedom to learn.

Dominance in instrumental lessons can exist for a variety of reasons. It is a form of control that, in the best scenario, is intended to ensure technical security with minimal physiological fuss. From a musical point of view this control is also an effective way to convey tried-and-tested interpretations of compositions. However, the recognition of informal learning practices and the growth of student-centred learning in general have presented a challenge to traditional notions of mastery and pedagogy:

> The apprenticeship model of teaching leads us to examine the actions of the individual master teacher. The master teacher is the legitimate authority of knowledge. Even if this is a commonly accepted and presumably effective model in education, researchers into this kind of expertise, such as Bereiter and Scardamalia, claim that the traditional apprenticeship model does not necessarily lead to a creative expert culture. (Westerlund, 2006, p. 130)

As creativity has become a highly valued quality within learning and teaching at universities it is not surprising that the master–apprentice model is under scrutiny by educational researchers and curriculum designers. For example, Creech and Gaunt (2012) explore the 'value, purpose and potential' (p. 694) of individual instrumental tuition, suggesting that it offers an opportunity for 'transformational rather than reproductive learning – learning that equips the learners with critical, creative and self-regulatory skills' (p. 707). The authors recommend a shift away from the master–apprentice approach toward 'a more facilitative model where teachers and students collaborate, reflect, and problem-solve together' (p. 707).

2.3   Research into ensemble studies at tertiary level

Conservatoire training has traditionally encompassed 'four pillars of learning: solo studies, ensemble studies, studies in music literature and studies in musicianship' (Harrison, O'Bryan and Lebler, 2013, p. 173). While much research has been done into three of these pillars, there have been surprisingly few studies of learning experiences in tertiary classical ensembles. Recent research within conservatoires has tended to be focused on one-on-one pedagogy (Carey, Grant, McWilliam and Taylor, 2013) and mentor–mentee relationships (Gaunt, Creech, Long and Hallam, 2012). And in recognition of the complex ever-changing demands of careers in music there is also a growing body of literature on the preparation of students for the music profession within conservatoire curricula (Harrison, O'Bryan and Lebler, 2013; Burt, Lancaster, Lebler, Carey and Hitchcock, 2007).

Much of the research on group-learning investigates the influence that peers have on each other, with a particular focus on peer assessment of criteria such as performance (Blom, 2004), collaborative learning (Hunter, 1999), 'hard' and 'soft' musical skills (Blom, 2012), 'personal attributes' in rehearsals (Pulman, 2009). While such studies highlight the criteria perceived by the students to be of importance in assessing each other in various group settings, there is a surprising lack of research into the nature of group-learning in classical

ensembles. Many illuminating studies in classical group pedagogy have been conducted at secondary level (Green, 2008; Wright, 2008) but scarcely any at tertiary level. Two rare examples are described later in the chapter: a study of democracy in a tertiary student ensemble (Allsup, 2003) and a study of informal peer learning at Sydney Conservatorium (Reid and Duke, 2015).

2.4   Individual learning and group-learning experiences in music

The relatively recent shift in the balance between authority-based and more student-centred learning within tertiary institutions has prompted research into musical learning experiences from students' perspectives as individuals (Reid, 2001). An ensemble such as EME is typically made up of twenty students at different stages of their one-on-one instrumental education. The 'variation in the ways that instrumental (and vocal) students experience learning music' in their individual lessons is conveniently identified by Reid (2001, p. 28):

Instrument (voice) (level 1): learning an instrument (voice)
Elements (level 2): learning an instrument and some musical elements
Musical meaning (level 3): learning musical meaning
Communicating (level 4): learning to communicate musical meaning
Expressing meaning (level 5): learning to express personal meaning

It is a challenge to create a group-learning environment that benefits students with these varying conceptions of learning. Students at level 1 will respond well to tutor demonstrations and specific technical advice, whereas students at level 5 will derive extra motivation from interpretative guidance. In tertiary music institutions students combine their individual learning trajectories with group experiences that vary enormously depending on the parameters set by the tutors involved. At one end of the musical group-learning spectrum students may feel that their individual learning is the most important factor within the environment, whereas at the opposite end the social element of learning is more dominant. In order to define the setting of her informal learning project Green cites Bielacyzc and Collins, referring to a 'learning community' in which

'everyone is involved in a collective effort of understanding' but also 'supports the growth of individual knowledge' (2008, p. 199). Such an environment supports constructivist learning in the form of 'knowledge construction as a collaborative, social endeavour' (Rautiainen, Nikkola, Räihä, Suakkonen and Moilanen, 2010, p. 191).

2.5   Theories of learning

Of all the observations and theories of learning developed in the late twentieth century I include descriptions below of those which I perceive to be of most relevance to the context of EME from the perspective of a tutor and expert practitioner: constructivism, peer learning, formal and informal ways of learning, collaborative learning, reflective learning, tutor congruence, and Variation Theory. At the end of the chapter I state the reasons why all of these are potentially related to the study of learning in EME.

2.6   Constructivism

Since the early 1990s constructivist theories of learning have been broadly recognised and adopted across a large spectrum of educational environments. Fox (2001) defines constructivism as 'basically a metaphor for learning, likening the acquisition of knowledge to a process of building or construction' (p. 23). He links its emergence and growing popularity with an 'opposition to a once dominant behaviorism and to traditionalist views of education' (p. 25). Advocates of constructivism believe that students build a deeper understanding of phenomena through a more active participation in practice-based learning situations (Leithwood, McAdie, Bascia and Rodrigue, 2006).

One might expect educators to welcome a constructivist approach to learning and teaching within skill-based environments such as music, because the notions of active learning and co-construction of knowledge are more readily implemented than in teaching situations involving the transmission of large numbers of established 'facts.' However, many conservatoire tutors retain

traditional pedagogies in their instrumental and vocal one-on-one lessons (Carey, Grant, McWilliam and Taylor, 2013). By contrast, partly in response to the directives of education authorities, there have been more consistent attempts to realise constructivist ideals within secondary level music education. Cleaver and Ballantyne (2014) point to a lack of research into the ways in which constructivism has been 'individually personalised, then subsumed, translated and adopted into in-service classroom teaching practice' (p. 228). By informally interviewing two music educators in depth and using narrative analysis to interpret the data, Cleaver and Ballantyne highlight the associated challenges.

One of the interviewees, Seline, has reservations about taking a purely constructivist approach to teaching, commenting that while some students have ability to learn musical concepts 'intuitively' others need careful direct instruction and guidance. Nevertheless Seline reports on the benefits of combining more traditional transmission of musical content with practical engagement in the constructivist sense. As an example, she describes how her students connect deeply with Tchaikovsky's music by conducting a symphony orchestra from the back row of a concert hall *after* she has formally introduced them to the concepts of melody, pitch and intervals in classroom lessons. And the researchers observe: 'a particular *constructivist moment* takes place when information (presented by the teacher) is *worked through* and becomes connected and subsumed into practical and performative action' (p. 233). The other interviewee, Joshua, is more forthright about the benefits of a constructivism, describing it as 'making meaning out of your learning as you learn' (p. 235) and linking it with creativity and individual freedom of musical interpretation.

Fox (2001) sheds light on the various claims associated with constructivist views of learning by listing and critiquing them in depth:

1 Learning is an active process.
2 Knowledge is constructed, rather than innate, or passively absorbed.
3 Knowledge is invented not discovered.

4a All knowledge is personal and idiosyncratic.

4b All knowledge is socially constructed.

5 Learning is essentially a process of making sense of the world.

6 Effective learning requires meaningful, open-ended, challenging problems for the learner to solve.' (Fox, 2001, p. 24)

Fox concludes that, as constructivist ideologies are 'hopeful' in their underlying faith in students' natural motivation to learn, they fail to confront the realities of individual learning and behavioural difficulties. This is likely to be more of an issue within pre-tertiary levels of education, where it is a challenge for teachers to reconcile the demands of a curriculum with overseeing multiple groups of students in simultaneous problem-solving contexts. Fox's apparent scepticism appears to be borne from a concern that traditional forms of tuition are not entirely abandoned: '[Learners] can be helped by the expertise of their teachers and they need instruction, demonstration and practice, as well as challenging problems and investigations, to make progress' (p. 33). This concern is shared by Cleaver and Ballantyne (2014, p. 238) in their suggestion that teachers should position themselves, through reflection, along a continuum line 'drawn between radical constructivism and objectivism.'

Morford (2007) examines the challenges in curriculum design that are generated within tertiary music institutions by the attempts to implement constructivist principles. The primary issue is the need to reconcile the 'multiple manifestations of music being presented to the students' in individual courses with the 'motivation-oriented relevance' required of individual students (p. 80). Morford states: '… if constructivism is to be wholly embraced as the appropriate philosophical model for the development of teaching practices in postsecondary music programs, then a fundamental change in the structure of American curricular design seems necessary' (p. 80). This challenge may prevent constructivism from becoming a dominant ethos within tertiary education, but there are still areas in which it may prove highly effective. One example is the 'applied studio.' Morford (2007) cites Zarro in a comparison of the different approaches of traditional and constructivist applied studios: …'while the

traditional applied studio focuses each lesson on the individual student, the constructivist instructor may combine individual lessons with group lessons that require students to focus on a given work, composer, or time period in a cooperative learning environment' (p. 81).

Lo (2012, p. 11) describes the fierce debate between the advocates of constructivism versus direct instruction and points out that various learning theories have more in common than we think (citing Mayer). Nowadays, teachers who embrace the 'active' learning aspect of constructivism are still highly likely to read to their students and to expect them to memorise a certain quantity of factual information. And conversely, teachers who adopt a more traditional lecturing-style approach in their lessons are still likely to involve their students in problem-solving tasks.

2.7   Peer learning

The literature on peer learning is extensive and covers a wide range of contexts. As Reid and Duke (2015, p. 223) point out, peer learning also has multiple definitions, including one-on-one tutoring between students, cooperative work within joint projects, students assessing other students, and 'a form of interaction between learners.' Reid and Duke ask two groups of tertiary piano and saxophone students to discuss a series of prompt questions and to make a video for future students, with the aim of discovering what peer learning means to them. In identifying critical aspects of learning for their respective instruments, both groups acknowledge the importance of peer learning as a complement to the teacher–student relationship, although the pianists appear to place more value in the latter. In Latukefu's (2000) study of tertiary vocal students working together in small groups, multiple benefits of peer learning are identified in the participants' reflective diaries. These include (p. 137): increased confidence in giving feedback on technical issues; 'perspective sharing'; and 'vicarious reinforcement' or the modification of behaviour after observing the learning experiences of peers. Latukefu concludes that peer learning and reflection are of value to vocal students at undergraduate level, and a mixture of

group-learning sessions and individual lessons is beneficial to their overall learning. Green (2008, p. 120) defines group-learning as 'learning that occurs more or less unconsciously or even accidentally, simply through taking part in the collective actions of the group.' By comparison, peer-directed learning is 'situated further along a continuum, from unconscious, implicit learning via group interaction, towards a more conscious approach in which knowledge or skills are learnt through being explicitly and intentionally imparted from one or more group members to one or more others.' These definitions sit well within the context of this study. Aspects of peer learning are discussed in the sections below on formal and informal learning and collaborative learning.

2.8   Formal and informal learning

Many researchers in music education have focused their attention on the nature of 'informal' learning (Green, 2002, 2008; Folkestad, 2006; Reid and Duke, 2015). Informal learning is the type of learning that typically takes place amongst peers in a context outside of formal institutions, for example in 'garage bands.' Folkestad (2006) defines formal and informal learning in terms of the learning situation, the style of learning and 'ownership' of the learning situation. Formal learning is likely to take place in an institution, to involve written music and is always teacher-led.

> In the formal learning situation, the activity is sequenced beforehand. That is, it is arranged and put into order by a 'teacher', who also leads and carries out the activity. However, that person does not necessarily have to be a teacher in the formal sense, but a person who takes on the task of organising and leading the learning activity, as, for example, one of the musicians in a musical ensemble. (Folkestad, 2006, p. 141)

By contrast, informal learning is likely to take place outside institutions, to involve improvising and playing by ear, and is a mutual, collaborative venture. As Folkestad (2006. p. 141) puts it: 'the activity steers the way of working/playing/composing, and the process proceeds by the interaction of the

participants in the activity.' Folkestad (p. 138) also suggests another definition of 'intentionality'; he asks 'toward what is the mind directed during the process of the activity? In the formal learning situation, the minds of both the teacher and the students are directed towards learning how to play music, whereas in the informal learning practice the mind is directed towards playing music (making music).' In conclusion, Folkestad (p. 143) suggests that

> ... formal–informal should not be regarded as a dichotomy, but rather as the two poles of a continuum, and that in most learning situations, both these aspects of learning are in various degrees present and interacting in the learning process.

Jaffurs (2004, p. 5) defines formal music education practices as 'those methods used by music teachers in classrooms today.' By contrast, informal music education practices are 'methods by which students develop on their own' and are 'natural and spontaneous responses to music. There is no evaluation, formal or otherwise, and no teacher direction or guidance.' Jaffurs compares the formal US National Standards for Arts Education with Green's list of skills (2002) found in 'non-traditional' musicians and concludes that informal learning practices lead to a broader spectrum of definitions and goals for musicality. The implication here is not necessarily that informal is better than formal, rather that these two forms of learning might be combined to enhance students' overall musical education. Folkestad (2006, p. 139) cites Jorgensen in the employment of a useful term *eduction,* defining this as 'bringing forth and/or developing the capacities, abilities and aptitudes that already potentially exist in the student.' He suggests the use of this term for an environment in which formal and informal learning practices may coexist.

Acknowledging the important role of informal learning in the overall education of music students might be the first step in integrating it into the more formal learning environments of institutions – a conclusion that many theorists and researchers have reached in their exploration this theme (Folkestad, 2006; Westerlund, 2006; Green, 2008; Allsup, 2011). Moreover, in terms of the

recommendations made for the future of music education there is considerable resonance within the literature between traditional–constructivist and formal–informal approaches to teaching and learning. In their assessment of teachers' approaches to constructivism, Cleaver and Ballantyne (2014, p. 238) make a clear suggestion to teachers with regard to formal and informal approaches:

> Pre-service teachers from traditional curriculum-driven backgrounds might consider including informal ways of learning. On the other hand, music teachers from informally-trained backgrounds might consider strategies suited to those students who respond more to teacher-directed activity, and who naturally gravitate to structure and analysis.

The definitions of formal and informal learning outlined above help to explain why they have become associated with particular environments, cultures and genres of music. Western classical music is still predominantly learned in schools and conservatoires, using formal authority-based teaching methods in both individual and group settings; this is linked with the master–apprentice tradition described earlier. Other genres of music such as jazz, pop and world music are more often learned outside institutions in more casual venues, using informal methods of transmission, with a greater an emphasis on learning by doing. Nevertheless formal education practices are not exclusively associated with classical music and have in recent times been adopted by teachers of pop and jazz within conservatoires. Formal learning can also exist outside the culture of Western classical music (Saether, 2003).

Allsup's case study (2003) of 'democratic' learning amongst two groups of tertiary music students indicates that the classical genre is less suitable than jazz or popular music for informal learning. One group in the study reports on its attempts to create pieces in both the classical and jazz genres. In preparation for the classical composition the students discuss form, tonality, historical style, orchestration and tempo before attempting to fuse their individual ideas, but this proves inhibiting when compared with the more evolutionary process of

jamming on a jazz riff. However, this result is representative of one small group of students only.

Green's (2008) research engages 25 groups of secondary school students in two classical music projects with an emphasis on informal learning. The students are asked to recreate a selection of classical compositions by making music using a variety of instruments. Despite negative initial feelings towards classical music the majority of students respond to this informal pedagogical approach. Green proposes that the informal method of familiarising the students with classical music by listening and copying helps to make the music more approachable, meaningful and enjoyable, and this is confirmed by the research.

2.9   Collaborative learning

Within the context on education research the term 'collaborative learning' is often used interchangeably with cooperative learning, peer-directed learning, group-learning, team learning or collective learning. These references all involve students working together and learning in groups, with or without the presence of teachers. After an extensive consideration of the literature in multiple contexts Cotter-Lockard (2012, p. 16) defines collaboration as 'a relational process in which people communicate diverse perspectives with honesty and care, share a common mission, and contribute passion, ideas and energy to create a shared outcome.' Barrett (2006, p. 198) refers to John-Steiner's distinction between collaborative and cooperative learning as a function of the 'intellectual ownership' of a joint task; in the former, there is a relatively equal engagement in the task and investment in the outcome, whereas in cooperative learning 'each make specific contributions' and there may be differing levels of involvement.

Cotter-Lockard's (2012) study of the impact of professional coaching strategies on rehearsal techniques within student string quartets leads her to suggest that collaboration is a deeper process than cooperation, in that it 'merges the ideas, energies and expressions of the participants' (p. 179). Cotter-Lockard explores the collaborative aspect of music making by interviewing four student quartets

about their learning experiences in rehearsals and grouping the responses into six categories: 'repertoire, social activity, freedom to create something new, attention and discipline, social justice tool, and deep sharing' (p. 175). These provide her with an indication of the factors that are of importance to the students in their collaborative journey, one that 'requires respect, experimentation and compromise' (p. 177).

Green (2008, p. 11) employs the term 'cooperative learning' without reference to collaboration; this may reflect her assumptions at the outset that the pre-tertiary music students in her study, whilst participating in group activities, are not necessarily engaged to the same extent across each group. For the purposes of this PhD study I have adopted the term 'collaboration' as the most appropriate 'parent' descriptor of the group-learning themes emerging from the coding process (see Chapter 4): these are 'perception of democracy', 'sense of community', 'verbal communication' and 'group dynamics.'

There is a wide body of research into the nature of collaboration between musicians in pairs, small groups and orchestras (see King, 2006 p. 262 for detailed listings) but very few studies have been conducted within the domain of the chamber orchestra. The most relevant observations are found in the literature on assessment procedures (Hunter, 2006; Ginsborg and Wistreich, 2010; Blom and Encarnacao, 2012) and indeed it may be the case that the difficulties associated with assessment of collaborative learning on that scale (Harrison, Lebler, Carey, Hitchcock and O'Bryan, 2013) have prevented educators from promoting such activity more readily within tertiary institutions. Nevertheless, collaborative learning is becoming widely recognised as being 'central to the student experience' and it is a feature of the curriculum in most tertiary institutions (Ginsborg and Wistreich, 2010, p. 6).

In her exploration of group cooperation Green distinguishes between 'group learning' and 'peer-directed learning.' The former is 'unconscious or semi-conscious learning during music making, through watching, listening to and imitating each other' whereas the latter is 'a more conscious approach in which

knowledge or skills are learnt through being explicitly and intentionally imparted from one or more group members to one or more others.' Ultimately Green's findings are that the levels of group cooperation are higher and more consistent than teachers anticipate, within the informal learning parameters of the research, and this significantly enhances the students' engagement with the music.

With regard to exposure to collaborative activity in small groups, Hunter (2006) suggests that musicians are at an advantage over students in many other academic disciplines, as they usually participate in shared music making from an early age. Based on his research into tertiary peer learning programs in music and on the evidence provided by fellow researchers, Hunter (1999, 2006) distils the benefits of collaborative learning into five points, suggesting that it:

engages students as active participants in the learning process
enriches the learning experience of students
creates a more interactive environment
encourages questioning, discussion and debate
develops skills (both cognitive and generic) which benefit students in their working lives.

Further evidence to support these five points is to be found in the research into peer assessment procedures within collaborative ensembles in the context of tertiary music education (Blom and Poole, 2004; Lebler, 2008; Harrison et al., 2013). Such studies suggest that students are significantly more engaged in their learning process when they are provided with 'opportunities for self-reflection and the exchange of feedback with peers, and their observations on the outcomes' (Lebler, 2008, p. 194). Blom and Encarnacao (2012, p. 31) list a broad range of technical, analytical and appreciative skills identified by students as important criteria for peer assessment of ensemble performance, thus highlighting the role of collaboration in developing awareness of these factors. However, the introduction of such peer assessment procedures remains

relatively uncommon in tertiary establishments, and is almost exclusively limited to the genre of pop music.

Verbal communication is a key element in the collaborative process and has been used as a parameter within research into collaborative rehearsal techniques (Ginsborg and King, 2007). Blom (2012) refers to the learning that occurs through discussion within groups, and highlights the benefits of the associated social and emotional demands. The exchange of ideas can also be harnessed by teachers to 'facilitate students' ability to imagine' and to consider other points of view when working on solutions to problems (p. 722).

In her keynote address at the 2002 ISME conference, Bresler sums up the benefit of collaboration in educational environments as a 'transformative experience' (p. 18), both within and across disciplines. She echoes Hunter (1999) in her reference to musicians' familiarity with the process: 'a collaborative, interconnected model is embedded in the very existence of music ensembles and their repertoire, where instruments or voices … need each other to bring to life the performed work of art' (p. 19). And Sawyer (2006) makes a plea that resonates with this: '… if music is a collaborative practice and if communication is central to musical creativity, then our educational methods should emphasise group interaction' (p. 161).

The emergence and significance of collaborative learning is well documented in Gaunt and Westerlund's recent publication 'Collaborative Learning in Higher Music Education' (2013). The editors seek to address the dilemma faced by music educators in reconciling the fundamentally social nature of music making with the large amount of individual work required to achieve instrumental or vocal proficiency. Whilst respecting the need to preserve traditional methods of teaching they also explore and embrace the opportunities presented by collaborative learning in adapting to the 'rapidly spreading cultural changes' (p. 2) within our society. A particularly innovative example of collaborative learning is provided by Ballantyne and Lebler (2013) in a cross-disciplinary project involving primary education students and popular music students at a university

in Queensland, Australia. The education students are invited to learn new instruments in an informal setting with the assistance of their peers from both groups, leading to a peer-assessed performance of a piece of music at beginner level. The collaborations are not directly observed by the researchers, but they are able to report on the outcomes by reading the students' comments within focus groups at the end of the project. The researchers conclude (p. 218): 'The shared informal learning opportunity was highly successful in generating deeper thinking about both music learning and music teaching, and the participants were overwhelmingly positive about the experience.' Other authors in Gaunt and Westerlund's (2013) publication provide evidence of a growing awareness of the educational benefits associated with collaborative artistic activity (Rikandi, p. 187; Dickson and Duffy, p. 205; Zanner and Stabb, p. 231).

2.10   Democracy and leadership

Within literature on music education the word 'democracy' is often applied in its broader sense to groups of educators, learners and musicians. In addition to the narrower political definition in The Oxford English Dictionary, democracy is 'a form of society in which all citizens have equal rights … and the views of all are tolerated and respected; the principle of fair and equal treatment of everyone in a state, institution, organization.'

It is widely acknowledged that genuine democracy is extremely difficult to achieve within musical ensembles of any size. Within the domain of the modern symphony orchestra the musicians are defined by strict hierarchies and conductors have often achieved a cult-like status in their wielding of musical and political power (Faulkner, 1973; Parasuraman and Nachman, 1987). In the words of Vincent, one of the participants of this study:

> the role of the super powerful conductor that we saw in the early part of the twentieth century … people like Toscanini, you know just such giant brutes really … I heard stories of them just firing people … thankfully

that's sort of starting to change now – the status of the conductor is now
changing

Despite Vincent's perceptions Morrison and Demorest (2012) point out that the
traditional autocratic role of the conductor is still prevalent in educational
establishments and this leads to a direct conflict with the constructivist ideal of
promoting understanding through practical problem-solving; this motivates the
authors to make suggestions to ensemble directors who wish to 'reframe' their
role:

> As conductors we must look for ways to involve our students in the
> rehearsal process and provide opportunities for them to exercise their
> budding musicianship and enrich their musical understanding.
> Rehearsals can be a context in which students actively engage rather than
> simply following directions, something that happens *because* of them
> rather than something that happens *to* them. Within this framework, the
> role of the conductor expands to become the role of the collaborator – an
> expert and professionally trained collaborator, to be sure, but one who
> *works with* rather than simply *works on* younger and less experienced
> musicians. Once, musical knowledge and skills were seen as coming from
> the top. Today, we see the knowledge and skills of ensemble members as
> growing from within, through confronting musical challenges, solving
> musical puzzles, and making musical decisions. (p. 840)

Professional chamber orchestras and ensembles display striking variations in
the way their members make decisions and reach musical consensus during
rehearsals. Quick interpretative decisions are more easily achieved by one
person in charge; in the majority of groups the principal first violinist is
nominated as musical director, with varying degrees of input permitted from
other players. The perception of an environment as democratic is likely to lead to
greater freedom of speech and collaboration, even if the reality is that one
person makes the lion's share of the decisions. In recent times many chamber
orchestras have espoused democratic values as a means of establishing greater
trust between players. A study of one such orchestra – Orpheus – suggests that

the optimum way of operating involves a recognition of the balance between trust and various forms of 'social control' within creative groups (Khodyakov, 2007):

> It is true that Orpheus was originally founded on ideals of artistic freedom, participation and rejection of hierarchical control. Musicians, however, quickly realised that despite the benefits of democracy and trust-based governance, successful long-term collaboration requires that certain limitations be imposed on musicians' behavior. (p. 15)

Murnighan and Conlon (1991) report that a large majority of string quartet members acknowledge their awareness of the 'paradox' presented by their simultaneous need for strong leadership and democratic ways of operating in rehearsals. All of the groups except one in their study espouse democracy while tacitly allowing their first violinists to exert varying degrees of directive power in rehearsals.

Allsup (2003) explores the notion of democratic peer learning by facilitating two high school student bands in 'small-group music making in the form of mutual learning communities'. According to one of the participants, Allsup 'became a friend, a coach, a peer, a teacher. This new relationship – this reconciliation – was a challenge to [the student's] earlier conceptions of pedagogy, an understanding of teaching based on hierarchy and oppression' (p. 35). Using a 'collaborative inquiry' approach within the research design Allsup encourages the participants to reflect upon and analyse their own learning experiences; this yields a link between democratic learning environments, a sense of community, caring and artistic freedom. He argues that collaboration is an essential part of a democratic learning environment, and that 'its practice should incorporate the rights and opinions of both teachers and students' (p. 27).

2.11 Variation Theory of Learning

Variation Theory embraces the values of student-centred learning by seeking to explore the different ways in which learners experience learning. The theory is

derived from empirical evidence of learning from the learner's perspective 'as expressed in words or acts' (Marton and Booth, 1997, p. 16). The researcher elicits information by interviewing learners, observing their actions and analysing what learning is for them. Evidence suggests that in any given learning situation learners adopt differing approaches to reading a text or solving a problem, as a result of the particular experiences they have had beforehand. Learners also display a variety of conceptions of learning as identified by Saljö (1979), augmented by Marton, Beaty and Dall'Alba (1993) and distilled by Mun Ling Lo (2012).

Group 1

A Learning as increasing one's knowledge (facts, skills and methods)

B Learning as memorising and reproducing

C Learning as applying (using facts, skills and methods; doing)

Group 2

D Learning as understanding (making sense, abstracting meaning, relating parts of the subject matter to each other)

E Learning as seeing something in a different way

F Learning as changing a person

These conceptions have been adopted in many fields of educational research as useful descriptors for the experience of learning. In Group 1 the experience is primarily to do with reproducing information, whereas in Group 2 it is to do with seeking meaning. Researchers and theorists identify Group 1 as 'surface' approaches to learning and Group 2 as 'deep' approaches, using them as indicators of the depth or 'richness' of the learning experience (Ramsden, 1992, p. 46).

Variation in the experience of learning is analysed by breaking it down into the constituents of an 'anatomy of awareness' (Marton and Booth, 1997, p. 82). Learners display a variation in awareness of all these constituents: the 'how' and the 'what' of learning; the structural aspect of learning (foreground versus background) and referential aspect of learning (meaning). Within Variation

Theory learning is viewed as the way in which a phenomenon is experienced in relation to these factors of awareness. The 'object of learning' (Lo, 2012, p. 25) is considered to be a dynamic entity that 'points to the beginning rather than the end of the learning process' and learning means 'changing one's way of seeing or understanding the object' (p. 31). The concept of variation has been adopted as principle of pedagogical design in a large number of schools in Hong Kong, leading to improved student learning (Lo, Kwok, Pong, Ko and Wong, et al., 2008). The research suggests that when some aspects of the object of learning are kept constant, while varying other aspects, students gain a deeper knowledge of the object. Variation Theory is also recognised as a credible learning theory within tertiary institutions. See for example the website of The University of Technology, Sydney (UTS, 2015) where acknowledgement is given to Ference Marton as a key researcher and theorist in the field:

> Variation Theory maintains that learning requires the experience of variation. For example, to learn to understand a threshold concept, learners need to experience (among other forms of variation) the variation between their prior understandings and disciplinary understandings of that concept.

2.12   Reflective practice

The term reflection was defined by Dewey in the early twentieth century as 'an active, persistent and careful consideration of any belief or supposed form of knowledge' (1997, p. 6, original publication 1910). In the context of teacher education Dewey advocated the use of reflective inquiry to gain deeper insights into the nature of the learning process. Schön (1983) developed the concept of reflective practice by taking a close look at the way professionals solve the messy problems of modern-day work scenarios. He suggested that the kind of improvised decision-making learned in practice, or 'reflection-in-action', offers us an invaluable enhancement to a purely knowledge-based 'technical rational' approach to problem solving.

Schön's descriptions of technical rationality and 'reflection-in-action' are particularly useful for a discussion of teaching within the arts. In the study of a musical instrument there is undoubtably a need for technical rationality – it can be used effectively to harness physical skills for very specific means and to develop a cognitive awareness of the processes involved. Reflection-in-action is useful for the same purposes, but in addition it is likely to be employed in the exploration of musical interpretation and artistry. Schön (1987, p. 13) defined artistry as 'an exercise of intelligence, a kind of knowing, though different in crucial respects from our standard model of professional knowledge.' Schön's (1987, p.32) suggestion that reflection-in-action springs from innate 'kinds of competencies we all possess' has interesting implications for the relationship between reflective practice and experience. Ferry and Ross-Gordon's qualitative study (1998) of both reflecting and non-reflecting adult educators, ranging from novice to experienced, indicates that 'experience alone is not the 'master teacher' of the reflective process.' This suggests that reflection-in-action can be adopted by educators without necessarily being conscious of the approach. Since Schön's writings (1983, 1987) reflective practice has been adopted within a wide spectrum of professions, including medicine, psychology, education, law, engineering, architecture and music.

2.13   Tutor congruence

Over fifty years ago Rogers (1961) boldly published his psychotherapist's perspective on education, suggesting a more human approach to teaching:

> Learning will be facilitated, it would seem, if the teacher is congruent. This involves the teacher's being the person that he is, and being openly aware of the attitudes he holds… He is a *person*, not a faceless embodiment of a curricular requirement, or a sterile pipe through which knowledge is passed from one generation to the next. (p. 287)

Drawing on the evidence of multiple studies conducted in tertiary institutions, Ramsden (1992) agrees with Rogers, suggesting that 'Teaching which is

perceived to combine certain human qualities with explanatory skills is the most likely to encourage deep approaches' (p. 75). Here the human qualities referred to by Ramsden are likely to be humility, empathy, sympathy and a willingness to show one's emotion. The concept of a 'deep' approach may be defined as learning with the intention of understanding a subject, or an accumulation of wisdom rather than a mere sequence of facts. According to Ramsden deep learning is not the only advantage to stem from tutor benevolence – he also suggests a link with active participation and a more rapid path to success (1992, p. 98).

2.14   Historically-informed performance

Historically-informed performance (HIP) is an approach to music making that 'requires musicians to think critically about the various sources of musical evidence available and to apply them in performance' (Scott, 2014 p. 125). Sources might include autograph manuscripts, early editions, pedagogical treatises, correspondence, reminiscences, annotated editions and scholarly or critical editions. This research element helps the historically-informed performer to make choices with regard to musical interpretation and style – imagining the composer's expressive intentions and adopting appropriate performance practices.

Scott (2014, p. 125-126) points out that HIP is 'a modern, though not entirely new idea.' She illustrates this by quoting the violinist Joseph Joachim (1905):

> In order to properly prepare a piece, the performer should first learn under which conditions the composition originated. A piece by Bach or Tartini requires a different performance style than one by Mendelssohn or Spohr. The hundred years that separate the two pairs of composers mean a great deal in the historical development of our art, not only in relation to form, but also for musical expression.

Carl Dolmetsch would undoubtably have agreed with Joachim. Widely acknowledged in the twentieth century as one of the first pioneers of the 'early

music movement', Dolmetsch sought to bring about a fundamental change in the interpretation of the music of the seventeenth and eighteenth centuries. The motivation for his discourse (1946) is apparent in his preliminary advice to those seeking inspiration:

> ... the student should first try and prepare his mind by thoroughly understanding what the Old Masters *felt* about their own music, what impressions they wished to convey, and, generally, what was the *Spirit of their Art*, for on these points the ideas of modern musicians are by no means clear. (Dolmetsch, 1946, p. vii)

Dolmetsch explores the writings of authors such as Caccini, Mace, Rousseau, F. Couperin, Quantz and C.P.E. Bach, commenting on the performance practice issues of musical expression, tempo, rhythmic alteration, ornamentation, 'thorough bass' and aspects of instrumental technique. This approach, informed by research into the historical and cultural context of musical compositions, was considered radical in an era when the traditional way of learning about musical interpretation was via the received wisdom of one's tutors. Dolmetsch was daunted by the task he had set himself in the face of adversity:

> ...what studies and meditations shall we have to go through to achieve even a measure of success, we who not only have no examples to follow, but are hampered by modern training and the prejudices of our time. (Dolmetsch, 1946, p. 26)

Many performers and scholars of later generations took up Dolmetsch's challenge by exploring the notion of 'authenticity' in musical performance. During the 1970s and 80s a dramatic growth in the historical performance movement had a profound effect on the western classical music arena: 'The search for original methods and styles of performance has brought about a sea-change in our listening habits, and indeed in our approach to the whole question of repertory and tradition in classical music.' (Kenyon, 1988, p. 1) A proliferation of period-instrument ensembles was fuelled by the interest of recording

companies, keen to profit from 'new' interpretations of early compositions and quick to market them as authentic performances.

The HIP approach, however, was not without its critics, particularly in relation to claims of authenticity. How was it possible to create a truly authentic performance from musical notation and written advice alone, without access to audio recordings? Many critics commented that the new approach led to blandness and a lack of individual expression:

> All too often the sound of a modern "authentic" performance of old music presents the aural equivalent of an Urtext score: the notes and rests are presented with complete accuracy and an equally complete neutrality … Nothing is allowed to intrude into the performance that cannot be "authenticated." (Taruskin, 1995, p. 72)

Despite Taruskin's disdain for the championing of authenticity within the HIP movement it is clear that there were already signs of a 'swing of the pendulum' back towards the inclusion of more subjective forms of musical expression:

> There had … to be a period when performers, trying to come to terms with a new approach, emptied themselves to a self-negating extent of their own tastes and prejudices, and tried to let the historical materials simply work on them. And that was a process more easily tried with a totally unfamiliar instrument under one's fingers … the pendulum has swung back and a strong personal taste is now accepted; expressive instincts can now be unleashed without any danger of their being proved unhistorical. (Kenyon, 1988, p. 17)

A few years after the publication of Kenyon's (1988) edited volume of essays on the worth and purpose of authenticity in early music, Taruskin (1995, p. 79) suggested that, while it is essential to accept the challenge of delving into history, the goal of HIP should not be to 'duplicate the sounds of the past' but rather to aim at 'the startling shock of newness, of immediacy.' And in the same spirit

Haynes (2007 p. 12) argues for the term 'early music' to be renamed as 'modern music', in that the new 'authentic' interpretations of 'early' repertoire are strikingly modern in their conception; however, as the term 'modern music' has other connotations Haynes suggests the use of 'rhetorical music' as a term that indicates the 'operating system' of HIP. Haynes clarifies his definition of authenticity and its goals:

> Authenticity seems to be a statement of intent. Totally accurate historical performance is probably impossible to achieve. To know it has been achieved is certainly impossible. But that isn't the goal. What produces interesting results is the *attempt* to be historically accurate, that is, authentic.' (Haynes, 2007, p. 10)

In recent times there has been a widespread acknowledgement of the limitations of musical notation in preserving performing practices of the past. This has come about partly through comparisons made between early twentieth-century sound recordings of particular musicians and their advice given in written texts (Peres Da Costa, 2012). Nevertheless there is still a broad respect within the HIP movement for the use of historical texts, amongst other forms of evidence, to create an 'educated flexibility' in performance (Donington, 1989, pp. 119-120). Peres Da Costa (2012, p. xxv) points out the advantages of adopting this approach:

> Whether or not historical accuracy is possible, I – like many others – see great value in arming oneself with as much information as possible about the original performance ideals for any musical work. Through this process the work can be viewed from new or different perspectives, amplifying the choices available in its realization. Having more choices makes for a more varied and flexible musical intuition.

Irving (2013) wholeheartedly agrees with this, going even further in describing the early music movement as 'an entire culture, a mode of being, a veritable virtual Republic of Early Music where freedom of interpretation is enshrined in a

set of aesthetic values that privilege innovation, the exploration of new sounds and a constant debate over interpretation' (p. 83).

2.15   General musical interpretation

Musical interpretation has been defined as 'the selection and combination of expressive devices across an entire piece … at its core an individual and artistic enterprise' (Lehmann, Sloboda and Woody, 2007, p. 87). Any definition of musical interpretation inevitably leads to the complex considerations of analytical decision-making and intuition. Meyer (1973, p. 29) argues that 'The performance of a piece of music is … the actualization of an analytic act – even though such analysis may have been intuitive and unsystematic.' Within more traditional conservatoire settings musical interpretation often appears to be characterised by the use of pre-meditated expressive devices inherited from previous generations of teachers and performers. These devices may seem chimerical, but in fact are just as likely to have their origins in the purposeful analysis of scores and in the performance trials and errors of earlier generations of musicians. HIP environments involve an attempt to focus predominantly on how music might have been interpreted at the time of composition, bypassing more recent traditions that may place more emphasis on the performer's 'innate' expressivity. Bangert's (2012) PhD study of the balance of intuitive versus pre-meditated decision-making suggests that HIP performers have moved on from the days of 'complete neutrality' of musical expression (Taruskin, 1995, p. 72). Therefore 'general' musical interpretation, as enacted by performers in multiple contexts, is defined within this study as the performance of a composition that encompasses both the performer's own expressive intentions and the composer's intentions as conceptualised by the performer. It is acknowledged that both of these elements may stem from analytical processes.

2.16   Learning theories and tutors' perceptions of learning in EME

As a tutor in EME I am continually observing the learning process, which appears to take place on both an individual and a group scale, so a consideration of both

is relevant to this study. As individuals the students clearly engage with the period instruments and bows, often posing questions to tutors and offering advice to their peers on technique and sound production. Students must also familiarise themselves with a large range and volume of chamber repertoire that differs considerably in style from much of the standard solo repertoire, and moreover is superficially easier to play. The experiences of individual learning are likely to be quite different between EME and one-on-one lessons, especially for those whose prior experience of instrumental tuition is solely one of the master–apprentice approach. Therefore it is possible that Reid's (2001) categories of learning may be experienced in a different way within the EME setting.

As a group the students appear to develop their music making skills during each project, as there is always a sharp rise in standard between the first rehearsal and the concert. Students also give the impression of building their confidence in their verbal interactions with each other, thus warranting a consideration of various theories of group and peer learning. In general the tutors retain a degree of authority in EME, often directing the group and acting as the focal point in rehearsals. However, the fact that interaction between peers is both tacitly and actively encouraged by the tutors seems to enable various types of peer learning to take place, with some students taking more initiative than others. The factors of democracy, trust and control are highly relevant within a student ensemble directed by professionals, and are particularly worthy of exploration in a group such as EME where collaborative activity is encouraged.

The key aspects of constructivism are building knowledge from the ground up, rather than imposing it from above, with active participation from learners and teachers alike. This relates strongly to any music making situation, as participants actively create music, listening and responding to each other without necessarily discussing every musical turn of phrase. However, in EME the additional factors of the period instruments and HIP are likely to present challenges that stimulate thought and discussion. As the tutors witness experimentation on the instruments and are conscious of permitting the

exchange of ideas about any aspect of music making, active participation appears to take place in both verbal and non-verbal ways.

In EME I believe the tutors, whether consciously or unconsciously, encourage a combination of formal 'authority-based' learning and informal 'democratic' learning (Allsup, 2003). The underlying conviction is that students will benefit from exposure to this continuum by combining 'deep' and 'surface' approaches (Ramsden, 1992) to augment their current conceptions of learning. One motivating factor for doing this research is the possibility that informal learning practices are being developed within the genre of classical music and within a tertiary education establishment, both of which are normally associated with formal learning practices.

For the tutors in EME, reflective practice is perceived to be a key factor in their ability to guide students through the process of music making. While imparting their professional knowledge as expert practitioners (Ethel and McMeniman, 2000) in the form of tried and tested techniques and styles of playing, they also acknowledge the importance of individual imagination, spontaneity and experimentation.

The fundamental assertion of Variation Theory is that learning occurs by experiencing the object of learning as a variation to one's prior understanding of the concepts involved. This means that learners may experience the object of learning in different ways. In EME the introduction of period instruments and HIP presents a variation to modern instruments and a modern approach to musical interpretation, and this is highly likely to stimulate learning.

In my experience as an instrumental teacher it has always felt important to maintain a 'real' relationship with students. By this I don't mean revealing every aspect of my personal life, but being as true to myself as possible within lesson situations. As music making involves the expression of emotion I believe the learning process is facilitated when students witness this journey in their teachers, whether in real life or through the music itself. The arena of emotions is

likely to be inhabited more fully by both student and teacher if the teacher 'bares his soul.' My perception is that the tutors adopt a 'congruent' stance within the EME environment and that this helps students to learn; therefore I seek evidence for this within the data.

In EME the tutors are aware of the possibility that all the above learning experiences might coexist in one group situation. But how do we know that such observations and assertions about learning in EME are true? In the next chapter I present my rationale for adopting a purely qualitative research methodology and for drawing on the theoretical framework of Activity Theory in order to answer my research questions. Then Chapter 4 contains an explanation of the method used to gain insight into these phenomena from the students' perspective.

Chapter 3 Qualitative research and Activity Theory

This thesis explores the learning experiences of twelve participants in a music ensemble in a tertiary institution. As a tutor and expert practitioner I have made my own observations and developed my own theories about the impact of the period instruments and HIP on learning processes – these are, at least in part, derived from my own learning experiences. I also have my own intuitive sense of an emerging pedagogy in EME – one that I have helped to shape and to which I continue to contribute. By contrast, as a researcher I am interested in gaining insight into these phenomena from the perspective of the students, and so it is important to acknowledge this in the research design. EME is a unique ensemble and its participants experience unique learning trajectories. My aim is to discover participants' individual experiences of period instruments, HIP, musical learning and the interactions embedded in group music making, so I believe a purely qualitative research methodology is highly appropriate.

3.1   Qualitative research

The twenty-first century has seen a remarkable growth in the use of qualitative research methods and methodologies, particularly in education, sociology and the arts. Qualitative research stands in front of the mighty historical backdrop of positivism, a worldview that embraces scientific methods and deductive logic as a means of augmenting knowledge of natural phenomena. Positivism has led to an emphasis on quantitative research methods in order to achieve an objective understanding of reality, in both the natural and social worlds. By contrast, qualitative research inquires 'into the meaning individuals or groups ascribe to a social or human problem' (Creswell 2007 p. 37). The growth of social sciences in the last few decades has been fuelled by many qualitative researchers and theorists in search of 'an alternative view of social reality which stresses the importance of the subjective experience of individuals in the creation of the social world' (Cohen, Manion and Morrison, 2000, p. 7). Education research has undergone a similar shift in focus to the unique perspective of the individual, in an attempt to gain deeper insight into the processes of learning and teaching.

In exploring a more subjective view of the world, the qualitative researcher acknowledges several philosophical assumptions: ontological, epistemological, axiological, rhetorical and methodological (Cresswell, 2007 p. 17). Then, depending on the context and aims of the research, a choice is made between multiple approaches to qualitative inquiry, such as narrative research, phenomenology, grounded theory, ethnography and case studies. Data is typically gathered by spending time in the field of study: by observing behaviour, taking notes, facilitating discussions and organising interviews of an open-ended nature. It is acknowledged that the participants in the study will be influenced to some extent by the involvement of the researcher, and if the process is collaborative they will make their own interpretations of the data that may then inform an emerging research design. Analysis of the data involves a degree of interpretation on the part of the researcher, which is made transparent in the research report. An inductive process leads the researcher to build up a set of themes, and ultimately to conclusions about the observed phenomena.

The methodological approach I have adopted for this study of EME has some resonance with phenomenology, in that it promotes the understanding of 'several individuals' common or shared experiences of a phenomenon' (Cresswell, 2007, p. 60). In a phenomenological inquiry data collection typically takes the form of interviews of between 5 and 25 individuals, who are asked to respond to open-ended questions that relate to their experience of the phenomenon. The interview transcripts are read and re-read for significant words or sentences that provide insights into the participants' experience. The researcher then develops 'clusters of meaning' that ultimately lead to a description of the 'essence' of the phenomenon. I have used this approach in the coding of material into nodes within Nvivo. The aim of my study is to investigate the 'what' and the 'how' of students' learning experiences. However, my perspective on this as a researcher is influenced by my involvement as an expert practitioner within the ensemble, so the phenomenological approach of 'bracketing out' is difficult to achieve effectively.

3.2 Activity Theory

In seeking an alternative to a strictly phenomenological approach I have adopted Activity Theory (AT) as an appropriate theoretical framework and analytical tool for exploring the interrelationships between the materials and the 'actors' in EME. The theory has its roots in the research of the notable Russian psychologist Vygotsky in the 20th Century and was later developed by his colleague Leont'ev. Subsequent generations of researchers have adopted and developed the theory within a broad range of contexts, including medical (Engeström, 2001; Durbin, 2009), psychological (Morf and Weber, 2000), HCI (human computer interactive; Nardi, 1996), education research (Feldman & Weiss, 2010) and educational (Scanlon and Issroff, 2005). There have been relatively few applications of the theory in the fields of music education and the arts, and these are all in recent years – see later in the chapter for specific examples.

The basic premise of AT is that humans or *subjects* tend to engage in activities towards an intended goal or *object* with the use of *tools* or *artefacts*. These *tools* may include physical items such as computers or machinery, or they may be cultural *artefacts* such as a new educational or artistic approach. During the activity process *tools* influence or 'mediate' the intended *outcome* of the activity in a variety of ways. The associated tensions or 'contradictions' contribute to the process of learning and are likely to lead to a modification of behaviour within the group and a re-evaluation of the activity.

Figure 3.1 shows the most basic form of activity system devised by Vygotsky and modified by Engeström, with the triangular interrelationships between *subject, object* and *tools*.
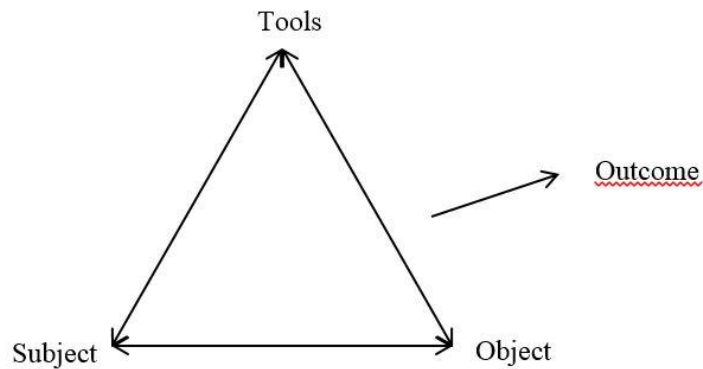
FIGURE 3.1 AT TRIANGLE, AS ENVISIONED BY ENGESTRÖM

The triangle emerged as a means of overcoming 'the dualism in existing traditional theories based on subject–object, learner–knowledge, and individual–environment relations' (Sannino, Daniels and Guterriez, 2009, p. 13). It reflects the fundamental assertion within AT that meaning is inherent in people's actions and is continually recreated through their use of *artefacts*. AT presents a challenge to the Cartesian notion of mind-body dualism. According to Jonassen and Rohrer-Murphy (1999, p. 64) 'Mind and body (mental and physical) are interrelated, so knowing can only be interpreted in the context of doing.'

Vygotsky's first generation of AT emerged from his research into the psychology of schoolchildren at play and was focused principally on the individual's experience of activity (Vygotsky, 1978). Leont'ev's key contribution to the second generation of AT (1981) involved a distinction between individual action and collective activity, summarised in Figure 3.2.
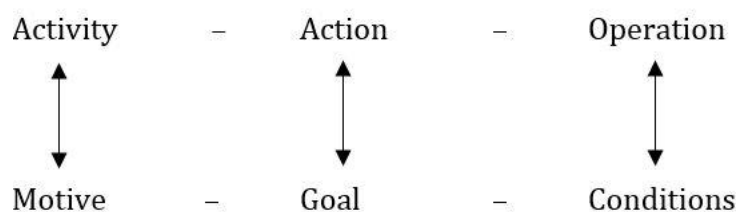
FIGURE 3.2 LEONT'EV'S HIERARCHICAL LEVELS OF AN ACTIVITY (1981)

This was crystallised into an extended triangular model by Engeström (1987, p. 78) to include the elements of *community*, *rules* and *division of labour*, allowing for the focus to broaden from the individual to the group in which the individual is situated, and to include the complex interrelations between the two (Figure 3.3). Whilst the *subject* is mediated by *tools*, 'the relation between *subject* and *community* is mediated by *rules* and the relationship between *object* and *community* is mediated by *division of labour*' (Hashim and Jones, 2007, citing Hettinga).
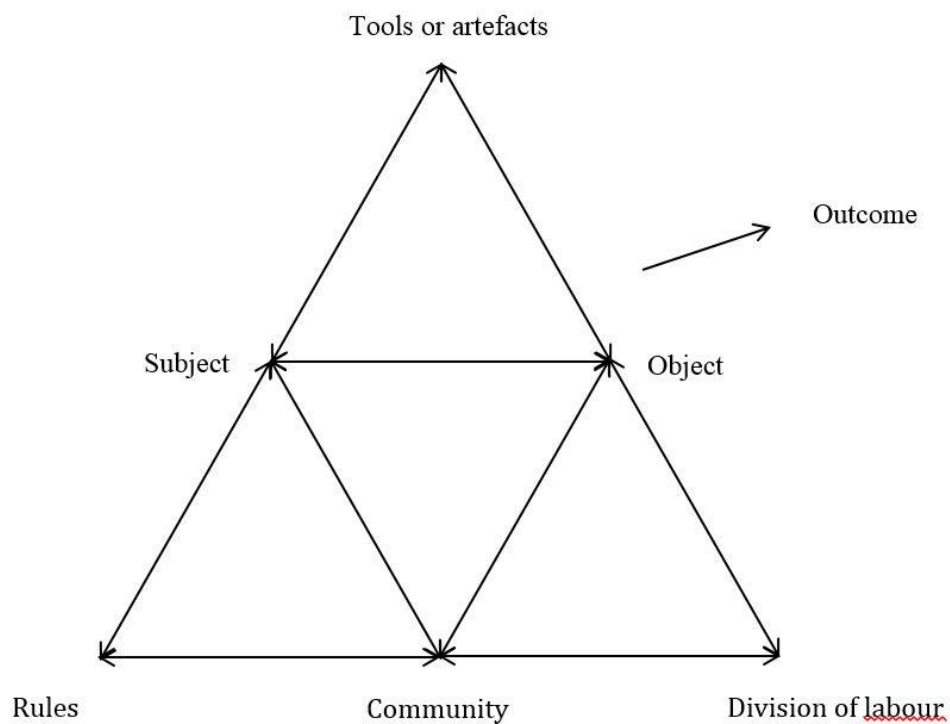
FIGURE 3.3 EXTENDED AT SYSTEM DIAGRAM BY ENGESTRÖM

Engeström's work on 'expansive learning' in the late 1980s and 1990s paved the way for the third generation of AT to include cultural and historical perspectives. The actions performed by individuals within an activity contribute to the development of the activity itself, and ultimately to cultural transformation and 'historicity' (Engeström, 1987). Daniels (2004, p. 190) defines expansive learning as 'the capacity to interpret and expand the definition of the object of activity and respond in increasingly rich ways', leading to 'enhanced analyses of the potential' of the educational environment. The third generation of AT, now

known as Cultural-Historical Activity Theory or CHAT, is concerned with the development of 'conceptual tools to understand dialogue, multiple perspectives, and networks of interacting activity systems' (Engeström, 2001, p. 135). Engeström summarises CHAT into five principles as follows:

Principle 1

An activity system with its associated broad 'motive' is considered to be the prime unit of analysis. While individuals perform operations and engage in goal-directed actions, these are considered as subordinate units of analysis, to be understood within the context of the entire activity.

Principle 2

Activity systems are 'multi-voiced', encompassing multiple points of view, traditions and interests. 'Participants carry their own diverse histories and the activity system itself carries multiple layers and strands of history engraved in its artefacts, rules and conventions.' (Engeström, 2001, p. 136)

Principle 3

Activity systems develop and are transformed by their participants over relatively long periods of time. Engeström adopts the concept of 'historicity' to facilitate the understanding of problems and potentials of activity systems against the backdrop of their own history.

Principle 4

Contradictions play a critical role in Activity Theory, and are defined as 'historically accumulating structural tensions that arise within and between activity systems.' (Engeström, 2001, p. 137) They arise when new *artefacts* and *tools* are introduced into activity systems, leading to disturbances and conflicts, and ultimately change and development.

Principle 5

Activity systems may undergo 'expansive transformations' as a result of the contradictions experienced by its participants and their consequent desire to

'question and deviate' from the established norms. 'An expansive transformation is accomplished when the object and motive of the activity are reconceptualised to embrace a radically wider horizon of possibilities than in the previous mode of the activity.' (Engeström, 2001, p. 137)

CHAT has been described as 'a conceptual framework based on the idea that activity is primary, that doing precedes thinking, that goals, images, cognitive models, intentions … grow out of people doing things' (Morf and Weber, 2000, p. 81). Not only is CHAT a theoretical framework, but it has been conceived and developed with a simultaneous emphasis on real practice (Blackler, 2009). Within this perspective CHAT is particularly suitable for research into environments such as education and the arts, in which actions are often holistically integrated with both verbal and non-verbal modes of communication.

Roth (2004, p. 6) highlights contradictions ('dilemmas, disturbances, and discoordinations') as an essential component of CHAT in educational contexts. Referring to three specific educational environments (Barab, Schatz and Scheckler, 2004; Barowy and Jouper; 2004, Roth et al., 2004) he suggests that one can 'see how engagement with the contradictions leads to change in the conditions concretely experienced by the participants and in their identities' (p. 7). The notion of contradiction has been described as 'conspicuously vague' (Bakhurst 2009, p. 209), perhaps because experiences of tension, disturbance, conflict, dilemma and so on are likely to vary substantially between *subjects* in different situations. Within an educational context Jonasson and Rohrer-Murphy (1999, p. 65) provide an example of a contradiction as 'differences between what they [individuals] believe they need to know in order to accomplish a goal and what they do, in fact, know at any point in time,' thus indicating a stimulus and incentive to learn.

A survey of recent CHAT literature reveals widespread attempts to address Davydov's considerations of the unsolved problems of Activity Theory (1999) and some academics question the fundamental validity of activity as a unit of analysis (Rückriem, 2009, Bakhurst, 2009). Nevertheless many researchers have

utilised CHAT as a key theoretical framework, with convincing results (Russell and Schneiderheize, 2005; Roth, 2007; Welch 2007, 2011; Feldman and Weiss, 2010). In an exploration of Ilyenkov's ambitious contribution to CHAT, at the interface of philosophy and psychology, Bakhurst (2009, p. 205) concludes that the activity-theoretical tradition currently contains two strands. The first views activity as 'the key to understanding the nature and the possibility of mind.' The second is 'principally a method for modelling activity systems with a view to facilitating not just understanding, but practice' or 'a way of modelling organizational change.' It is the latter definition that lends itself to a dynamic view of arts education – one in which learners are not simply internalising and reproducing knowledge, but also reassessing and reinterpreting it through activity.

3.3   Two examples of CHAT in musical contexts

Welch (2011, 2007) adopts Activity Theory as a theoretical framework for his extensive research into the impact of new female choristers within several English cathedral choirs. He uses a multi-methods case study approach to investigate the transformation of female choristers' voices and the associated impact on the previously all-male cathedral culture. Within the activity theoretical triangle Welch (2011) considers the individual female chorister as the *subject* and 'perpetuation of the choral tradition' as the *object* of the choral practice activity (p. 20). Mediating *artefacts* include: rehearsal practices, nature and structure of cathedral services, artefacts and discourse of sacred music, acoustic environment and the choral sound of senior choristers. Welch uses Activity Theory to suggest that 'there is a dialectic development in which the novice cathedral chorister is nurtured and supported to become an accomplished performer' (p. 20). The female choristers experience a contradiction as they learn to adapt their voices to blend with the choir, but also as they develop their voices for other purposes such as singing solo within pop or jazz contexts. As they are successfully incorporated into the choral tradition the outcomes are both individual and cultural transformation.

Johansson (2015) uses Activity Theory to explore 'musical agency' in multiple music making contexts, defining agency as 'the capacity of individuals to act – in music, with music and through music – in music-making situations that contain certain rules for what is possible to know, learn and create in the context of power structures, labour distribution and socio-cultural patterns' (p. 74). These are all relevant factors within tertiary group-learning contexts, including EME. In an 'intervention study' of one student string quartet in a conservatoire, Johansson (2015, p. 83) introduces Activity Theory to its members, helping them to identify a contradiction in their learning process. On the one hand they must observe various performing conventions and respect cultural traditions, but on the other hand they need to address the 'development of musical originality, artistic experimentation and a sense of ownership' (p. 84). Johansson ultimately helps the students to gain an awareness of musical agency and a balance between personal motivation and broader group objectives.

3.4   CHAT and EME

Why is CHAT appropriate?

In EME new *tools* (period instruments, bows) and *artefacts* (HIP and associated tutor approach) are applied to an orchestral group-learning context. CHAT embraces individual actions (playing instruments) and individual perspectives on learning within a broader-scale group activity (music making), with the potential to increase the researcher's awareness of the interactions and group-learning processes involved. The appeal of CHAT as a framework for analysing EME lies in its holistic integration of materials with participants and learning community – the activity constitutes a 'melting-pot' of music making and learning.

Welch highlights multiple benefits to the researcher in adopting an activity-theoretical approach, claiming that it 'allows the investigator to combine both macro and micro perspectives' (2011, p. 16) and that it can be used 'to generate a wider understanding of the relationships and contributions between top-down

and bottom-up perspectives in an educational process related to music' (2007, p. 33). In this study of music making and learning in EME I combine a top-down perspective as a researcher and tutor with a bottom-up perspective of the students in their reports of learning experiences.

The simplest form of activity triangle can be formed for EME, with the participants as the *subject*, music making as the *object*, and the period instruments and discipline of HIP as *tools* (Figure 3.4).
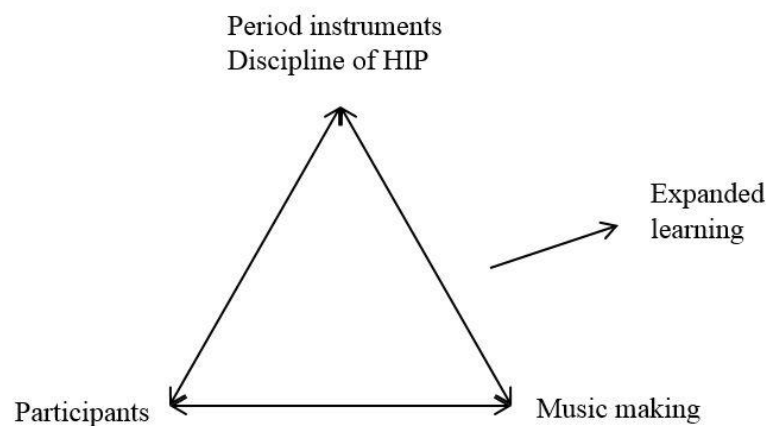
FIGURE 3.4 AT TRIANGLE FOR EME

In the activity system of EME the period instruments and other materials, along with the discipline of HIP, are likely to have certain characteristics that influence students and affect their learning trajectories.

In the second generation activity system for EME the triangle is expanded to include the EME *community* and its unique set of *rules* and *division of labour* (Figure 3.5). The *community* comprises peers and tutors. The *rules* are to engage with the period instruments and principles of HIP within the broad requirements of 'Orchestral Studies.' The *division of labour* allows for all participants – tutors and students alike – to transmit knowledge and learn via discussion and music making. The *outcome* is to be determined by this PhD study.

Period instruments
Discipline of HIP

Outcome:
Deeper learning?

Students   Music making

Engage with period
instruments and HIP
within broad
requirements of
'orchestral studies'

Tutors, peers

All participants may
transmit knowledge
and learn via
discussion and music
making
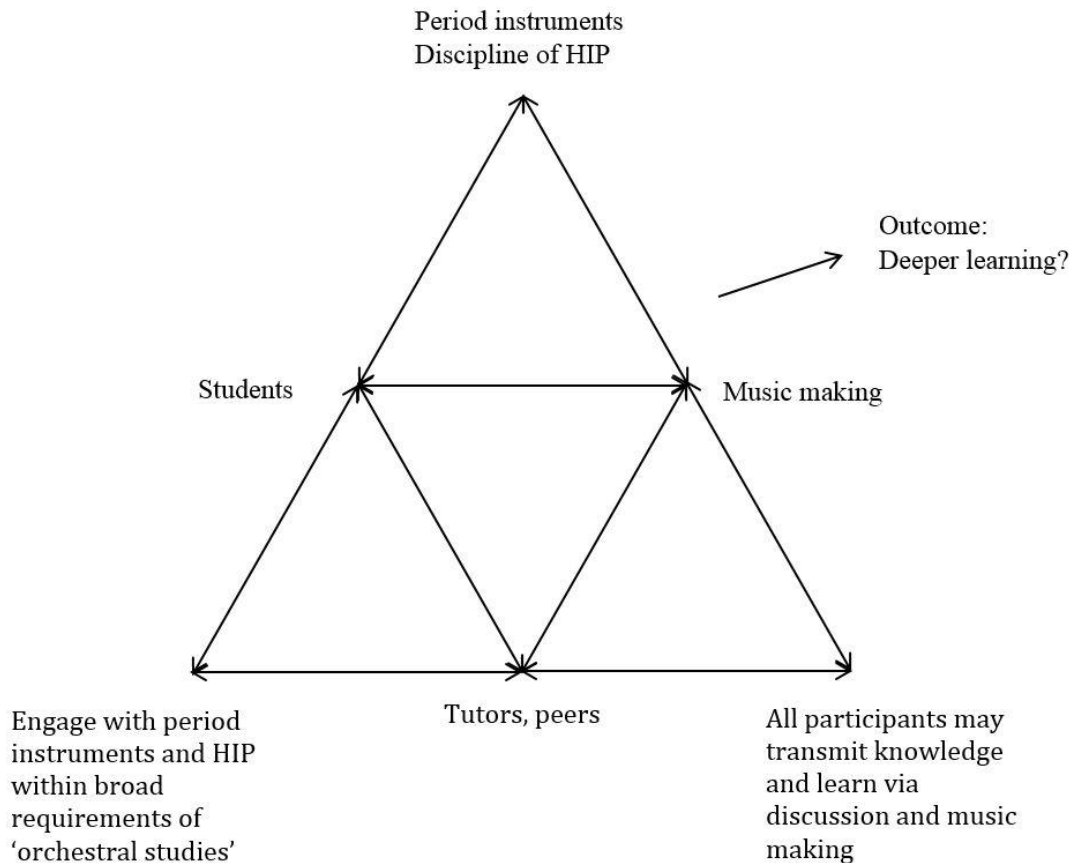
FIGURE 3.5 SECOND GENERATION CHAT SYSTEM DIAGRAM FOR EME

In the literature on Activity Theory it is not always clear whether the 'nodes' of the activity system under scrutiny are determined at the outset by the researcher, or whether they are derived during the research process. Within this study a dilemma emerges in mapping EME on to an activity diagram when deciding how to include 'tutor approach.' On the one hand it can be considered as an *artefact*, since it is likely to have a mediating effect on students' learning, but it can also be seen as integrally bound up with the *rules* and *division of labour*, which are implicit, rather than being clearly spelled out by the tutors at the beginning of each semester. As the findings of this study will show, the students do confirm my definitions of the activity nodes contained in Figure 3.5, as a consequence of the tutors' unique approach.

Within the theoretical framework represented by the diagram in Figure 3.5 this study explores the nature of the links between each of the activity nodes. It also

seeks to expose any contradictions experienced by the students, as a way of identifying their learning *outcomes*. In this context of learning there is considerable resonance between the concept of contradiction and the theory of variation outlined in Chapter 2. Therefore throughout the Analysis in chapters 5 to 9 contradictions are identified by searching for evidence of learning as a variation to prior knowledge. The primary focus of the research is on the internal processes within the EME activity system, rather than on its longer-term expansive transformations. As such this is a relatively simple application of the theory compared with, for example, the complex intersections between multiple elements of a healthcare system (Engeström, 2001).

3.5   Summary

In this chapter I have outlined my reasons for adopting a qualitative approach as a researcher. CHAT has been identified as a suitable theoretical framework for assessing the impact of materials on the learning processes and group dynamics in EME. In Chapter 4 my research methods are discussed in detail.

Chapter 4 Method

In this chapter I introduce two principal research themes 1 and 2 that constitute my enquiry, reflecting my initial curiosity about the relative influences of materials, HIP, peers and tutors on students' learning experiences in EME. These research themes are distilled into two principal research questions to be answered in this thesis. Three subsidiary research themes 3, 4 and 5 are also listed here – these emerged as the study progressed and the researcher's awareness of learning processes deepened. Themes 3, 4 and 5 all relate to musical learning and as such they provide extra dimensions to the principal research themes. All five themes are substantiated by providing examples of questions, some of which were formed at the outset of the study and others resulting from scrutiny of the data. These questions are listed to give the reader a sense of the emergent aspect of the research. Such questions were generated regularly, helping the researcher to focus on the two principal research themes, and influencing the researcher's thought processes in the Discussion (Chapter 11).

Later in the chapter my reasons for adopting two methods of data collection – interviews and video footage – are outlined and justified. In addition, a description of the qualitative analysis process used to interpret the data is illustrated with multiple examples selected from the interview transcripts.

4.1   Research themes and questions

Research Theme 1
Mediation of materials as *artefacts* on the *object* of the EME activity system: the impact of period instruments and bows on learning and music making

Principal research question (Theme 1)
To what extent to do the materials influence learning processes in EME?

Questions associated with Theme 1

Are period instruments a catalyst for new or broader musical expression? Or are they an obstacle, confining expression?

Are the students guided by the physical/tactile aspect of learning a period instrument or are they more conscious of cognitive elements, for example the mental aspects associated with development of technique?

How much does the period instrument lead the inquiry into historically-informed practice (HIP)?

How does the experience differ from learning on modern instruments?

Research Theme 2

An exploration of the learning content and processes in EME, viewed through the theoretical framework of Activity Theory as a dynamic network of interrelationships between students, tutors, materials and the discipline of HIP

Principal research question (Theme 2)

What learning processes can be identified within EME and what are the relative influences of materials, peers, tutors and the discipline of HIP?

Questions associated with Theme 2

What do the students perceive they are learning in EME?

What do the students think they are being asked to do in EME?

How does the learning and teaching differ from other educational environments, including group-learning on modern instruments?

Research Themes 3 to 5 are subsets of Research Theme 2, designed to enrich the information obtained about learning in the EME activity system.

Research Theme 3

An exploration of the 'intentionality' of EME students (Folkestad, 2006; Lo, 2012, p. 14, citing Brentano) as an indicator of formal and informal learning processes. Experiences of music making, musical interpretation, HIP and learning about the early repertoire.

Questions associated with Theme 3

What factors influence music making and learning about the music in EME?

What is the balance between formal and informal learning in EME?

Research Theme 4

Comparisons between individual learning in one-on-one lessons and collective learning in EME. Awareness of learning content and approaches to learning. Differences between HIP and 'modern' approaches.

Typical questions associated with Theme 4

Are students conscious of both individual and collective learning in EME?

Do students perceive their learning process to be different between their individual lessons and EME?

Do students engage in deep learning in EME?

Is there a correlation between the categories of individual learning (as defined in Reid, 2001) and the categories of learning in a group?

How do students experience the difference between HIP and 'modern' approaches?

Research Theme 5

Learning relationships in the EME community: tutor–student and peer–peer. Students' perceptions of the roles of tutors and peers in the EME activity system. Further explorations of formal and informal learning.

Typical questions associated with Theme 5

How do students perceive the pedagogical approach of the tutors in EME?

What is the balance of formal and informal elements in EME?

How aware are the students of learning from each other?

4.2   Data collection – interviews

Data was gathered from individual EME participants by conducting, recording and transcribing semi-structured open-ended interviews. The interview was

chosen as the most suitable means of discovering individual students' in-depth awareness of learning. In the role of interviewer I was conscious that my identity as a tutor and researcher within the ensemble might influence the students and compromise their answers in some way. Therefore the interview questions were designed to avoid any reference to specific research themes. I encouraged the interviewees to be as honest as possible in their responses, while emphasising that I would not participate in the assessment process for orchestral studies during that semester. In addition I invited participants to give critical feedback about EME if they so wished, and I made it clear I would not share any of their comments with their peers or my colleagues.

4.3   Selection of participants for interviews

Twelve participants were selected from a group of twenty string students enrolled in EME during the Australian academic year – February to November 2012. As part of my PhD inquiry is concerned with reactions and adaptations to period instruments I chose the twelve students who were least experienced at playing on gut, so that their first encounters with the instruments were still fresh. These students varied in age between 18 and 25 and in academic enrolment between first-year undergraduate degree and final year of Masters degree. Fictitious first names are used to identify the students throughout this study:

Adam, cello	Kenji, violin
Amisha, double bass	Kirsty, violin
Angus, cello	Melissa, violin
Charlotte, viola	Simon, violin
Helen, violin	Steve, viola
Holly, cello	Vincent, violin

4.4   Interviews

Each of the participants was interviewed once for a period averaging three-quarters of an hour during the middle of the year, between late May and early October. Beforehand, three 'test' interviews were conducted with other students in EME in order to give myself the chance to develop and reflect on my interviewing skills. The interviews were recorded using a SONY digital voice recorder. The purpose of the interviews was to obtain information about the students' learning experiences from their perspective. A set of open-ended questions was devised to reflect the set of five research themes mentioned above. The questions were designed to elicit as much information as possible from the interviewees whilst minimizing any sense of bias from the interviewer towards particular themes or answers.

Interview questions for Theme 1

Q1a) Tell me about your experience of the baroque instrument since the beginning of the semester.
Prompts:
Can you describe the baroque instrument to me?
How does it feel to play it?
Tell me about gut strings.
What about the baroque bow?
How does it compare to your modern instrument?
Q1b) Does the instrument inform your understanding of the music in any way?
Q1c) If you have used original treatises and facsimile editions can you tell me if they enhance your understanding of early music? Explain why/why not.

Interview questions for Theme 2

Q2a) Did you choose EME? Why?
Q2b) Tell me what you expected EME to be like this semester.
Q2c) Tell me about your learning experience in EME so far.

Prompts:

Can you think of the time when you first became aware of learning something?

What else might you have learned, in addition to the elements you have mentioned?

Q2d) How does EME differ, if at all, from your experience of a modern symphony or chamber orchestra?

Q2e) Do you think that your learning experience would have been exactly the same if all the same people were there but playing modern instruments?

Interview questions for Theme 3

Q3a) What are you learning about music making in EME?

Prompt:

What does music making mean to you?

Q3b) What are you learning about the music itself?

Prompts:

Tell me about the repertoire you have played this semester.

What have you learned from that?

Interview questions for Theme 4

Q4a) Are there any similarities between what you learn in EME and what you learn in your individual instrumental lessons?

Q4b) And differences?

Interview questions for Theme 5

Q5a) In the context of EME tell me about what you learn specifically from your teachers.

Q5b) And from your fellow students?

4.5   Analysis – Coding the data

The recordings of the interviews were transcribed into word documents for analysis using the qualitative research software 'Nvivo.' The initial phase of analysis involved coding the data from the transcripts into 'nodes.' The purpose of coding the data was to identify and separate the constituents and themes of the EME activity system for qualitative analysis: participants, materials, learning content and interactions within the EME community. Some of the nodes were simple to identify at the outset and coding the data into these nodes was a straightforward process on first reading. For example, any general references to tutors or specific references to tutors' names were coded at the 'tutor' node. Likewise, any references to period instruments were coded at the 'period instrument' node. Other more subtle nodes emerged after subsequent multiple readings of the transcripts. These often involved a degree of interpretation on the part of the researcher and so care was taken to be consistent with definitions across all the participants of the study. Examples of these nodes include 'collaboration' and 'challenge' – each of these was generated in a different way. The 'collaboration' node was created relatively early on to include references to discussion, argument, interaction and so on. Then at a later stage, with closer scrutiny and greater understanding of the EME dynamic, the node was subdivided into smaller constituent 'child' nodes such as 'verbal communication' 'sense of community' and 'perception of democracy.' By contrast, the node 'challenge' was formed at a relatively late stage from an amalgamation of words deemed similar enough to be grouped together, such as 'fear' 'frustration' 'difficulty' and 'anxiety.' In this latter example the word 'challenge' was considered to be the most suitable generic term for the aspect of learning under scrutiny.

Node list – parent, child and subchild nodes

The transcript readings yielded four broad 'parent' nodes, each with multiple 'child' nodes, listed below. Some of the child nodes have their own subchild nodes – these are listed in brackets.

Affective experiences

    Challenge

    Emotion/feeling

    Enjoyment

    Fear

    Humility

    Shock/surprise/disdain

EME environment

    Collaboration

    Competition

    Group dynamics

    Non-verbal communication

    Peers

    Perception of democracy

    Sense of community

    Tutors (Congruence, Directing, Förderung, Reflective practice)

    Verbal communication

Learning and knowledge

    External references

    Formal and informal

    Freedom to express ideas

    HIP (Cultural-historical references, Historical interpretation)

    Modern orchestra

    Modern playing and instrumental lessons

    Music general references (Music making, Repertoire)

    Musical skills

    Peer learning

    Physical discomfort

    Physical elements

    Quality

    Sound

    Technique

Materials

      Affordance or constraint

      Bow

      Facsimile edition

      Modern instrument

      Period instrument

      Recordings

      Strings

      Historical treatise

4.6   Notes on node definitions

The 'Collaboration' and 'Group dynamics' nodes include a whole range of words that serve as key indicators of their existence – these are predominantly associated with peer interactions and are listed at the beginning of Chapter 8.

'Perception of democracy' includes references to equality, freedom of speech, communal, and tutors playing.
'Sense of community' includes references to inclusion, shared experience, sharing, chamber music feel, friendliness, connection, amicability, personal environment, band, team, team work, fewer people, small scale, and tutors playing.

'Förderung' is a German word introduced by Holly during her interview. Within an educational context it means 'gently pushing' or nurturing.

The 'Musical skills' node incorporates general musical skills that are not exclusive to HIP, such as harmony, rhythm, counting, subdividing, ensemble skills, following a conductor or leader, interpretation, rhetoric, music making, rehearsal, phrasing, listening skills, chromaticism, dynamics, tempo, blending, cadences, virtuosity, practice, musicality, scales, arpeggios, bass line, articulation, melody, acoustic and sight reading.

'Affordances' are 'perceived properties that may or may not exist' (McGrenere and Ho, 2000, p. 3). This concept is clarified further in Chapter 5.

'Facsimile edition' is a term commonly used by HIP practitioners; it refers to a copy of the first published edition of a composition.

'Historical treatise' is also a term used frequently in the HIP arena. Throughout musical history many composers, theorists and practising musicians have written treatises that contain advice on instrumental techniques and contemporary performing styles. Examples include the flautist J.J. Quantz (1752), violinist Leopold Mozart (Wolfgang's father, 1756) and keyboard player C.P.E. Bach (1787).

Figure 4.1 shows a screenshot of the Nvivo software portal, with files and functions on the left-hand side, the nodes in the central column, and the coded quotations from the interview transcripts in the right-hand column.

Reference 3 - 1.37% Coverage

I think since a late teenager I've found making sound on the cello just to be a really natural experience, but you know as soon as the baroque cello is put in your hands all of that kind of gets thrown out the window. You've really got to be very conscious, very um attentive and very careful. And um ... I realized how little I knew straight away about bow control and real um care with intonation and things like that, because all your weaknesses appear to be exposed in such an extreme way on the baroque cello.

Reference 4 - 1.92% Coverage

I think the unruly initial experiences illuminate a lot more of what the instrument is as a ... as a piece of craft, as an object that was designed to fulfill a purpose, but it's also illuminated the almost unlimited potential of that device a lot more. And this is ... I'm talking specifically about what I thought at the time. All this stuff still applies ... you asked about the initial experiences ...it is startling at the time how much you begin to think about noise in a new way and the instrument in a new way, I think. Whether everyone ends up wanting to pursue it as another part of their musical life ... I think it should be something

FIGURE 4.1 NVIVO SOFTWARE PORTAL SHOWING NODES AND QUOTATIONS

As this study is concerned with the learning experiences of students in EME, the goal of the analysis is to make qualitative observations about learning with respect to the materials and the relationships within the EME community. This involves the identification of common themes of learning amongst the students, but also the search for individually nuanced aspects of the learning journey for each student. In terms of Activity Theory the analysis involves a qualitative investigation of the interrelationships between *subject* (student), *object* (learning and music making), *artefacts* (materials, HIP, tutor approach) and *community* (peers and tutors). A search is conducted for evidence of the *outcome*, in other words the mediating effect of the *artefacts* on the *object*.

4.7   Node to node analysis

The coding of the data into nodes facilitates the analysis by enabling the researcher to look at different groupings of data. The 'Query' function in Nvivo can gather information at the intersection of nodes within a 'node matrix.' So for example within this study the relationship between peers and period instruments can be analysed by gathering together all the data that is coded to both nodes. This is known as node to node analysis.

4.8   Researcher comments and coding on to further nodes

A few examples are presented here of the refinement of transcript data from broad parent nodes into further nodes, or 'coding on.' The researcher 'comments' represent the intermediate thoughts that often serve to narrow down broad concepts into particular themes.

Example 1   Angus, period instrument node:

> ... going to modern I didn't really understand why I was doing some of the techniques I was doing, like making the sounds that I was doing, whereas when I play baroque cello it feels like all the techniques are kind of serving a purpose

Researcher comments: linking technique and sounds with a learning goal; Angus uses the word 'feel' rather than 'think', providing evidence of the sensuous nature of his connection to period instrument; technique serves a greater purpose

Coding on to nodes: technique, sound, learning and knowledge, emotion and feeling

Example 2   Holly, tutors node:

> *Interviewer:* What about the musicality that you mentioned – that you learned from Neal – how would you describe that? *Response:* … in his body, the way that he moves, he conveys what he wants, and he just helps us discover what we want to do with the music. That's the collaborative thing about EME. We can argue our own point of view and we'll … and he'll be a good … sounding board for it and then he'll superimpose his own ideas which by then we all respect! Um … yeah, so he guides us rather than making us do what he wants, which means that it's a learning experience for us. It's a very different style of conducting to usual.

Researcher comments: Holly shows respect; awareness of tutor's leadership role; communication; Förderung (German word introduced earlier by Holly meaning 'gentle pushing'); collaboration; trust; awareness of learning goals; musical elements; evidence of reflective practice in 'guiding' rather than 'making us do what he wants'; constructivism as co-construction of knowledge; informal learning

Coding on to nodes: leadership, verbal communication, collaboration, musical skills, reflective practice, formal and informal learning, learning and knowledge

Example 3   Steve, tutors node:

> … learning with you guys is amazing because you know how it's supposed to be done, and I mean also you guys are learning as well, because you can always, I mean there's so much to take in from everything.

Researcher comments: respect for tutors' professional experience; acknowledgement of tutors as expert practitioners; awareness of reflective

practice in recognising that learning never ceases; constructivist learning; humility

Coding on to: learning and knowledge, reflective practice, humility

Example 4   Kirsty, peers node:

> *Interviewer:* And finally what would you say you learn from your fellow students or peers? *Response:* Oh heaps. Everyone has quite a strong opinion on everything, so … yeah just because everyone's read so much and played themselves, so you have a lot of opinions, so it's good because I can only think of so many ways to play something and then someone comes up with something, it's like "Ah yeah why didn't I think of that?" So it's you know … it's all very kind of casual learning. You don't really sit down and teach each other something, it's you know watching each other and listening to each other. Yeah just getting a different point of view really. So not that it's better or worse than what I think, but it's different, so yeah … listening to other people they come up with interesting ideas.

Researcher comments: Learning elements of HIP; respect for peers' experience of period instruments and historical treatises; verbal communication; expression of different opinions and ideas; clear evidence of informal learning taking precedence over formal learning; watching and listening – 'unconscious' peer learning

Coding on to nodes: HIP, verbal communication, perception of democracy, formal and informal learning, learning and knowledge

Example 5   Simon, EME environment node:

> I know in the seconds, because I play in the seconds for most of my EME time, we are able to, well I know … myself and some of the other players, we actually talk to one another about it. We say "so what would Neal say here?" you know "what should we do here" "Shaun is it this way?" or x person "this is that way?" Um, you know "maybe we can have a lower elbow in this part". We've been able to talk about the technique as well, one's technique, whereas that can be taken as insulting [in the modern situation]. Um, I think, yeah and that could be just because we're students

too and we all understand that we're learning together … but I feel that it also is more easy to do so in the Early Music Ensemble.

Researcher comments: impression of fluid communication and freedom of speech; easy interchange between peers and tutors; open and relaxed exchange of technical comments; learning is easier in EME than in modern situations because it is more openly acknowledged as a learning situation

Coding on to nodes: collaboration, verbal communication, perception of democracy, peer learning, technique, learning and knowledge

Example 6   Adam, modern orchestra node:

You know, sure I'd love a casual job in a symphony one day, just to enjoy the repertoire and some income or whatever, but my real passion will now be working in that kind of intimate and open setting and interpreting music and having everyone bring something to the table.

Researcher comments: in the second part of this sentence Adam refers to what he has witnessed in EME – a sense of community, ease of communication, musical interpretation and an opportunity for everyone to take part

Coding on to nodes: collaboration, sense of community, verbal communication, music making, musical skills, perception of democracy

4.9   Additional data collection – video footage

After the initial phase of analysis I decided to supplement the evidence from the interview transcripts with audiovisual material. This was obtained by setting up a video camera and filming one EME rehearsal in September 2014. The initial research intention behind this was to generate extra data through 'triangulation' of method and time. Triangulation involves looking at phenomena from multiple directions; it has been defined as 'the application of different methods, theories, investigators, samples, conditions of occurrence and levels of analysis to the study of phenomena.' (Marshall, 2013, p. 148) In the case of this study the purpose of triangulation was to confirm or disconfirm as many of the interview findings as possible. The new student cohort participating in the video consisted

of a similar cross-section of ages and academic enrolments, and therefore was considered suitable as a confirmatory group.

As the analysis chapters will show, the data obtained from the interviews proved to be sufficiently bountiful to explore my research proposition with rigour. For this reason a full in-depth coding analysis of the video material was deemed unnecessary, but nonetheless a commentary on the video is included for interest in Chapter 10.

Ethical clearance was obtained from the University of Sydney Ethics Committee for both the interview and video recording processes (protocol number 14368) and participants were invited to sign appropriate forms of consent.

Chapter 5 Period string instruments and bows

> … the instruments really kind of have their own way of going through the
> music if that makes any sense … we're there and we're playing them, but
> it's almost as if they know what to do and we're just learning along with
> each other to try and find out what it is that they can do and what they
> can produce… (Steve)

In the next five chapters the data from the interview transcripts is analysed by
reporting and making qualitative statements about the material gathered at the
Nvivo nodes and node intersections. All the participants' statements presented
here contain pertinent information about learning and music making in the EME
activity system. Original quotes are included when they provide particularly
salient insights. At other times the quotes are paraphrased and condensed.
Within each section common themes are identified and unique experiences are
highlighted.

Note on correlation between nodes and analysis chapter themes

It may appear somewhat confusing to the reader that there are five analysis
chapter themes and only four broad parent nodes resulting from the coding
process. The themes in the analysis chapters have been generated to reflect
various elements of the research themes. There is no singular correlation
between particular chapter themes and nodes, because the content of the nodes
may originate from anywhere within the interview transcripts and may
therefore appear within any of the chapter themes.

This chapter contains an analysis of references to period instruments and each of
the Learning nodes in turn. The most significant of these groups in order of
descending frequency of quotes are: sound, music, physical engagement,
technique and HIP. This is illustrated in the Nvivo chart of the node matrix for
Materials and Learning, shown below, Figure 5.1. The vertical axis represents the
number of references coded to each node. Although these five factors are often

mentioned in close proximity to each other it is still possible to make separate observations about each of them in connection with the period instruments.
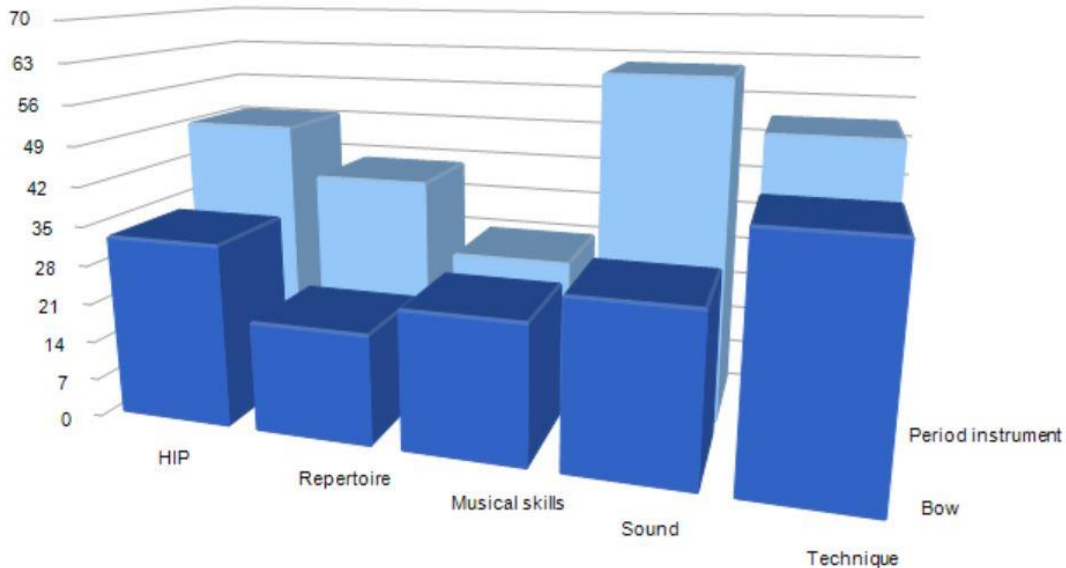
FIGURE 5.1 NVIVO NODE MATRIX CHART FOR KEY MATERIALS AND LEARNING

This process of exploring the various aspects of learning associated with the period instruments serves to highlight their 'affordances.' For the purposes of this study I adopt Norman's definition of affordances, summarised by McGrenere and Ho as: 'perceived properties that may or may not exist' (2000, p. 3). In the context of EME I employ the concept of affordance as an indicator of the potential of the period instruments to induce or facilitate learning; within the language of Activity Theory affordance is a measure of their mediating power as *artefacts*.

5.1   Period instruments and sound

The high volume of references suggests that the students have a particularly keen interest and engagement with the sound of period instruments. The adjectives used to describe the sounds are varied and striking: resonant, singing, scary, horrific, beautiful, nice, scratchy, pure, natural, cracking, warm, cold, chilled (i.e. relaxed), sweet, gentle, vibrant, massive, different, amazing.

Some students point out initial difficulties with tone and sound production on period instruments, but they all make later statements indicating they are not put off by the experience. Adam compares sound production on period and modern cello: "I think since [being] a late teenager I've found making sound on the [modern] cello just to be a really natural experience, but you know as soon as the baroque cello is put in your hands all of that kind of gets thrown out the window." He describes vividly the attempts to produce sound on period string instruments at a chamber music camp shortly after his first few weeks of EME: "we were squeaking and just making all this totally horrific noise, but at the same time it just also felt really good … there was already something beautiful about it. You know I'd just describe it as horrific and beautiful in almost the same sentence."

Charlotte describes her fear of the sound production process as a "scary scratchy experience", finding it hard to get a note out of the instrument at the first rehearsal, but over a period of time she overcomes this. After working on it at home she learns how to "make a better sound out of the instrument" and how to "get it to ring", leading to increased engagement. Melissa also points out the challenge involved in getting a good tone out of the baroque violin and "making it ring", taking almost a year to get a nice sound out of it. However, when asked specifically about the sound of the gut strings, Melissa has a positive response: "Yeah, it's really nice, like you don't get that on modern at all … it's really a warmer sound." Kenji talks about his initial frustration with tuning the gut strings, describing the experience as "rough" and the sound as "not very clean and crisp." Later, however, he refers to the sound of gut strings as warm.

In contrast to Adam, Charlotte and Melissa some other students express satisfaction with the physical process of producing the sound without any reference to difficulty. Angus enjoys "making a more resonant sound and rather than kind of exerting a force into the instrument." And Steve describes the baroque bow as "a really cool thing" that enables him to "transmit this amazing sound that the instrument makes." Other students describe the innate quality of sound of the gut strings in a favourable way. Kirsty refers to it as "different"

"very natural" "not too piercing" and "just a chilled kind of sound." And Kenji equates the warmth in the sound to a "nicer blend" that is less bright than the modern violin.

The difference in the sound compared with the modern instrument is frequently observed by the students, Steve describing it as "totally different." Vincent goes as far as to say he was "totally overwhelmed by the different sounds" of the period instrument in his early experiences of it. Interestingly, Holly is the only student to identify the basic sound of the period cello as "cold" in comparison to the warmth of sound on the modern cello, whereas other students refer to the basic period instrument sound as warm or gentle. There is plenty of evidence that the instruments themselves extend the students' awareness of a sound 'aesthetic.' By this I mean an appreciation of the quality of the sound or a sense of how the sound is or should be.

Adam states how he is startled by how much the instrument has influenced him "to think about noise in a new way." Amisha's impression is that "the music just feels more loved because everyone cares about it, everyone's playing baroque instruments and is trying to make a beautiful sound." In her opinion, when playing a period instrument "you should be trying to make a nice sound, and you should be very careful with every sound." She believes this level of care with sound always happens with period instruments, but not always in other music making.

Charlotte describes how the different colours of the gut strings result in a continual search for different sounds, and that inhabiting the gut world is completely different. In a similar way Simon talks about how the sonic textures of period instruments stimulate a different kind of listening when compared with their modern counterparts and this requires players to "respond in a different way."

After Holly's unique description of the intrinsic sound of the baroque cello as "cold" she makes further specific observations:

> You can have warm sounds on a baroque cello but it depends more on the

> register and … on where you are on the cello, than what you do with it.
> You're not meant to do anything special to a baroque cello, the sound's
> meant to come out of the instrument as it is.

Steve has a contrasting opinion that the players in EME need to be more proactive to achieve particular sounds: "there is always this thing in the back of everyone's minds that you know you have to be playing in a certain way to get these certain sounds."

The sounds associated with the period instruments have clear learning benefits in terms of technique, HIP, musical context, informing modern playing and a reassessment of relationship with modern instrument. Adam points out the strong impact of the period instrument at an early stage on his appreciation of sound and his relationship to the cello in general: "it is startling at the time how much you begin to think about noise in a new way and the instrument in a new way." He goes on to say that the finest details of his physical connection to the baroque cello can make a big difference to sound quality. His reaction to the baroque bow is equally enthusiastic: "I just remember thinking I've never used a bow like this, I've never made a noise like that before. And yeah I suppose as soon as you're made aware of those new possibilities … like I tried to start incorporating it immediately into what I was doing."

Angus also indicates the impact of the baroque bow on his technique and awareness of sound: "There's more of an understanding, like in the bowing, especially in the bowing and the way we use sound and shape notes." He highlights the learning benefits of the baroque cello in terms of sound and technique: "going to modern I didn't really understand why I was doing some of the techniques I was doing, like making the sounds that I was doing, whereas when I play baroque cello it feels like all the techniques are kind of serving a purpose."

Amisha's awareness of "a whole different sound world" allows her to "see why and how every Baroque composer was composing specifically for that instrument." She clearly believes in the potential of the sounds of period

instruments to assist in modern performance:

> I think if you're going to play Baroque on a steel string it's really good if
> you've first played the music on a gut string instrument and understood
> how the sound, the quality of sound would be – how the vibrations would
> be different

Steve makes the same point in a more oblique way when asked how his EME learning experience would compare on modern instruments. He mentions that playing on the period instruments gives one "such a different understanding of how everything needs to be played" and therefore on modern instruments everyone would have to work harder to explore the associated sound world. Helen talks about the influence of the sound of gut strings on her awareness of HIP, technique and the music itself. The circular nature of her sentence indicates a set of strong mutual relationships:

> I definitely feel, like I think about the music in a very different way,
> because I know that the different sounds that the gut strings – like even
> trills and the way you do certain technical things – definitely how it
> sounds on the instrument informs the way I play it, and then therefore
> how I think about it in the context of the music.

Simon makes links between the sounds of period instruments and technical learning. He witnesses his peers making the music "sound a certain way due to the possibilities of their instrument" and this "really shapes the learning." He continues to observe "their own experimentation and experience on the instrument" which enables him to learn "different ways of creating sounds and different ways of activating the string in a specific context."

5.2   Period instruments and music

When asked the direct question "Does the baroque instrument inform your understanding of the music in any way?" all but one of the students (Kenji) respond affirmatively. The research intention behind this open-ended question was to allow the students to explore multiple associations with the word 'music',

which might include general references to music, Baroque repertoire, music making, HIP factors, musical skills, sound and emotion. The students' own follow-ups to their affirmative responses are outlined below.

Adam believes that the physical properties and the sound possibilities of the instrument allow him "to approach the music in a very considered intimate way." Angus links the "singing sound" of the baroque cello to Italian repertoire and HIP-bowing styles to French repertoire. Amisha rambles at times, but then concludes that the gut strings and baroque bow have an influence on trilling, sound production, quality of sound and bowing choices, which contribute to HIP and create a feeling of being "a little closer to the music."

Charlotte mentions that the baroque viola informs her understanding of Bach's music by allowing her to play more into the string and to execute "jumps" without bouncing. Helen initially denies that the baroque instrument informs her understanding of the music, but this is likely to be because she plays on a modern instrument strung up with gut. When asked about the gut strings and bow she states that she thinks and feels about the music in a very different way, referring to technical elements, different sounds, trills and the "interchange between how they inform each other."

Holly pinpoints the bow as the principal influence on her understanding of the music, giving examples of musical elements (rests, *sul tasto*) and HIP factors (national styles, note lengths, *messa di voce*, use of open strings, fingering, non vibrato) and sound aesthetic. Kirsty suggests that certain techniques and sounds are naturally achieved on the baroque instrument and this complements the Baroque repertoire, in other words the whole experience is easier on baroque than on modern instruments. This is revealing statement from a player who by her own admission is generally more comfortable on her modern instrument.

Melissa refers to the instrumental techniques required "to create the sounds that I associate with different styles and different periods" of music. Steve states that the bow has a strong influence on musical phrasing, note shapes, national bowing styles and "the way the music would go as well." Simon refers to the

shape of the bow and its link to *messa di voce* or the shapes of notes, and the different response of the gut strings influencing the art of "hocket." Vincent mentions the tapering bow shape as an influence on ends of phrases and the warmth and purity of the open gut strings as an indication to use less vibrato in general.

In summary, the period instruments and bow appear to influence the students' understanding of the music predominantly in tandem with the considerations of HIP and to a lesser extent the factors of sound and technique. Kenji is the only student who believes the baroque instrument has not strongly informed his understanding of the music: "I think if I picked up the instrument in Taiwan where I came from I would be playing it exactly the same with a shoulder rest I think – it would sound pretty much the same ..." He continues to identify the tutors, peers and HIP as more influential factors: "learning in EME watching others playing and tuning in different ways and – other people anyway, that makes it a lot different, not just the instrument – I don't think the instrument told me too much about it until people actually told me."

Several students link the period instrument with the music in an emphatic way. Angus mentions how "everything just made complete sense" when he first started playing the baroque cello, particularly with music by Italian Baroque composers such as Geminiani. Charlotte states that that baroque instrument "completely makes you see the piece in a different way" in conjunction with HIP considerations, for the following technical reasons: different string response, purity of sound, fingering, arm weight, playing more into the string, different bow speed.

Simon is also firm in his conviction that "the instruments do change the way we perceive the music and it changes our learning a lot. I find it's a benefit, a huge benefit." Helen says that her mind has been opened by the "interchange" between period instrument and music – a different approach to the one between modern instrument and music in her youth:

> I definitely think of them as more fluid, rather than the music tells you

what to do, which is of course a tradition that I've grown up with ... I guess it's the idea of whatever you do it's in constant service to the music and what your instrument does, but vice versa – I really like the way they work together.

Angus hints at a similar notion by referring to the baroque instrument and music in an identical way within the same sentence: "it's like the rhythm I think, just getting into the rhythm of the instrument, the rhythm of the pieces – I think you can engage with natural movements more." Charlotte gives an animated description of the interplay between instruments and music in the more specific context of a rehearsal on Vivaldi, trying to achieve "that kind of cracking sound" and "really exploring the extremes of the instrument to get that energy and movement in the piece."

Most students refer to the role of the baroque instrument or bow in shaping their awareness or understanding of the music, in connection with the important added factor of HIP. Amisha states that the gut strings and baroque bow assist one to play a little bit more "historically" and that "as long as you're doing that it makes you feel a little bit closer to the music." She conveys an understanding of Baroque composers' use of specific instrumental characteristics in their music:

> well it's really interesting, like you can't help but realise how well and how extensively composers in those times completely utilised the capabilities of the instruments – you know they went to the extremes of what baroque instruments could do

Charlotte describes how aspects of HIP and the period instrument both contribute to her outlook on the music. Giving the example of the allemande in J.S. Bach's *Suite for Cello in C major* BWV1009 she refers at first to the factors of key affect, joyous mood, dance- and aria-like qualities that have influenced her. Then in addition she considers the impact of the instrument and baroque bow on the "ebb and flow" of the music, and the different fingerings required.

Holly mentions that the baroque bow informs her about articulation or "cutting off the shorter notes within a bar" and also the HIP technique of swelling the sound on longer notes:

> There's a *messa di voce* technique which is actually connected with the actual construction of the baroque bow – it doesn't really happen in modern music, that kind of a swell, unless it's deliberately written in like in Debussy's *La Mer*, when it's trying to be a wave.

Simon also refers to articulation in the specific context of J.S. Bach's *D minor partita* BWV1004. He reveals that the employment of the baroque violin and bow causes the music to be "not so heavily articulated on every single note", with results resembling the mediaeval vocal technique of 'hocket', or note separation. "I discovered that you know simply through just the way that the bow wants to respond, the bow doesn't want to bounce so much or doesn't want to be so heavy." According to Simon this particular articulation effect is in fact stronger on the modern violin, suggesting that the musical results are naturally quite different. Melissa makes a succinct statement about the combined influence of the period instrument and HIP on recreating music in EME: "you have to have a knowledge of the instrument and all the different styles and use those two to work together to create the music like how you think it would have been played."

Steve attributes particularly strong affordances to the period instruments in connection with the music: "the instruments really kind of have their own way of kind of you know going through the music, if that makes any sense … I think that each instrument has their own thing to say, and therefore I think you know the music has this unique quality about it." Here Steve seems to talk about the instruments as if they have human characteristics! He continues to reveal his respect for the connection between the baroque instrument and Baroque music in his comments about a fellow viola player: "he obviously has a little bit more of an understanding of Baroque music than I do … not that I don't take it seriously but I think he follows it a lot more in the sense that he plays a lot more on a baroque instrument – more than I do, I think."

5.3   Period instruments and physical engagement

The participants all convey strong levels of physical and sensory engagement with the period instruments and bows. The initial phase of contact with the materials proves to be physically challenging in a variety of ways, but the students all adapt to a more comfortable relationship with their instrument within the first semester of EME. A glance at some of the key words used by the students to describe the physical elements of playing provides an instant insight into their experiences. The contrasting terminology is revealing.

Adam: physical, unruly

Angus: sensory, flow, contact, sensitivity, relax, softer response, round, natural, engagement

Amisha: delicacy, gentleness, malleable, flexible, feel

Charlotte: scratchy, natural weight

Helen: force, unstable, grip, adapt

Holly: hurt, physical, hard, grab, pull, balanced, effort, battling, manoeuvre, organic, handle, feeling

Kirsty, balance, difficult, wobbly, all over the place, posture, natural

Kenji: feel, rough, totally different, natural

Melissa: strange, different, uncomfortable, relaxed

Simon: tricky, kinaesthetic, responsive, sensations, feelings, enjoyment, experimentation, activation, manipulate, hard

Vincent: difficult, experiment, problematic, press, release

Adam reveals the initial physical experience of playing the baroque cello: "It challenges your expectations of what is supposed to happen when you put your bow on the string." For Adam this is unruly, exciting and "a bit of a new frontier." The impact is clearly profound, in the form of "a real link between the physical experience of this instrument and the new musical intellectual awakening." Over the course of six months, with guidance from Neal and me, Adam learns how to "chill out a little and let the strings do the work." This leads to a real shift in his approach to the physicality of playing the cello, enabling him to play a C.P.E. Bach

cello concerto without making mistakes or getting exhausted: "So I think from that point on I began to tame the beast a little bit, not only in my own approach but the actual instrument itself, like the two came hand in hand."

Angus's descriptions of the early experience of the period instrument contain no references to physical challenge. Angus's relationship with the baroque cello is very positive – one of natural flow and "intuitive understanding." It allows him to be more sensitive: "you can slow down your bow strokes and use a different kind of physical touch and things just work, which is kind of really liberating for my sensibilities." He continues to point out the physical benefits of playing on gut strings:

> When I transferred over to Baroque just the things that I was naturally doing with my body suddenly made sense. You know like I could kind of relax a bit more – I didn't have to be so into the string … yeah just the softer response of the gut and the bow kind of allowed you to do that.

Even on the large baroque bass Amisha has a similar experience to Angus in terms of string response. Here she expresses her concern about achieving the right physical approach and reveals an element of careful experimentation:

> I was so worried that the strings would break, but they're pretty tough, I mean the fact that they're thicker than steel strings would make you think that they're a little bit less delicate, but you actually have to approach the string with a lot more gentleness, a lot more delicacy than with steel strings.

Amisha goes on to explain that the malleable nature of a gut string leads to a different kind of vibration: "it moves more horizontally than vertically" and this makes it feel harder to control. Amisha also talks about the initial challenge of playing with the baroque bow, mentioning how her hand was really tense and tired until she realised how to hold the bow closer to the middle and nearer to the balance point: "You sort of have to get that feel, but suddenly when you have gut strings you realise why you need to play it like that." Amisha concludes that it is really good to play Baroque music on a gut strung instrument before trying it

on metal strings, in order to understand "how the vibrations would be different and … why you have to use your bow in a certain way and how they would have approached the string."

At first Charlotte finds it hard to "make a note" on the period viola and she describes the first EME rehearsal as a "scratchy experience." However, she overcomes her fears after working on sound production at home. She points out how different the physical experience is from playing on modern, in terms of holding the instrument and the need to use much more natural weight to create sound from gut strings.

Helen talks at length about the pain involved in playing on both period and modern violin. It is clearly an ongoing struggle for her. She gives the impression of being strongly committed to adapting to the period violin and trying to make things physically more comfortable for herself. The main challenge for Helen seems to be in learning to play without a shoulder rest – in this context she describes how forcing her body to adapt has actually helped a lot with her left shoulder pain.

Holly estimates the length of time it took for her to adapt to playing period cello as about three-quarters of a semester. She describes how holding the cello without a spike initially caused her legs to fall asleep from about the middle of her thigh. In addition, the "different level of gradient" between the baroque and modern cello led to neck pain. These problems are overcome by Holly's experimentation with different chair heights and high heels! Holly goes on to give an engaging description of playing the baroque cello, with a spirit of physical exploration:

> We have to grab the string with this tiny amount of bow hair and then you have to make sure you pull it exactly right, otherwise you'll make a really disgusting sound. So you can't grate over the strings, you've got to actually find the twining of the gut and use it … and vibrato doesn't make it sound better

Despite Holly's references to "battling the gut strings" and the physical effort involved in producing a sound, she is positive about the results: "you can learn from the baroque instrument how to understand the organic functions of the cello and what it was made to do."

Kirsty talks at length about the difference between period and modern violin in a physical sense. Her consideration of the different elbow heights required to play the two instruments leads to feeling technically "a bit all over the place." She also describes her early attempts to balance the baroque violin without a chin or shoulder rest as "all a bit wobbly", leading to a tendency to lift her shoulder and then consequent back problems. Shifting also proves to be difficult. However, by the time of the interview Kirsty reports that she has managed to separate her physical approach to the period and modern violin, which helps with posture, stance and "position of everything." It is intriguing that Kirsty starts to talk about the "natural" aspects of the period violin after the she has separated it from the modern violin both physically and mentally. She also makes an interesting connection between "what happens naturally with the instrument" and "what was written."

Kenji makes many references to his early physical experience of the baroque violin, frequently using the word "feel" in his descriptions and often without any mention of challenge or difficulty: "It didn't feel like I was playing a violin, it was something else – like playing a viola, totally different." Kenji observes that the instrument feels lower without the "shoulder rest and everything" and he tries "to stay up with it", which presumably means he tries to play chin-off. Also, according to Kenji the gut strings feel a lot thicker than modern and the neck feels different because of its steepness – these factors do make intonation extra difficult. In contrast, however, playing chords is easier on period violin, and Kenji relates this to the "different angle of the violin" as well as the elasticity of the gut strings. And finally, Kenji points out how "it feels a lot more natural to use the weight of the bow rather than the pressure of the bow to do the phrasing."

Melissa uses the words "strange" and "uncomfortable" to describe her initial physical experience of the baroque violin. The transition from using a "huge chunky shoulder rest" to using nothing causes Melissa to clamp her chin on the top of the violin and to experience discomfort. She looks to her peers to copy what they are doing and to try to figure out how to hold the instrument, and she takes about half a semester to feel more at ease. Despite these descriptions of her early struggles, Melissa is clear about the affordances of the period instrument:

> Now, even on modern, I use pretty much nothing, and it's much more relaxed and yeah I think a lot of that's come from Baroque, because I sort of had to go back to using nothing to realise what I had to do in modern to make it more relaxed and comfortable.

Like Angus, Steve conveys no sense of physical struggle or challenge in his descriptions of the period viola: "At first, I think initially I thought this is pretty much like mine, like my modern. I thought it's not really that hard to play." Despite identifying his initial experience of the bow as "quite weird" Steve then goes on to describe it as "a cool thing" and he attributes it with high affordance: "it's not like it's dramatically different or you know outrageously different to modern but … the bow itself kind of knows what to do and you're just there guiding it."

Physicality is apparent within Simon's lengthy descriptions of his technical experience of the period violin, although there is no mention of physical challenge, frustration or pain. He enjoys the "thicker fatter feeling" of gut strings under the hand and finds it far more responsive than steel. By his own admission he talks in terms of sensations and feelings because he enjoys the physicality of this different string response. Like Angus, Charlotte and Kirsty he mentions the use of the natural weight of the baroque bow to shape sound.

Vincent mentions his experience of three minor difficulties in the initial phase of contact with the period violin: getting a nice sound out of the gut strings, holding the baroque bow and doing fast shifts. He resolves these primarily with physical experimentation.

5.4   Period instruments and technique

The transcripts reveal a high level of engagement with the technical aspects of playing the period instrument and adapting to the gut strings and bow. Most of the students give detailed descriptions of the technical challenges involved in learning the period instruments, in particular: balancing the violin or viola without chin rest or shoulder rest, gripping the cello without a spike, bow pressure, tone production, left hand techniques, intonation, various bow articulations and adjustment of kinaesthetic awareness.

Technical observations/technical learning

Adam reveals that the early stages of contact with the period cello and baroque bow create an awareness of how little he knows about bow control and taking real care with intonation. In this technical context he points out that all one's weaknesses "appear to be exposed in an extreme way" on the baroque cello. He meets up with an ex-member of EME to discuss the specifics of baroque bowing and articulation and incorporates these new techniques not just into his baroque playing, but his modern too; for example the baroque technique of shaping long notes: "You can *messa di voce* in you know a modern work, like a contemporary composition and it sounds great."

Although Angus does not describe period instrument techniques in detail he is very clear about the associated learning benefits: "when I play baroque cello it feels like all the techniques are kind of serving a purpose." The combination of gut strings and baroque bow allows Angus to explore "the technique of being able to slow the bow down" in a natural and unselfconscious way. Amisha provides more detail about her technical journey; she describes how she initially tried to hold the baroque bow at the frog because she wanted to use its whole length, but this led to tension and fatigue in her hand. Then by observing the cellists holding their bows nearer to the midpoint and with the fingers above the horse hair she eventually adapts to the new bow hold because "that technique is there for a reason." Amisha reaches a similar conclusion to Angus about the

combination of baroque bow and gut strings: "suddenly all that technique with the baroque bow made sense when I had gut strings."

Charlotte's technical references include the "ebb and flow" of the baroque bow, employment of natural weight to create sound, different fingerings and less focus on shifting with the left hand. Rather than diminishing the role of shifting on the period instrument, Helen refers to a "different method of shifting" that requires the player "to inch up as opposed to just jump." She is also much more specific than Charlotte in her description of HIP-related bowing technique:

> I think a big thing in particular has been the idea of the zigzag bow, the idea of like less retakes, and also I never realised … to what extent there was a fondness for two up bows and that's something that I've really changed. And I notice that naturally now when I play music I'm much more likely to do another down [bow], although not a retake in the modern sense, just another down, like tucked in or in a zigzag formation, than two up bows.

Holly shows a strong affinity with several period instrument techniques. She enjoys the "more balanced" sensation of holding the baroque bow near to its middle and also expresses satisfaction with the use of open strings and less vibrato. In the context of EME Holly provides evidence that her consciousness of both bowing technique and "intricate tuning" has been increased. Kenji also mentions a variety of period instrument techniques that have had an influence on him, including changing the violin hold, using less vibrato, using natural bow weight rather than pressure, using the shape of the bow to enhance phrasing and experimenting with different bow pressures to play chords. Despite Kenji's references to the relatively simple left hand techniques on the period violin he states that "getting the intonation right is actually extra difficult."

Melissa talks about several of the initial technical difficulties in her early encounter with the period violin: "the hardest thing was getting a nice sound out of it, like getting a good tone and making it ring … tuning as well has always been a bit of an issue – it's like you really have to get right into the middle of the note

to get the vibrant sound." She also describes the initial use of the bow as "really strange", taking a while to adapt to its different shape and to learn how to use different bow pressure. Later however, Melissa clearly points out the technical affordances of the baroque bow:

> with the right hand there are a lot of things that I have applied to modern playing, like using a lighter bow and like the fluidity of the wrist and ... how you use the fingers to get certain bow strokes, like a detached sound and *spiccato* type bow strokes

Of all the participants Simon provides the most detailed evidence of technical engagement and curiosity with the period instrument. His comments on technical security and feelings of humility are particularly fascinating.

> For me a lot of the challenges have been technical challenges, so the baroque violin versus the modern – the shoulder rest, the chin rest, the different securities on both instruments and the way you adapt to those compensate – the lack of securities in some ways ... expanding on it I think the whole idea of technically having to change the way you play in order to create the same musical result, we all find ourselves – is the word humbled?

Simon talks about how the "limitations of the instrument and also the extreme possibilities of the instrument" have affected his choice of fingerings and bowings. He points out that the action of the down bow is naturally heavier on a baroque bow and consequently the movement between and up and a down bow requires a different approach. In addition to this the string needs to be activated in different ways to create a good sound within specific musical contexts. Simon's observes his EME peers learning about articulation and makes a link with the length of the baroque bow:

> there was a fast passage in one of the pieces ... a lot of people were playing it on the string, a lot of people were playing it off and she [Nicole] was trying to get a warmer, rounder articulation on each note, and you know she said "middle to lower" ... it's obvious but it makes you more

aware, so you're learning awareness of where you are a little bit more, of course because the bow is a little bit shorter.

Despite Vincent's assertion that there is no time to work on individual technical development within an orchestral situation he does provide evidence of technical learning in the context of EME. His primary technical concern is with learning how to hold the instrument properly. After seeking advice from both Nicole and his modern teacher he overcomes his initial difficulties and adapts his playing on both the modern and period instrument so that "the violin sits on the collar bone, not the shoulder" and therefore so that "the shoulder does not try and support the violin there because that's the collar bone's job." Having understood that principle Vincent is able to keep the baroque violin on his collar bone and avoid lifting with his shoulder. He also notices that he employs his chin to hold the violin "in times of a very fast shift downwards" and then immediately after that he reverts to his newly learned "normal" hold. Vincent continues to make a striking general observation about technical learning within EME:

> It's almost like in EME the technical things and the music aren't separated … which is something that I find interesting and in fact very unique to EME. There seems to be in the modern world when you're playing – a big division between technique and music … you can't separate them when it comes to early music, which I think is a good thing, because it promotes music first and well technique *so* that we can play the music, which is important.

There are plenty of technical comparisons between the baroque and modern materials. Having confessed that he has always found playing the modern cello to be a natural experience, Adam believes he would not have progressed any further without considering the physical properties and the sound possibilities of the period instrument. He makes both the technical and musical affordances of the period instrument abundantly clear in his reasoning: "the physical essence of the baroque cello is such that if you're not being so careful with your technique and your sound production and your intonation you just sound like crap. Like you can't do it without making an effort and practising."

Without going into detail Angus also highlights the benefits of the technical learning curve on the period instrument in comparison with modern. Unlike Adam he gives the impression of feeling instantly more physically and technically at ease from the first point of contact. He attributes his greater technical success on baroque cello to an awareness of an intrinsic purpose underpinning those particular techniques:

> … [on] modern I didn't really understand why I was doing some of the techniques I was doing, like making the sounds that I was doing, whereas when I play baroque cello it feels like all the techniques are kind of serving a purpose

Amisha is more specific in her technical comparisons, particularly between bows. After describing her adjustment to the baroque bow hold she observes that there is a section of horse hair near to the frog that is not employed to create sound. She then compares this with the modern bow:

> I mean with the modern bass … with spic and stuff, *spiccato* and *martelé* you have to sort of use that end of the bow but I guess there's nothing like as technically … fast and scalic as a Mahler symphony for basses in Baroque repertoire, so it wasn't really necessary to try and hold it [the baroque bow] at the frog.

Charlotte states that one cannot achieve a comparable sound or gain a similar connection with the period instrument by employing a modern technique: "you have to use so much more kind of natural weight I guess, and not force sound." Kirsty makes a similar statement in reverse by pointing out that it is hard to employ period instrument techniques on a modern instrument in order to create similar sounds. Kirsty gives several examples of technique that differ between period and modern instruments: shifting from one left hand position to another, the use of open strings and also bowing. She describes how shifting into higher positions is easy on the modern instrument and therefore the technique is used to avoid open strings and string crossings, whereas on the period instrument it is much harder to shift and so open strings and string crossings are "a really accepted thing with Baroque." Kirsty mentions her tendency to play towards the

tip of a modern bow, as her playing is not as controlled towards the frog. By contrast, the different length, shape and weighting of the baroque bow forces Kirsty to learn how to play closer to the frog and she admits this is "probably very good" for her playing. Kirsty also refers to the different elbow heights she uses for each bow: "the elbow down doesn't work for me on my modern bow – you just can't get any kind of weight, but then the high elbow doesn't work with the baroque bow, so – it's all a bit all over the place." Here Kirsty alludes to her tendency to "blend" the techniques associated with modern and period instruments together. She is clearly trying to rectify this: "now I just try and separate it, like playing Baroque or playing modern, so that's helped with all the, you know posture and stance and like just position of everything."

Holly makes a curious distinction between her different styles of practice in period and modern cello: "in EME I practise with the bow and in modern cello I practise with my fingers." Helen talks at length about the technical transition from period to modern violin, giving the impression that it has been particularly tricky to learn how to play without chin and shoulder rests. She seeks advice from Nicole and observes a colleague in EME to help her adapt, switching back and forth between different set-ups and experimenting with different left hand techniques. Then she remembers a point about half way through her first semester when the shoulder rest started to feel odd and uncomfortable: "it actually got to the point where I felt like it was hindering." Despite this she still recalls some rehearsals prior to the EME concert when she put the shoulder rest back on "as a safety blanket."

Simon's comparisons between modern and period techniques include the basic instrument hold, shifting, intonation and bowing. He points out that the use of chin and shoulder rest on the modern violin affords the left arm more freedom, whereas with the baroque violin the weight of the instrument is partially carried by the left hand. This has an impact on left hand techniques, in particular with "shifting" and "kinaesthetic understanding of the intonation." Simon clarifies this last concept: "where we feel say a B on the A string is, is not where a B on the A string is, not just because of the temperament but also the size of the instrument,

the gut." On the subject of bowing Simon also makes careful comparisons: the shape of the baroque bow and the use of its natural weight without additional arm pressure leads to a natural shaping of the sound and the down bow is naturally stronger than the up bow. Simon also finds it harder to make the baroque bow bounce in comparison to modern. He talks with other members of EME and is given advice: "you have to think about a sand bag on your elbow, rather than articulating in such a horizontal manner." He discovers that a small change in the angle of his arm angle helps the bow come off the string between each stroke.

Steve says very little about the specifics of technique on the period viola, but he does experience the goal of technical learning in EME to be different to that in his modern instrumental lessons:

> I think in the end the main aim is different, the technical aim is different, so EME is, you know for the whole sound of things, whereas it's a very simple thing with modern – Nicki [Steve's teacher] is helping my technique just so I don't get a back ache or something like this.

In another statement Steve repeats the notion that within the EME environment the period instrument techniques are oriented towards the development of a sound aesthetic, rather than being a simple matter of rote learning.

5.5   Period instruments and HIP

> I can see the development of the instrument, whereas I couldn't really see it before because I wasn't coming from … a real understanding of style and history and why we do certain strokes. (Angus)

In the HIP node the students all have plenty to say about the period instruments and bows, with specific references to instrumental technique, repertoire, musical elements such as phrasing, articulation and ornamentation, sound and historical perspectives. Multiple references provide clear evidence of high levels of

engagement with the combination of period instruments and HIP. There are salient examples from each student.

Adam refers to a "freshness and excitement" about playing the period instrument that that inspires him to "start playing the cello stylistically all of a sudden." He makes a powerful statement about the combined affordance of the period instrument and HIP: "it's definitely a real link between the physical experience of this instrument and the new musical awakening." He plans to continue to learn and adopt an HIP approach for the great majority of the time, because it gives him an "extraordinary insight into possibilities" and "a better way of playing the instrument and making music." At the same time he is "not going to insist on any particular way of playing something" or on any particular historical performance method. He adds that he does not feel obliged to play in a HIP-influenced way, giving the impression that he feels free to combine different musical approaches in his external performances.

Angus reveals his appreciation of the historical perspective provided by the combination of the period cello and HIP: "I can see the development of the instrument, whereas I couldn't really see it before because I kind of wasn't coming from … a real understanding of style and history and why we do certain strokes." Angus uses the impersonal voice to point out the affordances of baroque bowing: "there's more of an understanding, like in the bowing, especially in the bowing and the way we use sound and shape notes." He conveys an awareness of the meaning behind music making in this context: "I've kind of come from the history of why we're doing the things, why we're bowing … and I've learned those kind of more subtle things."

Amisha clearly identifies several elements of her learning curve with period instruments and HIP:

> when you have gut strings you see the different things, the different
> sounds, the different things you can do with them, like the different ways
> that you can trill, the different ways you can make the quality of sound
> change from different bowings you can do, specifically with gut strings

and a baroque bow … it's making you feel a little bit more like you are
playing more historically.

When asked if the period instrument informs her understanding of the music
Charlotte responds with several aspects of HIP that influence her approach to a
particular piece. Offering J.S. Bach's Allemande from Cello Suite number 3
BWV1009 as an example, she refers to key affect, relating the music to both
dance and singing, and doing background research into the historical setting to
put the music into context. She then refers to the period instrument as a
significant additional influence: "And then bring in the instrument and seeing
how that flows … the ebb and flow of that yeah with the bow, and the different
fingering that you would have to use." She sums up by saying that both the
period instrument and historical context contribute towards an understanding of
the music.

Helen implies that the combination of period instruments and HIP inspires
dynamism in the members of EME when compared with their modern orchestral
experience:

> People feel like they have something very much to give because of their
> independent knowledge and what they've been doing with the
> instrument, whereas in orchestra, like modern orchestra, everyone's just
> playing the violin.

Holly believes that the period instruments alone "force a stylistic interpretation
through the characteristics of their little quirks." When asked how her learning
experience in EME would compare if everyone played on modern instruments
she responds that the stylistic interpretation encouraged by the tutors "would
not be nearly as well respected as with the baroque instruments." Kirsty gives a
similar impression that the period instruments help to promote a greater respect
for the discipline of HIP:

> … playing on the period instruments is what kind of makes it real, us
> playing that kind of music, because like it's all well and good to think
> about what they would have wanted and what they would have played,

but you don't get that feel for what it was actually like to do that. So I think without the instruments you couldn't really get into someone else's mindset of you know this is what's naturally easy to play or what's difficult with the instruments.

Kirsty echoes Adam's view that HIP should not restrict musical choices. As an example she mentions that some HIP bowings do not always "fit the phrasing" and therefore "things shouldn't be taken that seriously." In contrast to many other students Kenji initially presents greater interest in HIP than the period instrument itself. When asked if the period instrument has influenced his approach to the music his response is immediately focused on learning from the people around him, with a particular emphasis on HIP-related bowings and techniques. Later, however, he provides plenty of evidence to suggest that the period violin and bow have influenced his playing in conjunction with HIP. He makes a direct comment that that instrument has influenced his use of vibrato. He also states that "it feels a lot more natural to use the weight of the bow rather than the pressure of the bow – to do the phrasing." And he poses questions that indicate a level of engagement with the combination of period instrument and HIP: "recently I've been thinking about what happened – why did people want the modern instruments and why did they change – why steel strings, why not gut strings on a modern violin?"

Melissa's clear account of the combined use of the period instrument and HIP in music making within EME has been quoted earlier in this chapter. Melissa provides a similar and complementary definition by stating that she uses the period instrument technically to create the sounds that she associates with different styles and different periods. Steve mentions that the tapered shape of the baroque bow naturally leads to HIP-related bowings, for example "retakes" in the French style and an inequality between up and down bows. He also states that the use of the baroque bow facilitates an understanding of "how they would have phrased things" and also "the way the music would go as well."

Simon's keen interest in both the period instrument and HIP pervades his whole interview, particularly from a technical point of view. He suggests that the initial experience of learning a "new instrument" and a lack of knowledge of HIP has a specific impact on the EME participants: "I think that does kind of force us to be a bit more open with our playing." Like Kenji, Vincent expresses more of an interest in HIP at first, and later this feeds back into his experience of the period instruments: "I also seem to be quite interested in the sort of socio-cultural aspects of it, you know the sorts of currents that were going on – philosophies and aesthetics of the time. And yeah just reading on that also enhanced the actual experience of the period instruments."

5.6   Summary – period instruments and learning nodes

The evidence presented above points to the development of sound aesthetic as a key affordance of the period instruments. The challenge of producing new sounds does not appear to affect students' appreciation of the process; indeed there are frequent indications of enjoyment. The physical adaptation to the period instruments is clearly an important factor in the learning process, as indicated by myriad vivid descriptions, and this is supported by a broad interest in the associated technical challenges. Comparisons with modern instruments highlight the learning benefits of experimenting with a different medium, in terms of both sound and technique. HIP appears to enhance the affordances of the period instruments, and the interrelatedness of the two is clearly expressed in many of the students' descriptions. The combination of period instruments and all of the above factors has a tangible impact on the students' understanding and interpretation of the early repertoire, with the exception of Kenji who is more influenced by the pure notion of HIP as a discipline unrelated to the instrument.

The statements in this chapter provide helpful insights into the mediating effect of the materials as *artefacts* in the EME activity system. The process and depth of the associated learning are discussed in Chapter 11.

Chapter 6 EME environment and collaboration

This chapter explores the evidence for 'collaboration' within EME. How do the students in EME perceive the relationships and interactions in their environment and what do they have to say on the theme of collaboration? Early readings of the transcripts yielded the broad theme of 'collaboration', which was then designated as a node. Later readings of the material coded to this node then yielded constituent themes which formed new nodes. The nodes containing factors that lay a foundation for collaboration are: a perception of democracy, a sense of community or 'friendly' environment, and tutor approach. Further nodes containing direct evidence of collaboration are: peer learning, verbal communication and group dynamics. The content of these nodes is reported and assessed below.

6.1   Perception of democracy

Although the word 'democracy' does not occur in any of the interviews a few of the students mention related key words such as 'communal' and 'equality.' More powerful evidence for the notion of EME as a democracy appears in the frequent references to freedom of speech. Charlotte talks about the "freedom to say things"; Kirsty mentions that "everyone can have a say" and Simon states "people are able to turn around quite comfortably and say 'right, this needs to be x and that needs to be, you know y.'" Steve likes "the fact that everyone can say something" and continues in a particularly effusive manner:

> And I think that to be able to say what I think to Neal, or to Nicole or to you, that you know kind of makes me think oh wow this is really kind of special you know, because you know I get to put my own touch to it ... to be able to do that is I think one of the big – the main things that really is a kind of incentive to keep coming back, definitely, yeah. Yeah that's good, I like that.

Adam also indicates a perception of freedom of speech amongst members of EME:

even when they're not asked they're permitted and almost encouraged to
butt in and give us their two bobs' worth of ideas, and I think that's really
important

Vincent gives the same impression of freedom, despite his own personal
reticence to speak up within the group:

in EME that can happen, we can have discussion, although it tends to
happen more with people who have been there for longer, obviously
because they're a bit more confident and also because I personally am a
rather shy person, yeah, but the fact that you can speak about it is
important

These statements indicate that the students perceive the EME environment to be
a democratic one, and therefore feel able to contribute to the conversations.
There are no statements that contradict these observations.

6.2   Sense of community

It's like my family Christmases, but a lot more sophisticated! (Holly)

Many of the EME students refer to the benefits of playing in a smaller ensemble,
in terms of both learning and providing a platform for communication.

Adam describes EME as having a "smaller, more open, more inclusive format";
his use of the words 'open' and 'inclusive' suggests a connection between a sense
of belonging and a freedom to participate in some way. Angus and Simon both
talk about the friendly "personal" environment of EME. Amisha states that EME
is "sort of like a community" with a "big group feeling", helped by the fact that
Neal sometimes plays as well as directs just like they did "back in the day." Kenji
and Melissa refer to the "direct" relations they are able to have with other
members of the group because of its relatively small scale. Holly reveals her
unique perspective on EME as "an introverted style of orchestra" in which the
members are playing for themselves. This is an intriguing comment, considering

the number of public performances given by EME throughout the academic year. It signals an even greater level of communal intimacy than indicated by the other students.

Several students refer to EME as a "team" – this is another indication of a sense of community. Adam suggests that this stems from the regularity of the EME meetings and has associated benefits in the professional world:

> So that fact that you get to play with them [fellow students] all the time means that when you then get engaged for things external to EME you've already got an established musical kind of way of working and you can operate as a team.

Angus identifies both the repertoire and the "sheer physicality" of playing the baroque instruments as factors that lead to teamwork. And in a comparison with modern symphony orchestras Simon specifically mentions that in EME "everyone tries to work together more as a team" as a result of the different sounds and repertoire.

A sense of community is also apparent in the volume of comments relating to the 'feel' of making chamber music within EME. Angus's sentiments echo the majority of students in this regard:

> there's a more chamber music feel, so everything that you're kind of doing is a really integral to the ensemble, so … you have that chamber music feeling of being individual, I think, and then also [you're] part of an ensemble so there's kind of those needs met

Angus links the perception that his contribution matters to the feeling of making chamber music within the group. In the same broader statement he contrasts this with the relative anonymity of large hierarchical cello sections in symphony orchestras. Other students make similar comparisons. It is clear that the involvement in making music on a smaller scale in EME is a key motivating factor in collaborative participation.

6.3   Tutor approach and direction

All three regular EME tutors are self-confessed reflective practitioners, adopting methods that promote discussion and aim to encourage relatively informal student-centred learning. The evidence for reflective practice is reported in Chapter 7; verbal communication is explored later in this chapter and aspects of informal learning are conveyed in Chapters 7 and 8. There is a plethora of evidence linking this tutor approach to collaborative activity within EME, despite the fact that Helen and Holly are the only students who actually mention the words 'collaboration' and 'collaborative' in their interviews. The importance of collaboration within EME is made explicit by Holly in her description of Neal's style of ensemble direction:

> … in his body, the way that he moves, he conveys what he wants, and he just helps us discover what we want to do with the music. That's the collaborative thing about EME. We can argue our own point of view and we'll – and he'll be a good sounding board for it and then he'll superimpose his own ideas which by then we all respect! Yeah, so he guides us rather than making us do what he wants, which means that it's a learning experience for us. It's a very different style of conducting to usual.

At the heart of Holly's thought process is a notion of democracy and open communication in the learning environment. Other students indicate this too. Angus refers to collaborative discussions of HIP between Neal and the students on the theme of affect in Baroque music: "like Neal will talk about that and then you know from what I've read we've talked about that, so it all really ties in." Angus goes on to indicate that Neal's high level of musicianship allows for "good communication" within EME and Neal's approach helps promote trust and sensitivity between musicians.

Helen also links her HIP learning with collaborative communication, this time between the tutors. Hannah's positive acknowledgement of this way of operating might easily inspire her to share ideas and demonstrate in the same way.

... affect has been the main thing. And stylistic applications like trills, how you do a certain bow stroke, although that's something that you and Nicole do a lot of ... well he [Neal] will want it and then you'll show how to carry it out ... that type of thing. I really like the way that works, like bouncing off each other.

Kirsty makes an interesting comparison with a modern symphony orchestra situation, suggesting that the freedom of speech allowed by the tutors in EME leads to an increased involvement in musical interpretation. The laughter after Kirsty's mention of Neal conveys an informality within the learning environment.

... in a [modern] orchestra, sitting in a back desk, you would not dream of being "Actually, you're wrong, I think we should play it like ..." You would not do it, like you wouldn't talk back to the conductor or anything. Now [in EME] it's like "Neal, no" [laughter] ... I feel that there's a lot more freedom in rehearsals, which is definitely needed for what we are doing ... because it's all about interpretation.

Without referring directly to Neal by name, Kenji also paints a collaborative picture of EME, suggesting that this leads to a unity of music making across the group.

it's [EME is] a lot more direct to work with everyone else – with the conductor, with the peers and it's a lot more together, as in the feeling for the music

Melissa makes a clear link between Neal's leadership and collaborative teamwork in EME.

... it's a different way of approaching conducting ... so he really sees himself more as part of the group than the one enforcing ... well I mean obviously yes he is enforcing things but ... it's not like he sees himself as being like the top authority and us all below him, it's more of a communal idea and like he's always welcome to hear everybody's suggestions and everything. And yes it comes across in the way that he conducts us

because it's not … like I mean sometimes he even steps aside and doesn't conduct certain things.

In a similar way to Helen, Steve makes an observation of the open communication between tutors that could well inspire collaboration and informal learning between the students.

I mean you know if Nicole is standing there and Neal's just said something or you've just said something, Nicole could say "Oh no try it this way" because the violas have this specific line and we're doing this and we're doing that, and so maybe we can go along with the cellos or violins or something.

Simon attributes his collaborative learning experience to the fact that the tutors all play within the ensemble. He also refers to a different teaching style and although he is not specific about that style, his experience of a reflective type of learning is an indication that the tutors' reflective practice inspires collaboration.

So you guys teach a little bit differently … the fact that you're playing – that barrier goes down and suddenly we're all players and we're able to … I don't know … reflect on what you're doing a little bit more and be able to … adapt to that better.

Charlotte talks in a general way about aspects of collaboration in an ensemble and then admits at the end that she has learned this from the tutors in the context of EME.

… always when you're working in an ensemble you've got different people to work with … yeah I guess understanding the group of people and working with their energy and [laughter] … finding your role in the section, and how to react to different playing … *Interviewer:* Is that something that fits within this section with what you've learned from tutors, would you say? *Response:* Yes.

6.4   Peer learning

Evidence of general peer learning in EME appears throughout the interviews, and not exclusively in response to question 5b), which specifically relates to peers. Many of descriptions of peer to peer interaction have an informal collaborative flavour and convey the impression that it is a significant factor within the group-learning environment. Students give varied accounts of the nature and content of their exchanges, ranging from specific advice on HIP, musical interpretation and technique to the more general statements about the benefits of peer learning.

Referring to the EME dynamic Adam mentions that students are "asked to have musical interpretative input" and encouraged to give each other "their two bobs' worth of ideas." This clearly permits peer learning to take place:

> … that direction doesn't necessarily always come from the top either. You know their desk partner might say "that's crazy", or someone in another section might say "look we have this here so that's going to be a bit awkward" or "that's not going to work' or whatever.

Charlotte says she has learned a lot from interacting and working with her peers, and more specifically "how to improve things and how to work together with different ideas." She singles out Kate, one of the leaders of EME, as a formative influence:

> I definitely learned a lot from Kate and her experience as a leader, and it was wonderful for EME to … allow her to do so much instruction, because I think we all learned from working together … as a group without the mentors as such. So trying to find our own way of working together and expressing the music was a really good experience.

Kirsty identifies HIP as an area of knowledge she has gained from her peers in EME in a discursive context, indicating the benefit of sharing different ways of interpreting music.

> … just because everyone's read so much and played themselves, so you
> have a lot of opinions, so it's good because I can only think of so many
> ways to play something and then someone comes up with something, it's
> like "Ah yeah why didn't I think of that?"

Kirsty also highlights the informal nature of peer learning in EME, with a revealing comment on the absence of value judgements around different points of view:

> So … it's all very kind of casual learning. You don't really sit down and
> teach each other something, it's you know watching each other and
> listening to each other. Yeah just getting a different point of view really.
> So not that it's better or worse than what I think, but it's different, so yeah
> … listening to other people they come up with interesting ideas.

The potential educational benefit of an environment in which peers make 'suggestions' without value judgements is clearly pointed out by Steve in a comment about Kate's leadership:

> … if she [Kate] doesn't say what we are doing is right or wrong, you can
> think that maybe we can try something else. And then you know that
> might work, and if it does it's fantastic, but if it doesn't – you know you
> can try something else or continue how it was.

Kenji gives credit to his peers for helping him learn about "every aspect of EME." He also paints a collaborative picture of peer learning in the advice he offers to his friend Steven in J.S. Bach's *Musical Offering*. Not only does he convey his opinion on one aspect of historically-informed bowing, but he also recommends another peer who might be able to help:

> I told him not to sustain so much on the last bit of your [his] bow. I think it
> wasn't really that appropriate, and then … because he wanted to project
> in the modern way, like he was the only one, but I think he needed to
> work with Vincent, the other person … and then I think the shaping of it
> should have been different

Melissa makes several references to the "sharing of knowledge" between leaders and players in EME, including an interesting comparison with modern symphony orchestras:

> I really like to way the leaders [in EME] just sort of turn around and share their knowledge, like you don't really get that in orchestras. I mean the concert master will say "This bit's rushing" or that kind of thing, but in EME they really give you directly what they want and so it's more like them sharing their knowledge than trying to tell you what to do or whatever.

Steve says his confidence has increased as a result of learning "different ideas" from "friends that had a better understanding." Simon mentions that in EME it is easy to enter into collaborative discussions about technical matters, whereas in modern situations it might be considered insulting to offer advice. He also states his opinion that certain ingredients within the EME environment have "forced" the students to work together more as a team, giving the examples of sound, music, smaller phrases and specific articulations.

6.5   Verbal communication

The most tangible evidence for collaboration is some form of verbal communication: this is clearly both an accepted and accessible feature of the EME environment, as Holly succinctly points out.

> So it's very easy to argue with EME, which I really like. It's … a collaborative process, rather than … a conductor's concept being forced over the mould. I like that style of music making.

Here Holly makes another direct link between collaboration – this time in the form of verbal communication – and Neal's inclusive approach as a conductor. Others make this connection too. Kirsty mentions that "there's definitely a lot more communication between members, rather than conductor is the boss and everyone follows that." And similarly, Melissa asserts "it's not like he [Neal] sees himself as being like the top authority and us all below him, it's more of a

communal idea and like he's always welcome to hear everybody's suggestions and everything."

The prevalence of verbal communication is frequently acknowledged by participants. There are many references to the volume and ease of communication within EME. When Adam is asked whether EME has influenced the way he relates to other musicians he refers to "much more talking." Charlotte states that there is "much more discussion" between individuals and within sections in comparison with modern chamber orchestras. Holly finds herself "always willing to argue, always wanting to argue" within the context of music making, and goes on to confirm that she in fact does so. Kenji mentions "a lot of discussions" that have helped him to understand the repertoire. Steve observes that "everyone has an opinion and will kind of have a say." Later he becomes more emphatic about verbal participation and sharing musical ideas: "you need to say what you're thinking and try these things [musical ideas] and don't be afraid definitely to give other people the idea that you're thinking." Simon notes: "we'll often turn around and mention things to one another." And Vincent observes that "there is a lot more involved between the players … because it's a smaller group and discussion can function."

Students often quote their peers, sometimes in imaginary conversations between members of EME during rehearsals, adding further weight to the assertion that the collaborative process is a key *outcome* of the EME activity system. These quotations or mini discussions usually convey suggestions to do with musical interpretation, but also other musical elements, HIP and technique. A few examples are given below.

Amisha, on phrasing a bass line:
> … it was interesting trying to compromise. Like sometimes we would say "Now which one do you prefer?" "Oh I prefer yours" "Oh that's funny I liked yours" [laughter]

Helen, quoting a fellow student sharing her knowledge of HIP:

> "Well I specialise in the French style and this is what I can tell you about that."

Melissa, on tempo, musical interpretation and HIP:

> … so like when we play through something we'll decide "Do we want to play this faster or slower?" … like "What sort of dynamics do we want to do as a group?" So yeah it's not just playing how we think the composer would have wanted but like deciding as a group the way that we want to recreate it … quite nice.

Steve, quoting peers on musical interpretation:

> "I really think the violins should be doing this"
> "Maybe the violas could try this"

Simon, quoting others on musical and technical elements:

> "so what would Neal say here?"
> "what should we do here?"
> "Simon is it this way, is it that way?"
> "maybe we can have a lower elbow in this part"

The scenarios above indicate that students are deepening their knowledge and developing their skills by talking and asking questions. Melissa talks positively about this process in terms of peers "sharing knowledge" rather than telling each other what to do. Charlotte describes it as an exploration of ideas and "different ways" leading to more energy and excitement from everyone. She also observes: "it's not just a fixed way, well from one person, shall we say?" This also provides further evidence of both democracy and the particular approach of the EME tutors.

6.6   Group dynamics

On the whole the students' descriptions of the group dynamics of EME are positive, in that they acknowledge the benefits of open communication and feedback between all those involved, even when there are disagreements. Adam is explicit about this when asked to sum up his EME experience:

> … it gives you the opportunity to really go deep into chamber music and ensemble playing and forge relationships with other young people who are passionate about the same sort of music. They don't necessarily agree with you about everything, but that's a good thing.

Rather than discussing musical passion in terms of relationships within EME, Helen refers to individual commitment and energy, but nonetheless she reaches the same conclusion about disagreements:

> There are definitely more individual personalities because people feel like they have something to give individually … of course it can cause clashes sometimes but I think it's a really good thing because there's a sense of … in EME of personal investment which I think is really good – it drives it forward.

Kirsty's initial observations of the EME environment are that "the people are different" and there is a different "mood." Presumably she is making a comparison with other orchestral environments she has previously experienced. She suggests that these differences are to do with the communication between members of EME, commenting that: "It may cause a few little dramas now and then, but I think it does more good than bad – everyone having a say."

Holly's reference to arguing implies that there are disagreements in EME, but this is clearly of educational benefit: "Yeah, so I argue a lot, and I enjoy it. It means that I am perfectly in tune with everything that's happening in all of the instruments."

Melissa implies a link between the non-competitive environment of EME and the fact that players feel able to express a difference of opinion. This follows on directly from her discussion about tutor congruence, a "relaxed atmosphere" and "sharing knowledge" between peers. All these ingredients help reinforce the evidence that differing opinions are an accepted feature of the dynamic in EME.

6.7   Frustrations with EME

Some students express frustrations with various behavioural and structural aspects of EME. These are in regard to personality types, egos, professionalism, orchestral discipline, different levels of maturity, hierarchy amongst players and structure of rehearsals. Significantly, for every description of an element of frustration from one student there is often a later statement from the same student that softens the impact of the earlier one or a statement from another student that provides a completely contrasting point of view.

Charlotte's initial impressions of EME are a little disparaging. She comments on the low attention spans of some players and a general "lack of professional etiquette in regard to rehearsal technique." She observes that the first rehearsal is "not disorganised but … not together as a group" and questions whether she wants to be a part of EME. Later, however, Charlotte assesses that the structure of rehearsals has improved during the semester, and that working with other less focused viola players has helped her to understand what does and does not work within a section. On the subject of professionalism Amisha provides a contrasting opinion to Charlotte's, by stating that she has "really taken something from all the professional qualities of all the string players in EME."

Angus expresses disappointment with his peers in terms of missed opportunities for musical connection in EME, linking this with different maturity levels.

> I came to a point in semester where I wanted to have like a really close connection … more personal connections with the people I was playing music with. And I kind of felt frustrated just because I felt like the people that I was playing music with were very … just submerged in their own

lives and not kind of on the same wavelength as me. And I think maybe that's a maturity thing.

By contrast Angus continues to describe the social aspect of the learning environment in a more positive light, admitting that it teaches one to "tolerate other people and act professionally." Moreover he has learned how to be humble and at peace – an important thing for his mental health.

Helen mentions that she has struggled with the structural differences between EME and a modern symphony orchestra, calling the latter a "more serious system" in which there is a "very definite hierarchy." She gives evidence of this struggle by admitting her respect for Kate's greater ability to accept the two different environments. She also confesses her opinion that EME would operate more effectively if there were some different rules: "because you need to have a structure if it's to work together cohesively." Helen continues to assess the notion of cohesion in the rehearsal process:

> I mean the rehearsal process is much the same, although there's less of an emphasis on like sectionals and cohesiveness as a section. There's more of an idea of … I guess leading from the harpsichord, so it's kind of like everyone's with Neal rather than "you work in sections so you can work as a whole." So I think that's a good thing in theory. In practice with a student orchestra … like in Brandenburg [Orchestra] I'm sure that's works great but with a student orchestra I think … it's a bit harder to do that because everyone sometimes is pulling against each other in an effort to connect there.

Helen displays elements of frustration with EME that are caused by a perceived lack of collective drive towards higher standards, but at the same time an awareness that she knows less about HIP than her peers. Helen has a unique perspective here: her peers' knowledge of HIP leads to a bittersweet experience, with mainly positive elements of individual input, personal investment, engagement, passion, participation, personality, but there is also an underlying hint of resentment that peers are lording it over her. Moreover, Helen states that

she is influenced by other people's egos in EME; she attempts to deal with egoic interactions "maturely for the sake of the craft" rather than to give in to her own insecurities; the purpose of learning experience in EME is "to serve the music" and this appears to help Helen overcome petty jealousies and rivalry.

6.8   Summary – EME environment

The evidence in this chapter highlights the students' perceptions of the social aspects of learning in EME environment. Perceptions of democracy and a sense of community enable peer learning to take place, as manifested by open verbal communication and vibrant group dynamics. Within the framework of Activity Theory the nature of the relationship between *subject* and *community* can now be considered, with reference to perceived *rules* and *division of labour*. But first, more evidence for the content and processes of learning is examined in the context of tutors and peers in Chapters 7 and 8.

Chapter 7 Tutors

Observations of learning experiences in connection with tutors

This chapter contains evidence for learning and music making specifically associated with tutors. There are references to tutors throughout the interview transcripts, comprising collective and individual references to all three regular EME tutors, and occasional references to visiting tutors from both within and outside the Sydney Conservatorium. All relevant quotations were coded at the Tutors node and then read and sifted for recurring themes related principally to learning experiences and tutor approach. Then the themes were either designated as nodes, or merged with existing nodes, or simply noted as unique experiences to be included in the Discussion in Chapter 11.

In connection with tutors the most frequent references relating to knowledge content are at the following nodes: HIP, musical skills, repertoire, sound and technique – these are all reported below. These references also contain insights into learning processes: formal and informal, reflective learning, observing and listening, and the physical elements of learning an instrument, all of which are discussed in Chapter 11. The most frequent references relating tutors to aspects of the EME learning environment are at the nodes of collaboration, perception of democracy, tutor direction, group dynamics, reflective practice and tutor congruence. Collaboration, perception of democracy, tutor direction and group dynamics have been reported in Chapter 6. Tutor congruence and reflective practice are reported towards the end of this chapter. Finally, statements indicating respect for tutors and an awareness of interaction between tutors are summarised at the end of the chapter.

7.1   Tutors, period instruments and HIP

> "quantum leaps in instrumental technique and musical awareness"
>
> (Adam)

All of the students mention specific elements of HIP in connection with the tutors, indicating HIP is a dominant feature of learning directly associated with the tutors. Often the statements are integrally bound up with references to the period instruments and bows. Elements of HIP included specifically in this data associated with tutors are: affect, rhetoric, musical meaning, direction from harpsichord, national dance styles, articulation, historically-informed awareness of harmony and tonality (light and shade), bass lines, basso continuo, hierarchy of beats within a bar, holistic approach, historically-informed technique, historical perspectives, inegality, ornamentation, treatises, notation, historically-informed phrasing, period instruments, temperaments, tempo modification, historically-informed sound production, and more general HIP references.

Most references to the combination of tutors and HIP contain simple listings of these elements, but in many cases there is also information to be gleaned about the students' learning experience. When Adam is asked what he has learned specifically from the tutors his response is to list the following HIP-related elements that have been "specifically told to us or demonstrated by the tutors": all the different bowing styles, how to hold and "wield" the period instrument, how to approach intonation in new temperaments, how to shape bass lines, how to play long lines in melodies and properly shape phrases, the way to play with a classical bow as opposed to a baroque bow, for example playing Mozart at classical pitch compared with Telemann at baroque pitch. Adam continues with a revealing comment on the nature of learning within EME in this context:

> None of that stuff has just happened naturally by osmosis. Of course you
> imitate things and you hear to a certain extent your mistakes and
> inefficiencies or whatever, but that happens incrementally, whereas from
> one moment to the next the tutors are able to say things which can totally
> change everything, you know … in EME the experience of having someone

show you something – a tutor show you something which isn't anything like you've previously experienced – that's not an incremental change, that's like quantum leaps in instrumental technique and awareness and musical technique and awareness.

Adam acknowledges that the students are "lucky" to have the tutors helping them and showing them possibilities in the context of HIP, and this leads to a "freshness and excitement" that makes students want to start playing stylistically all of a sudden, with no prior knowledge of what that means.

Angus highlights one aspect of his learning process via an apparent contradiction between Neal's generalised statement and Angus's own perceptions about historically-informed bowing. This scenario gives Angus freedom of choice in his decision-making and indicates use of imagination to influence technical decisions.

> I've heard Neal before say you know they didn't really care too much about the bowing, but then with his [Geminiani's] bowing, like when I play a piece of his – there's this kind of understanding I think written into the music that you use your bow in this kind of way and it kind of makes sense.

Angus also refers to affect and inherent musical meaning in Baroque music in a collaborative context between Neal and the students:

> … from what I know of Baroque music – it has such a purpose, you know it's about the affect of it … like Neal will talk about that and then you know from what I've read we've talked about that, so it all really ties in

Amisha states she has learned about baroque style specifically from the tutors, giving baroque dances as an example. In addition she learns about bowing articulation, not just directly from the tutors but also by being encouraged to develop a "readiness to be listening to the violins for a hint as to articulation." She gives Neal credit for her learning about historically-informed awareness of harmony: "If there's an unexpected change in tonality or in the note in the bass

line … when he says emphasise that it's interesting to hear how that brings out the change in harmony in the orchestra as a whole." She describes this process as "making the music pop more just by knowing when it all changes." Amisha also indicates the benefits of the HIP practice of direction from the harpsichord and tutor involvement in playing:

> It's good to have you know Neal playing as well. I guess that's how they did it back in the day … you know the guy at the harpsichord was the director and sort of the conductor as well … but it is nice that he [Neal] sort of plays sometimes … makes it feel more like a group again, like sort of a community.

When Charlotte is asked what she learns specifically from the tutors she refers to: inegale bowing; tonal variations, or "lightness" and "shade" within scales and semiquaver passages; dynamic variation; weighting and articulation of the bow; and hierarchy. Learning about these elements is helped by being able to hear Nicole when she is playing next to her in EME. Charlotte also refers to learning about a holistic approach to the music, which appears to be encouraged by the tutors as part of their HIP awareness.

> … when I look at the piece now with the help of Nicole as well, I'm seeing the piece more as a whole as well. I mean that's to do with a different way of seeing the piece as well as practising the piece … learning more about the music, the composer, you know, understanding how to approach it

Vincent also discusses a holistic approach within EME that could also be the basis of Charlotte's comments, providing an insight into the powerful influence of HIP on the students.

> It's almost like in EME the technical things and the music aren't separated, which is something that I find interesting and in fact very unique to EME. There seems to be in the modern world when you're playing – a big division between technique and music. Whereas the two are just … you can't separate them when it comes to early music, which I think is a good thing, because it promotes music first and well technique *so* that we can play the music, which is important.

Helen's main references in connection with HIP and tutors are to do with historically-informed techniques such as playing chin-off and the associated method of shifting. It is clear she feels comfortable talking with Nicole on a regular basis. She also mentions that she has learned about affect and stylistic applications such as trills from the tutors. Helen gives her seal of approval for a process in which Neal often asks for a particular bow stroke and then Nicole or I will demonstrate how to carry it out: "I really like the way that works, like bouncing off each other."

Holly acknowledges Neal's ability to interpret the treatises for the students' benefit: "there's just subtle differences that I think he gets from treatises – little subtle things like "oh this is in 4/4" even though it's written in cut common time." Holly goes on to describe this as learning about "the feeling of beats."

Kirsty comments that the tutors' original research, new ideas and original thoughts have been of interest to her, as she is "not much of a reader" and does not spend much of her own time devoted to reading the historical treatises. She also talks about the learning benefits of tutors playing within the ensemble – observing how the instruments are meant to be played, listening to the associated sounds and exploring musical possibilities.

Steve refers to the tutors in a similar way to Kirsty by acknowledging that they provide useful historical perspectives and offer suggestions and ideas on interpretation of the early repertoire. He also points out the benefits of this learning process beyond EME: "that really helps us – our learning especially, you know because I mean you're giving your knowledge to us, so you know we can use that later on in different things, I think." Steve seems awestruck by the extent of the tutors' knowledge and highlights this as an essential part of the learning environment:

> … there's just so much that you guys can tell us about things, and I think
> that really affects the whole ensemble, because … we wouldn't be able to
> do anything without you. But I think that it really makes us think more

seriously about it, because you give us all of these ideas and from that I think we can work on things together as a section …

Kenji gives Neal credit for conveying an awareness of historical temperaments and he credits all the tutors for their insights into historical techniques and perspectives.

Although Melissa does not refer to the regular EME tutors in the context of HIP she does acknowledge the influence of a visiting HIP specialist, Clive Brown, on the topic of tempo modification in a chamber work by Mendelssohn:

So Clive had all this knowledge of exactly what Mendelssohn wanted and it was really interesting because we'd never really thought about it in that way. So yeah it's really important I think to go back to what the composer was saying about their works.

Simon gives the impression that the EME tutors regularly call upon the students to use their HIP imagination. For example, Neal asks the students to consider how repertoire might have been interpreted in the past and also why current early music groups might claim their interpretations to be historically informed. In this context Simon points out the musicological benefits of Neal's "push", claiming that it forces the students to be more focused. This resembles the notion of Förderung introduced by Holly – see later in this chapter, and also the node descriptions in Chapter 4. In another example Simon explains how the second violin section develops an awareness of historically-informed articulation by observing me talking to the cello section about basso continuo lines: "you'll say how to articulate the sound, or it would have been done this way, and where to play it, and then we also do that as well and I find that's a huge help."

7.2   Tutors and repertoire

Learning about the early repertoire in connection with tutors is often associated with aspects of HIP. Adam describes his learning experience in EME as an "immersion in in the physical experience of playing on gut, in the sound world, in

the repertoire, in the style." EME has provided him with a "doorway into this new world … opened up to me by all these very nice people." So learning about the repertoire is a part of Adam's journey, and his statement implies that this could be attributed to tutors and peers alike. Charlotte is more specific in giving credit to Nicole for helping her learn "about the music, the composer … understanding how to approach it and how to play it as a whole." Kirsty points out the advantage of being able to observe and listen to the tutors play, in order to "see sort of up close how it's meant to be played and … what's possible with the music."

Steve indicates that the early repertoire is "different" because it requires "a lot more understanding of the period and how you would have to play something." In this statement he inextricably links his experience of learning the repertoire with the concepts of HIP. The tutors' involvement in this process is clearly positive for Steve, describing it as "a good thing because we have you guys to help, and to give us suggestions and you know ideas and how we can play…" Furthermore, Steve states that the tutors' understanding and appreciation of the repertoire "transfers through" to his playing "because seeing you guys love it so much – that makes me want to play better for you, and to play better for myself." Melissa reveals that she learns about the repertoire in different ways from different tutors.

> I like that all the different tutors [in EME] have got a completely different way of sharing knowledge. Rachael is very like, you know relating it to not just the physical music itself but the kind of spiritual way of creating music and what it sounds like. And then when we have sessions with Marina it's very technical based and getting the music really spot on, which is nice, I mean it's good to have these different influences.

And Vincent acknowledges a visiting tutor, Bart van Oort, for helping him learn about early repertoire through the lens of HIP, specifically in the context of speech and rhetoric.

7.3   Tutors and sound

References to sound production and aesthetic are usually made directly in connection with the period instruments and bows, without linking the learning to tutors or peers. However, there are some reports of the tutors' influence in consideration of sound. Adam gives credit to Neal and me for changing his sound by persuading him to use a more technically relaxed approach to playing the baroque cello. Charlotte mentions that the tutors have helped all the students form a "unity of sound." Kirsty points out the benefit of listening to the tutors play their period instruments in terms of "what it's supposed to sound like"; she implies that it is hard to have the same learning experience by listening to youtube recordings. Melissa enjoys the way that "all the different tutors have got a completely different way of sharing knowledge" and she singles out Rachael, a visiting tutor, for helping the students to explore how the music sounds. Simon gives a specific example of the second violin section benefiting from advice I give to the cello section about articulation of sound from an HIP perspective. And Vincent highlights the advantage of having multiple tutors in this context:

> Neal would want a certain sound, and of course he used to play the violin but that was a long time ago, so that's where you [the other tutors] come in very handy, and you tell us exactly what to do to get that sound, or to get what Neal's after.

7.4   Tutors and musical skills

Many of the musical aspects of learning reported by the students are imbued with elements of HIP and are therefore partially covered in Section 7.1. Nonetheless there are often statements of a more general musical nature – in particular ensemble skills, listening skills, phrasing and harmonic awareness. For example, Adam states that with the tutors' help in EME he has "enhanced the basic ensemble skills that everyone needs to learn … listening and watching and making compromises and all that sort of thing." And it is clear that Helen has developed her listening skills when she acknowledges my role in focusing on the many different ways of expressing a bass line.

During his interview Angus refers to a noticeably wide range of musical skills he has learned from the tutors; in addition to phrasing and musicality he mentions awareness of acoustic, taking risks, accessing musical imagination and developing consciousness in music making. In the context of Baroque repertoire Angus mentions talking with the tutors about the "rhythm of like when you get into a performance" in a way that implies more than tempo and meter. When asked what he means by "rhythm" Angus uses words that could well describe the groove of a jazz musician: "I guess the involvement in the music and the way that you shape a line and everything has got a lot to do with the pulse and the feeling of the actual rhythm, yeah of the music." Although Angus does not specify how this "groove" is learned or achieved in EME he gives Neal credit for inspiring the students to access their imagination at times when the groove is not being accessed:

> there's certain pieces that everyone likes so they just get into it and
> there's a certain groove, but then other times I think, you know Neal
> would have to say "let's do this" "let's do that" "let's bring out this
> character" and then it sets afire your imagination so you kind of engage in
> the music and you get into that life which is the music

Angus goes on to describe Neal's way of helping the students make the music more "alive" as "kind of waking us up." Furthermore, when asked what he has learned specifically from the tutors he mentions "real musical ideas", "tapping into those ideas that happen when you're performing" and "that kind of live energy approach to music making."

Both Charlotte and Holly make comments on musical learning that are closely aligned with Angus's descriptions of core rhythm, energy and groove. Charlotte learns from Neal about "getting the sense of the beat" and "keeping the energy of the beat, of the music while different characters go on their own way"; and from Nicole she learns about the role of the viola section in moving the ensemble along and "really getting the energy of the movement" without being swayed too much by the soloists or the melody lines. Holly learns from Neal that "you need

to conduct with your body while you're playing" and this helps with an awareness of "the feeling of beats."

7.5   Tutors and technique

Most of the elements of technical learning mentioned by the students in connection with the tutors are specifically related to the period instruments, and these are covered in Section 7.1 above. Statements about more general technical issues are usually to do with bowing and articulation in a non-HIP context. Beyond these particular concerns Adam, Angus and Kenji provide the most interesting thoughts. Adam's tendency to overplay his period instrument prompts both Neal and me to advise him to "chill out and let the strings do the work." Adam admits that this results in a successful shift in his approach to the physicality of playing an instrument. He continues to make a powerful statement about the tutors' influence on technical learning in the context of EME in comparison with modern situations:

> None of that stuff has just happened naturally by osmosis. Of course you imitate things and you hear to certain extent your mistakes and inefficiencies or whatever, but that happens incrementally, whereas from one moment to the next the tutors [in EME] are able to say things which can totally change everything, you know. And I would suggest the changes that the tutors are able to I guess influence in a modern ensemble are much more incremental because it's very slow, very subtle improvements in technique and in you know how to play this particular cello solo in a Mahler symphony or whatever … even in a youth orchestra that's not something that changes instantly. It happens incrementally and it gets slowly better until the concert when it's half decent. Whereas in EME the experience of having someone show you something – a tutor show you something which isn't anything like you've previously experienced – that's not an incremental change, that's like you know quantum leaps in instrumental technique and awareness and musical technique and awareness. Yeah that's a real distinction.

Angus praises my practical approach as a tutor and points out how he is guided into seeking multiple technical solutions: "you find the possibilities of doing certain things in different parts of the bow and different strokes, like you can do it, like it's adaptable … there's not just one answer." He also mentions the professional benefit of learning from the EME tutors about how to adapt one's bow strokes for different acoustics. Similarly, Melissa points out Nicole's capacity for exploring technical options: "she's always got a specific technique that we can apply to whatever's in the music that's really useful." This resonates with Vincent's statement in Section 5.4 (page 89) about the link between technique and music in EME.

Kenji mentions the advantage of the tutors being involved in a practical way in terms of technical learning:

> … when the teachers start demonstrating we get it straight away, we can imitate what you do. And that's what I get from the teachers, the bowing – down, up, up or down, up, down – anything related to that

When Simon is asked what he has learned specifically from the tutors he refers to the technical scenario of "where to be in certain parts of the bow at certain times in specific contexts." As an example he recalls a fast passage in a piece by C.P.E. Bach:

> … a lot of people were playing it on the string, a lot of people were playing it off and she [Nicole] was trying to get a warmer, rounder articulation on each note, and you know she said "middle to lower" and things like that – it's obvious but it makes you more aware …

And Vincent's response to the same question also includes technique. In the following scenario I recall leading the technical exercises from the cello section. Vincent makes clear the link between technical engagement and Neal's musical demands.

> I remember on the first rehearsal that we had we just did some scales and we did different bowings with you, so that sort of engaged with us … ok if

> Neal's going to be asking for this sort of thing, this is what we'll have to do … technical things like that.

7.6   Tutors, congruence and Förderung

'Congruence' or friendliness of the tutors is clearly valued by the participants of EME. Adam mentions this as a factor in his desire to join EME: "the people who run it, even for a non-Con student, were so inviting and encouraging." And in the same sentence Adam associates this with "one of the most positive experiences they [fellow students] have had in their musical education post high school." Angus talks about the importance of trust and "an ability to be sensitive to each another" in music making and he explains how this plays out in EME:

> … whatever we do, even if we stuff it up and play like crap, you know you guys are very accepting and non-judgmental … which is great because as a person learning it's very stifling I think, especially in classical music – so much [sic] things to think about and it's so dependent on how you feel – you've got to be so clear in your mind, to perform well. So to have that kind of support [in EME] really makes music making a positive environment to learn in

Charlotte recalls Nicole's kindness at the time when she was summoning up the courage to join EME "… it took me a while to kind of get the impetus to message Nicole and she was so kind of accepting." Having lost her sense of direction in modern playing, Charlotte's motivation for early music appears to be assisted by tutor congruence: "And with the help of Nicole's generosity, and obviously Neal's and your acceptance of me in EME, it was quite welcoming to have you know a new environment."

Helen describes Neal as "amiable" but then points out her frustrations with this characteristic: see Section 7.7 below. Despite these reservations Helen reveals her appreciation for tutor congruence in her reaction to the news that Nicole and I have been engaged as tutors for an Australian Youth Orchestra course: "when I

found out that you were my tutors for [AYO] chamber players I was like 'Thank goodness I don't have to be scared!' That was my first thought!"

Melissa makes a link between congruence and facilitated learning: "Well I guess it helps that we're kind of all friends with the tutors so it's more of a relaxed atmosphere and it's kind of easier to learn that way I guess – you can get straight down to problems." And Simon makes a similar statement: "You guys – you, Neal and Nicole tend to be very down to Earth about the learning which I think very much assists the process."

Holly introduces the concept of "Förderung" in her descriptions of her learning experiences with the tutors in EME. Her initial definition of the German word is "pushing along, but in a helping hand kind of way." As an example she mentions that musical interpretation is "kind of drummed into us, in a very gentle, self-fulfilling kind of way." When prompted she provides more detail:

> There's always the feeling that you're trying to tell us as much about everything as you can, and that … always more is expected of us than we're doing at the moment. But it's in a good way. Like "you're doing ok but you could do this." Not "that sounds not together and it's awful."

Holly states that this approach from the tutors is quite different from her experience within other orchestras. Adam mentions his appreciation for this approach in a description that closely resembles Holly's definition of Förderung:

> I loved the times when I was hassled because I hadn't learned something properly yet and I was playing it badly. I loved being you know – never particularly fiercely or aggressively or anything – it was always rather nice, the way these little kick up the bum moments occurred, but I loved sensing the expectation that I was needed to play well.

Simon too hints at an approach that could be described as Förderung in his reference to Neal's "push" – an approach that "forces us to focus more and to be more together" and is of "musicological benefit."

7.7 Tutors and directing

References to directing, leadership and authority are almost all reported in Section 6.3. Helen is the only student who expresses concern about Neal's relatively gentle and collaborative approach as a director.

> … he tries to assert authority, but he's too kind … he'll say something serious and then someone will mock him and he'll kind of looked abashed and kind of take it back and that's that … sometimes I wish he'd kind of do a modern orchestra thing and just make people play by themselves or something.

Helen reasons that structure is necessary in order for players to work together cohesively in rehearsals. Clearly she misses the type of discipline that is more often found in symphony orchestra situations.

7.8 Tutors and reflective practice

Students provide some evidence of reflective practice in their comments on tutoring in EME. Certain key words and expressions, within the transcripts and researcher comments, indicate the following themes associated with reflective practice: the art of possibility, encouragement of creativity and imagination, variety of tutor approaches in one environment, flexibility, freedom to make mistakes and to take risks, imagination used to influence technical decisions, pragmatism, problem solving, extended rehearsal technique, and spontaneity.

Angus points out that my approach to teaching in both individual lessons and EME involves the exploration of more than one possibility in problem-solving – this is characteristic of reflection-in-action:

> … with the way that you teach, you find the possibilities of doing certain things in different parts of the bow and different strokes. Like you can do it, like it's adaptable … there's not just one answer.

Angus continues to describe this approach as "a really great professional way of doing things." He gives further examples: "we're in a drier acoustic, let's do this kind of stroke to solve that problem … we're in a more boomy acoustic, let's do this kind of stroke … let's do this to project more, let's play a little bit more *tasto* to do that."

Steve also paints a picture of reflection-in-action in the form of on-the-spot decision-making in this typical scenario in EME:

> … if Nicole is standing there and Neal's just said something or you've just said something, Nicole could say "Oh no try it this way" because the violas have this specific line and we're doing this and we're doing that, and so maybe we can go along with the cellos or violins …

In addition, Steve displays an awareness of the tutors' engagement in their own learning: "you guys are learning as well because … there's so much to take in from everything." This highlights an ongoing 'reframing' approach to learning that is characteristic of reflective practice.

Simon makes it clear that the tutor approach in EME differs from his experience of some other tutors.

> You know it's almost cement with some tutors because … well the way they teach is generally quite different from my experience, so you guys teach a little bit differently … the fact that you're playing – that barrier goes down and suddenly we're all players and we're able to … reflect on what you're doing a little bit more … and I think that in the context of EME that is much smaller, that barrier … because you guys are playing and [because of] the way you guys approach EME.

Although Simon does not go into specific details of tutor approach there are several elements in this statement that suggest reflective practice from the researcher's perspective. The reference to "cement with some tutors" implies the opposite in the EME tutors – a more fluid approach that is associated with

reflection-in-action. And Vincent confirms this approach in a reference linking Neal, HIP and music making:

> I can see how it's possible to sort of get stuck on the treatises … I feel that Neal's a lot more flexible, you know, with what he wants to do, which is good … he's not just reading and reading and getting stuck.

7.9   Respect for tutors

Students indicate their respect for the EME tutors in several ways. The benefit of my professional experience is highlighted by Angus as leading to answers and solving practical problems. Melissa makes a similar comment about Nicole's musical and technical knowledge: "there seems to be direct answer to every problem." Angus also credits all of the tutors as expert practitioners by suggesting that their professional musicianship enhances the students' experience of live music making and that Neal's "awesome" musicianship promotes trust, sensitivity and open communication. Charlotte acknowledges Nicole's professional expertise by stating that she "learned so much from playing with someone of such a high standard." Steve mentions the benefit of learning with tutors who have a knowledge of HIP and "know how it's supposed to be done," whilst indicating his awareness that the tutors "are learning as well." Simon too credits the tutors by stating that their experience and musicianship enhances the reflective learning within the ensemble, particularly when they play amongst the students.

7.10   Interaction between tutors

Some of the students display an awareness not only of the interactions that involve them, but also the interactions between the tutors in EME. Angus observes the "long musical relationship" between Neal and me, suggesting that we have an "understanding" and a "real connection." Holly extends this to include Nicole too: "I can see how you and Neal and Nicole operate together in your chamber musicky kind of feeling." Others point out a kind of team work between the three tutors. In reference to style Helen describes how Neal

expresses the desire for a particular HIP-related outcome and then Nicole and I "show how to carry it out." Helen is positive about the interaction: "I really like the way that works, like bouncing off each other." And Vincent paints a similar picture of collaboration between the tutors:

> Neal would want a certain sound and of course he used to play the violin but that was a long time ago, so that's where you [the tutors] come in very handy and you tell us exactly what to do to get that sound, or to get what Neal's after.

7.11   Summary – Tutors

In this chapter students' experiences of learning and music making have been identified and explored in the specific context of tutors. The content of learning comprises period instruments, HIP, musical skills, repertoire, sound and technique. Students display a respect for tutors and also significant awareness of tutor congruence, reflective practice and tutor interaction. In terms of Activity Theory this data sheds light on the nature of the relationships between *subject* (students) and one section of the *community* (tutors). The mediating effect of the *rules* on these relationships can now also be assessed, with respect to the overall impact on the *object* of music making and learning.

Chapter 8 Peers

Observations of learning experiences in connection with peers

References to peers, both general and specific, occur throughout the interviews, suggesting that within the EME environment there is a level of awareness between peers that is worthy of analysis. Although most of the useful data is provided in answer to question 5b) 'What are you learning from your peers?' there are also valuable insights to be gained from individual responses elsewhere. All quotations containing references to peers were coded at the 'Peers' node and then read and sifted for recurring themes related principally to learning experiences. Then the themes were either designated as nodes, or merged with existing nodes, or simply noted as unique experiences to be included in the Discussion in Chapter 11.

In connection with peers there are references relating to knowledge content at the same principal nodes as for tutors: period instruments and bows, HIP, musical skills, repertoire, sound and technique. These are all reported below. Within these references there are also insights into all the types of learning associated with tutors: formal and informal, reflective learning, observing and listening, and the physical elements of learning an instrument.

The two most significant nodes relating aspects of the EME learning environment to peers are 'collaboration' and 'group dynamics'. Collaborative references include verbal and non-verbal communication, shared experience, discovery, community, camaraderie, musical connection, team work, collective input, interaction, arguing, synchrony, different opinions, freedom of speech, sharing knowledge and exchange of ideas. References to group dynamics encompass clique-iness, close relationships, close connections, tolerance, humility, professionalism, good behaviour, respect, professional etiquette, frustration, insecurity, maturity levels, learning to work with others, encouragement, lack of discipline, friendly competition, lack of competition,

peers helping out, group decision-making, mood and vibe. The majority of these features are reported in Chapter 6.

8.1   Peers and period instruments

Adam is given "an insight into the possibilities of a baroque cello" by Claire, a more experienced baroque string player. He continues to say "I've never used a bow like this, I've never made a noise like that." Kirsty acknowledges that she has learned how to hold the baroque violin from Simon, taking a few external lessons from him to supplement her learning in EME. She also mentions that "everyone else" encourages her to make a distinct separation between modern and period instruments "because they're really different instruments."

Helen learns about the idiosyncrasies of the baroque violin from another member of EME:

> I've learned a lot of things just about the actual instrument from Jen. She's seems to always know what to do, like where to put chalk and just all these little things to do with the violin specifically. Lots of things that I would just never have even thought of like putting lead pencil between the groove where your string goes and … that can make a buzz … and all sorts of weird things.

Kenji too gives credit to his peers for helping him learn about the period instrument. When asked if the period instrument has informed his learning experience he replies "not without the peers telling me, yeah how it works and everything." Thereby Kenji indicates that in the learning process peers exert more of an influence on him than the instrument itself.

8.2   Peers and sound

There are frequent references to the creation of sound and an awareness of a sound aesthetic (see Chapter 5). Adam, Amisha and Simon all give vivid accounts linking different aspects of peer learning to sound production.

Adam revels in the "physical experience of playing on gut, in the sound world" and demonstrates a strong desire to explore a sound aesthetic with his peers:

> I'd sort of just decided I was going to play in a really proactive way and try and shape the sound of our section a little bit. I wasn't leading it but the four of us who were doing it … we were just doing whatever we could but I remember towards the end we really started putting a lot of energy into it and that got really wonderful quite quickly.

Adam spells out the importance of sound in his collaborative journey: "You get exposed to these people's sound and their style so regularly and so intimately that you learn to work with them." He continues: "I feel like my priorities in music making now are about not just making great noise but about learning … and yeah discovering something with people. And it's a special journey to go on. It's a special shared experience."

Amisha makes observations about the "care taken" by members of EME in producing sound on the period instruments. She suggests that the concern to make beautiful sounds might stem from everyone being "intimidated by their gut strings." In addition to this, Amisha mentions her need to fit in with the sound of the continuo section, indicating an awareness of blending and aesthetic.

Simon makes a clear link between reflective peer learning and sound:

> Yeah I find the process of reflective learning within EME – watching other people play while you're playing – you're able to adapt and learn you know different ways of creating a sound … you see another player at the front of the section or wherever, a different instrument, and they have to make it sound a certain way due to the possibilities of their instrument or whatever, and that really shapes the learning.

For Simon, the observation of peers in "their own experimentation and experience on the instrument" is an important part of the learning process in

connection with sound. He also gives examples of discussions between peers, specifically about sound.

Melissa too provides evidence of peers collaborating in the context of sound. Referring to the research done into Vivaldi's *Four Seasons* by one of EME's leaders, Melissa enthuses:

> She really shares that with us … like exactly what sound that she wants and it's really good to just have like "This is exactly the way that I think it should be" and then we can all sort of draw on that and tell her what we think and figure out a good sound.

Vincent recalls with interest one entirely peer-directed rehearsal, in which the focus is clearly on sound: "we had one exercise where we'd walked around the recital hall just playing and sort of listening to the sound that would resonate upwards and just trying to blend." Such self-motivated action indicates a strong connection between peer learning and sound within EME.

8.3   Peers and technique

The high volume of unprompted references to technique suggests that it is an important factor in the learning process in EME. Most references to technical learning are impersonal; a relatively small proportion of them are directly attributed to peers or tutors. Simon makes a particularly intriguing comment that there is relative freedom in being able to talk about one's technique within EME, in comparison to other learning situations, where to do so can be regarded as "insulting" to others. He paints a collaborative picture of the exchange of technical advice between peers. For example he talks with Jen and Julia about modifying the use of his arm and the angle of the bow to increase contact with the string or to make a *piano* sound on gut. And he makes further technical discoveries through discussion:

> I found it quite hard to come off the string, I couldn't lift the bow; it didn't want to bounce the way modern does. And just talking to others … you know they say "ok you have to think about a sand bag on your elbow"

rather than articulating in such a horizontal manner … you know almost kind of changing the angle a little bit will help it come off a bit between each stroke.

Kirsty reinforces Simon's notions of freedom and collaboration in relation to technical matters by saying "everyone is really open to new ideas and other kinds of techniques … everyone can have a say of how they think it [the music] should be played, like musically or technically." Melissa illustrates this by giving credit to a peer for sharing her specific technical knowledge: "Jen I think is really good … she's sort of like Nicole in that she's always got a specific technique that we can apply to whatever's in the music that's really useful."

The techniques that are most frequently reported to be learned from fellow students are bowing, articulation, tuning and physical aspects such as holding the instruments and playing 'chin-off.' Angus, who is the least forthcoming interviewee in relation to peer contact, admits to the "little bow strokes" that he "might have learned" from some of the violinists. As a mature student who has chosen to study the period cello exclusively he seems relatively reluctant to acknowledge his less knowledgeable peers in the learning process, but bowing is the one technical element he does mention. Conversely, Angus's authority in the role of peer educator is clear in a comment from Amisha:

> I've been learning a lot from all the cellos … it's been great playing with Angus because I think there's still … even though there are some conventions with baroque bowings … there's always slightly different ways to do them … you know whether you bow a section out

Holly credits the leaders of the first violins as the source of her knowledge about "bowing things – the construction of different kinds of bowings." Kenji cites bowing as an example of his peers helping with "every aspect of EME", noting in addition that baroque composers did not put as many technical indications as later composers did on their scores. Kenji also offers bowing advice to his desk partner Steven in Bach's *Musical Offering*: "I told him not to sustain so much on the last bit of your [his] bow. I think it wasn't really that appropriate."

Kirsty mentions an HIP-related comment on bowing from her desk partner Simon: "Oh it's actually meant to be this bowing whenever you have this pattern." And Vincent clearly acknowledges another member of EME with a detailed HIP bowing technique:

> Tim suggested that we just draw it there for longer, then sort of do a very fast retake … so that the semiquaver was almost like you were retaking but then just passing it through the string so you'd still play the note but as a retake

Tim, one of the leaders of EME, is frequently referred to by members of the group, not just in the context of bowing. Helen observes Tim's technique of holding the baroque violin: "he keeps his chin down but he makes sure that it's being supported by his collar bone." This inspires her to adapt her technique: "I kind of adjusted that way so I can now, this semester, play chin-off if I choose." Vincent also refers to Tim's physical posture, noting that he does not adhere to the "Amsterdam style" of chin-off violin playing, and sometimes looks "a little uncomfortable" with the compromise he has found. He compares this with another student Kate, who "doesn't have her chin on ever."

8.4   Peers and repertoire

There are abundant references to the early repertoire played by EME, both in general and in connection with specific composers. Charlotte makes a positive link between the exploration of the repertoire and peer learning:

> I think we all learned from working together … as a group without the mentors as such. So trying to find our own way of working together and expressing the music was a really good experience.

Adam sums up his EME peer learning experience by saying it "gives you the opportunity to really go deep into chamber music and ensemble playing and forge relationships with other young people who are passionate about the same sort of music." In Adam's opinion his peers are just as motivated as he is by the early repertoire. Others reinforce this evidence. For example, Amisha states that

the whole cello section is "really invested in the music" and "the music just feels more loved because everyone cares about it." Similarly, Steve is reassured that "there are other people there that really love Baroque music."

There is evidence that the early repertoire is a motivating factor for collaboration. Simon asserts: "I think the music has a lot to do with the way we respond to one another … both as individuals, as a section or a team and as an orchestra." And Kenji refers to "lots of discussions" that have really helped him "understand the repertoire and stuff." Charlotte too mentions discussion between individuals and within each section on "how to play the piece" and she then introduces the additional factor of HIP: "Obviously everyone's reading different treatises and you're getting just more ideas on how to play the music."

8.5   Peers and HIP

All the elements of peer learning discussed so far are imbued with aspects of HIP: the unique sounds of period instruments, their associated techniques and the early repertoire. HIP-related bowings are mentioned particularly often: *messa di voce*, articulation, retakes used to emphasise hierarchy, 'inegale', different national styles of bowing, sustain and release. Other aspects of HIP that are referred to in the same context as peers are historical treatises, ornamentation, national styles, historical temperaments, continuo phrasing, use of vibrato, original manuscript markings and composer intentions. Examples of these are given below.

Charlotte observes that "obviously everyone's reading the treatises" and this stimulates discussion and an exchange of "ideas on how to play the music." Similarly, Kirsty provides evidence of peer learning in connection with historical treatises by stating: "lots of people have done lots of intense reading and stuff, so you know I've picked up from what they've been saying." She goes further by indicating how this combination of materials and collaboration deepens her learning experience:

Yeah because the people that wrote all the treatises and stuff – who says that they knew what the composer wanted? So … it's good to get their perspective on how they felt it should be played, because I have one idea and then someone else says "Oh, what about this way?" that I haven't really thought of before.

On the topic of ornamentation Helen is clearly influenced by Sophie, one of the oboists sitting behind her, as this conversation reveals:

… she was sitting behind us and she was like "Oh how are you doing that ornament?" and then like "Oh from above, obviously … it's early music." And then she was like "Oh but it's French so isn't that from below?" and I was like "Oh gosh. Wow, we've just been doing …" Ok the general principle is the note from above because it's early music, and that's as far as we've gone.

Helen's description provides a clear indication of a deepening of knowledge through peer interaction. Ornamentation is just one aspect of the different national styles in early music. Helen gives credit to her peers particularly for their knowledge of the French style by quoting a typical comment during rehearsal: "Well I specialise in the French style and this is what I can tell you about that." Helen also directly acknowledges Kate, one of EME's leaders, for informing her about national stylistic differences. Melissa also indicates that she has learned about style from her peers, this time by observing a small group of EME colleagues playing chamber music: "they'd done a lot of work in the group and they all had a lot of informed knowledge about how to play that style of music and it was really effective."

In EME students are required to play in historical temperaments, or early tuning systems. Learning about this challenging aspect of HIP is more associated with advice from tutors rather than peers, although Kenji admits that he learns about "tuning in different ways" by observation of his peers. Helen also refers indirectly to peer learning by confessing her ignorance of Vallotti temperament before encountering her colleagues in EME.

From the EME harpsichordist Holly learns "a great deal about continuo phrasing and about how the continuo should respect and accompany the first part." In early music the basso continuo line is usually shared between bowed bass instruments and plucked instruments such as the harpsichord or lute. Amisha mentions that it is "interesting trying to compromise" with the cellos when making decisions about continuo phrasing, thereby indicating an element of collaboration in that context.

On the subject of vibrato, Kenji reveals his shock in the first semester when Adam tells him he is using too much. However, when asked about learning in EME Kenji gives his peers credit for persevering with him: "And from my colleagues … I had to play without vibrato and everything and they really helped me go through it, and that was really fun to know." Kenji's interest in HIP is remarkable given that he "didn't even know there were music periods" and "just classified everything as classical music" before he joined EME. Kenji poses some fascinating questions about baroque manuscript markings as a direct result of a discussion with his friend in EME:

> Bach and Vivaldi – they didn't do as much … they didn't put as much techniques or specific markings on them. Is that because they wrote so much they forgot to put them in, or because they wanted the musicians to express the way they want to?

Melissa also explores this line of thought by referring to the unique blend of HIP and interpretative input required in the context of EME: "So yeah it's not just playing how we think the composer would have wanted but like deciding as a group the way that we want to recreate it … quite nice."

8.6   Peers and musical skills

There is a large area of overlap between the learning categories of HIP, technical skills and more general musical skills. For example, articulation is a technical skill as well as an aesthetic consideration within both historically-informed and modern performance. However, there are references to learning musical skills in

EME that are not specifically related to HIP. In the context of peers there are general references to music making, ensemble and listening skills, phrasing, articulation, rhythm, musical interpretation and expression, section playing and chamber music skills.

Adam is emphatic about the learning of "core musical skills" alongside his peers within EME, although his examples of peer learning are all in the context of HIP and it is not clear in this statement if he believes that core musical skills are imparted specifically from one peer to the next:

> I think the people who are involved in it, whether they recognise it now or not, they will know at one point or another that they've had an opportunity which is just priceless in terms of just really deepening what I consider to be core musical skills, and going through that process closely with other people as well.

Amisha clearly enjoys music making with her peers in EME and displays particular enthusiasm for the combined cello and bass section: "we all know what we're playing and we're owning the bass line … and that's a great moment!" She points out several musical skills she has learned from peers. In maintaining her "readiness to be listening to the violins for a hint as to articulation" she is developing listening skills and an awareness of articulation. By observing that Angus is "always on top of the beat" she is exploring her rhythmic skills. And by "trying to compromise" on phrasings she would normally do differently from Angus, she extends her knowledge of phrasing and also develops her ability to cooperate musically.

Simon refers to his peers in the development of chamber music skills in EME: "so you've got your communicating, articulating the same as other players, following a conductor or a leader to an extent." He also adds phrasing to his peer learning experience: "playing with the different musicians you have to watch them and watch how they move and how they interpret their phrases differently and being able to respond to that I think."

Holly also provides evidence of learning about phrasing within the context of collaborative music making:

> It's quite interesting this semester ceding to somebody else's view of where the music making should be. I find myself always willing to argue, always wanting to argue … within the context of music making within a phrase, kind of … the shaping of the music. So it's very easy to argue with EME, which I really like.

Steve also mentions the influence of his colleagues on phrasing: "just having friends that had a better understanding really kind of gave me a lot more confidence to play out more or to phrase it this way." He extends this to learning about section playing by "working together as a group" on ideas suggested by the tutors. Charlotte adds to this by finding her role in the section and learning "how to react to different playing."

Musical expression is an important factor in EME peer learning. Charlotte makes this clear: "trying to find our own way of working together and expressing the music was a really good experience." She suggests that the exchange of ideas on how to play the music leads to "excitement from everyone, because they are exploring different ways. It's not just a fixed way … well from one person, shall we say?" From this comment one might expect EME to produce a somewhat unfocused musical interpretation, but Kenji provides evidence to the contrary: "it's [EME is] a lot more direct to work with everyone else – with the conductor, with the peers and it's a lot more together, as in the feeling for the music."

8.7   Summary – Peers

In this chapter students' experiences of learning and music making have been identified and explored in the specific context of peers. Students relate the same content of learning to their peers as they associate with tutors: period instruments, HIP, musical skills, repertoire, sound and technique. Evidence for collaboration is apparent throughout the statements in this chapter, adding weight to the information presented in Chapter 6. In terms of Activity Theory the

data highlights the nature of the relationships between *subject* (students) and another section of the *community* (peers). In a similar way to the relationships between students and tutors in Chapter 7, the mediating effect of the *rules* on the relationships between students and their peers can now also be assessed, with respect to the overall impact on the *object* of music making and learning.

Chapter 9 HIP, interpretation and modern comparisons

This chapter lists the references made to multiple aspects of HIP within the interview transcripts: period style points; cultural-historical aspects; preparation and research, including treatises and facsimile editions; and period instrument techniques. The notion of musical interpretation is then explored, from both a 'pure' HIP perspective encompassing composers' expressive intentions, and in a more general sense. A report is presented of the comparisons made between learning experiences on modern and period instruments, in the contexts of group-learning environments and individual lessons. This is supplemented with an analysis of students' imaginings of EME on modern instruments. Finally, some additional noteworthy statements about learning in EME are included to enrich the research perspective on the EME activity system.

9.1 HIP

> Well the notes look easy themselves, yes of course, but it's what's done with the notes that's not easy. (Steve)

What do the participants have to say about HIP? The interview questions do not include any specific references to HIP, so any information on this theme is volunteered by the students without the topic being specifically targeted. Close reading of all the material in the HIP node reveals several elements of HIP as experienced by the students: period style points, cultural-historical aspects, preparation and research (treatises and facsimile editions), period instrument techniques, HIP interpretation (including composers' expressive intentions).

Period style points

There is a plethora of references to the period style points contained in the treatises, whether these are obtained directly by reading treatises or indirectly via tutors and peers. Incorporating these into rehearsal and performance appears to be the most prevalent aspect of HIP experienced and articulated by

all. Style points mentioned in the interviews include: rhetoric, affect, articulation (note lengths), national bowing styles, *messa di voce* (swelling of sound), temperament, continuo, figured bass, vibrato as an ornament, using less vibrato, improvisation, ornamentation, embellishments, trills, dance references, rhythmic alteration, inegale, gesture, microphrasing, coming away from slurs, hierarchy of beats, speech references.

Cultural-historical aspects

In their discussions of period instruments and learning within EME students refer many of the cultural-historical aspects of HIP: historical background information; awareness of repertoire in its historical context; composers' expressive intentions; cultural references (period or modern); development of instruments; and national characteristics. The learning affordances of these elements is apparent in many of the students' responses to the interview questions.

Preparation and research

The value of preparation and research is also apparent in students' statements, with references to Urtext editions, treatises, facsimile editions, reading HIP-related material and listening to recordings. Adam enthusiastically expresses his newly found motivation for research as a result of his experiences in EME, indicating the importance it now has in his learning journey.

> I love getting a new piece of music. You know, I'll be asked to play something and I'll look up the piece, I'll look up the composer, I'll listen to recordings of it, I'll ask people about how they've interpreted it in the past, I'll make sure that if there's some sort of historical anomaly to the time in which it was composed or the place or the reason why it was composed. Like I'll know that and if I don't know it I'll feel like I'm limited or I'm disadvantaged somehow.

Period instrument techniques

These are reported in Chapter 5.

9.2   Musical interpretation – HIP perspective

Students' individual experiences of musical interpretation within EME all include notions of interpretation in the 'pure' sense of HIP, in other words what it means to interpret music from an HIP perspective. The references to interpretation here are not always overt – in some cases students refer to "music" or "music making" in a way that suggests musical interpretation from the researcher's perspective.

Adam's definition resembles the notion of authenticity as developed by the original protagonists of the early music movement, casting his imagination back to the time of composition: "I'm playing it [the music] as I feel like it would have perhaps been intended at the time it was written – that's what I'm thinking." Adam's use of the words "feel" and "think" is an indication that the process is both cognitive and affective.

Angus's experience of HIP, on the other hand, appears to be primarily affective – his sense of interpretation seems to be guided more by his intuitive connection with the period instrument and bow and some innate quality of the repertoire: "there's this kind of understanding I think written into the music that you use your bow in this kind of way and it kind of makes sense."

Amisha mentions the word "authenticity" several times and is motivated by the idea of playing "more historically" to feel closer to the music. Her sense of interpretation is influenced principally by the period instruments and their associated sounds, referring to the "baroque flavour" given to the music by gut strings. Charlotte points out the importance of both period instruments and historical context to distinguish between HIP and the "modern take" on interpretation.

Helen loves the "idea of re-enactment" and "informed personal input", indicating her impression of the HIP approach to musical interpretation. In the context of treatises and facsimile editions she refers to the employment of "little bits of information" that influence interpretation: "I don't know exactly where I've sourced them but over time they've started collating in my mind. And I just notice things that I do quite naturally now that I wouldn't always have done." Helen also makes the affordances of HIP abundantly clear in a comparison between cultural-historical elements and the modern aesthetic of music making:

> Oh I just wish it were like this today in modern playing – it's the idea that, like I guess the holiest purpose of music is to express the passions and for the benefit of others so that they might also feel it. Ah so I've definitely learned that there are so many subtle ways in which this is done, which were very deliberate and calculated, but we just totally miss, especially coming from this modern standpoint.

Holly refers to "stylistic interpretation" as a key feature of EME, encouraged by the tutors and significantly augmented by the characteristics of period instruments. She also learns about "understanding the written score as a kind of tablature for how to form an expressive performance."

Like Charlotte, Kirsty conveys her impression of HIP by the use of contrast. She describes modern interpretation as "my interpretation", whereas in HIP: "we're trying to discover what they used to do … going back into a different time you have to get out of your own head and think about something else and other people and what they might think or would have thought." In Kenji's experience of historically-informed interpretation within EME his acquisition of knowledge from treatises and books is combined with sound aesthetic: "what we have in knowledge, we try to reproduce that sound, yeah and that's the music making."

Melissa's experience is similar to Adam's in its resonance with the early goals of authenticity: "You have to have a knowledge of the instrument and all the different styles and use those two to work together to create the music like how you think it would have been played." Steve argues that the HIP approach makes

musical interpretation a lot harder precisely because it requires performers to develop an "understanding of the period and how you would have to play something."

Simon acknowledges the treatises as a powerful means of "understanding the music and being able to come to my own justifications via a historically-informed path." And Vincent describes the HIP approach in terms of a heightened awareness of phrasing as governed by rhetoric ("speech and clarity") and harmonic tensions and resolutions.

9.3   General musical interpretation

As mentioned in Chapter 2 general musical interpretation is defined within this study as the performance of a composition that encompasses both the performers' own expressive intentions and the composers' intentions as imagined by the performer.

Experimentation/journey of discovery

> … it's quite free in EME, the musical expression. There's a lot of room to manoeuvre, because however many treatises you can read there's always going to be your personal opinion (Holly)

Close scrutiny of the data in the 'Musical interpretation' node yields a spirit of adventure and interpretative freedom across the group. From the researcher's perspective it is surprising that there are no reports of feeling constrained by the principles of HIP. Rather, HIP appeals to the students' imagination as an extra source of inspiration for musical expression.

Adam gives the clear impression that both the baroque cello and HIP have a strong impact on his musical journey. When he picks up the baroque cello he is "about to begin an experiment" and he senses that he is "about to really strive for something and search for something." He describes how he integrates this

experiment with the influence of HIP in a way that suggests freedom of musical expression:

> I'm not going to insist on any particular way of playing something or you
> know historical performance method – I'm going to learn that because it
> gives you an extraordinary insight into possibilities, but I'm also going to
> disregard it if I feel like it, because it's not for me that I must play it this
> way, it's that I can and the great majority of the time and I feel like that
> gives me just a better way of playing the instrument and making music.

Adam also provides powerful evidence of the affordance of HIP on his approach to music making and performance in EME by comparing it with similar cultural-historical knowledge required to pass AMEB exams. He describes his preparation for AMEB exams as "a kind of reluctant music student's approach to proper immersion in the learning" and "rote learning for the purposes of satisfying some criteria." By contrast the same sort of knowledge is used in the context of EME "to have a better chance at interpreting and performing this piece."

Angus provides evidence that Neal's approach to musical interpretation allows for individual imagination within the HIP framework of the composer's intentions:

> Neal would have to say "let's do this" "let's do that" "let's bring out this
> character" and then it sets afire your imagination so you kind of engage in
> the music and you get into that life which is the music – which is the
> musical idea – which is why the composer kind of wrote it in the first
> place, to kind of inspire something.

Charlotte suggests that facsimile editions offer players greater "freedom of playing" and that historical treatises inspire the exploration of multiple interpretative options:

> everyone's reading different treatises and you're getting just more ideas
> on how to play the music. And you put it as a whole and you've got you
> know more energy and I don't know – excitement from everyone, because

they are exploring different ways. It's not just a fixed way – well from one person, shall we say?

When asked about music making in EME Helen refers to the "freedom to make your own choices regarding interpretation of the music." Helen is eloquent in her descriptions of the HIP approach to musical interpretation, and once again she links this with a sense of freedom:

> So it's putting the music as master, which I like, as opposed to performer as master. Ah and that almost seems paradoxical in that it very much dictates the music – the music is God and then you have to follow that. But yeah it's this wonderful paradox because yes the music comes first but then you are allowed so much. It's like as long as you have reverence for the music and you know what you're doing, you're not going to just butcher it, then you're allowed to really enjoy it and make it your own. I think that's something really wonderful that we've lost. So that's what I mean by freedom, yeah.

Holly's references to learning about musical interpretation are also imbued with sense of personal freedom. On the one hand she makes it clear that individual expression is encouraged in EME:

> I'm learning how to interpret the music so that I'll be able to play anything that's put in front of me musically. It's very valuable from EME. It's kind of drummed into us, in a very gentle, self-fulfilling kind of way. It's drummed into us to be individuals. "We are all individuals!"

On the other hand Holly reveals her perception of the HIP perspective on interpretation as "understanding the written score as a kind of tablature for how to form an expressive performance." Holly makes a comparison between the scores encountered in EME and those from later periods, referring to earlier scores as "very much a shorthand for performing, whereas later composers just go into such crazy detail." This highlights Holly's sense of interpretative freedom with the earlier repertoire in the context of EME.

Like Adam, Kirsty views HIP as a strong influence on her approach to musical interpretation, without it dominating her innate sense of musicality. She takes on board HIP bowing suggestions from her desk partner Simon, but when she feels this is incompatible with phrasing she believes that one "shouldn't follow rules if it sacrifices musicality." While acknowledging the benefits of historical treatises Kirsty also questions the ultimate authority of the associated authors: "who says that they knew what the composer wanted?" Kirsty states specifically that she is learning about freedom of expression in music making within EME, and HIP appears to inspire this. For example, after playing Bach in a metronomic fashion Kirsty enjoys the interpretative freedom achieved through the use of rhythmic alteration in HIP: "you get more of a feeling of what the piece is kind of saying or the feeling of what it's about, rather than just impressive rhythmical skills."

In the context of phrasing Kenji highlights the "different kind of imagination" that EME has given him. He explores the possibility of interpretative freedom in HIP by posing an interesting question about the scores of Baroque composers such as Bach and Vivaldi: "they didn't put as much techniques or specific markings on them – is that because they wrote so much they forgot to put them in, or because they wanted the musicians to express the way they want to?"

Melissa makes a comment that neatly combines the influence of composers' intentions and freedom of expression within EME as an ensemble: "So yeah it's not just playing how we think the composer would have wanted but like deciding as a group the way that we want to recreate it – quite nice." When asked about music making in EME Simon initially replies: "we're learning about how it could have been done in the time" with the use of treatises and secondary accounts of treatises. Rather than getting stuck in a fixed way of thinking, Simon learns that there are "so many different interpretations" and "so many different ways of going about achieving the same result musically."

Vincent talks at length about interpretative elements of HIP. He expresses concern that delving into historical texts might lead to rigid interpretations, but then he points out that there are interpretative disagreements between different

early music groups and this implies greater musical freedom than he first anticipated in the domain of HIP. When asked about music making in EME Vincent states: "It's almost like a sort or mix of 'do what you like' 'do what you think is truthful to yourself', then also 'does it correspond to the treatises?'" He also mentions that in EME "we always try and find new ways of doing things" and that he has been influenced by this flexibility of approach to music making and interpretation.

9.4   Experiences of modern group-learning environments

Interview questions 2d) and e), listed in Section 4.4, are designed to elicit further information about students' learning experiences in groups. The research intention here is to gain additional insights into experiences within EME by contrasting them with group-learning experiences on modern instruments, rather than to explore the latter in detail. The students' prior experiences of modern symphony and chamber orchestras are assumed to be predominantly within educational settings, such as schools, local and national youth orchestras, and tertiary institutions.

There is wide acknowledgement across the group for the relatively hierarchical structure of modern orchestral environments, on both a symphonic and chamber scale, when compared with EME. Angus makes this clear and points out the benefit of working on a smaller scale:

> … in a symphony orchestra you're kind of one of six or ten cellos and you're just there playing and there's a real hierarchy, you know in terms of like "there's the first cellist" and then you sit back there and you're part of the section. Whereas with EME like it's that more chamber music feel … so everything that you're kind of doing is really integral to the ensemble

Charlotte describes her experience of modern orchestras in tertiary institutions and at emerging professional levels: "it is usually the first violinist that kind of conducts the whole rehearsal, and there are certain ideas from within a section that don't necessarily get brought up because of that kind of hierarchy" and

according to Charlotte this might lead to "a little bit of disgruntlement." Helen states that "in the modern orchestra you know your place" and this is reflected in her description of communication in the modern setting:

> … you ask the section leader who then asks the conductor and like you don't undermine what people in the front say, even if they're wrong, because they'll work it out amongst themselves.

Kirsty makes a similar comment: "in an orchestra, sitting on a back desk … you wouldn't talk back to the conductor or anything." She then implies that the hierarchy is essential "because it would be chaos in a symphony orchestra if everyone was giving their opinion on every phrase and bar." Kirsty then expresses appreciation for the opportunity to play in the smaller ensemble setting of EME "because there's no one boss." Kenji talks about the consequence of hierarchy in his experience of a modern symphony orchestra:

> … everyone's running forward, but not really running together with each other … it's just very very powerful but … not considerate. It's hard to say but that's how I feel … I was just sitting at the back and doing my own thing, then no-one really cared because I was so far away from the front desks.

Simon refers to modern string players' obsessions with "the whole idea of petty seating plans" and he links this with individual egos, suggesting that this is "distracting for them and for the others around them." According to Simon this results in people "getting immersed into their own playing" and feeling "scared to approach one another."

These observations provide a stark contrast to the descriptions of collaborative verbal communication in a relatively democratic environment, as experienced by the students in EME and reported in Chapter 6.

Further statements contain contrasts between modern orchestras and EME that provide more evidence of the students' perception of democracy in EME, as

outlined in Chapter 6. Melissa compares the vocal manner of delivery of a modern concertmaster with that of the leaders in EME:

> I mean the concert master [in a modern symphony orchestra] will say "This bit's rushing" or that kind of thing, but in EME like they really give you directly what they want and so it's more like them sharing their knowledge than trying to tell you what to do or whatever.

Steve makes observations that in modern orchestras "people follow the conductor and this will be the final say" and in modern ensembles viola players "must follow what the upper strings are doing always ... no matter what you're following them." He compares this with the dynamic in EME: "everyone has a say" and "each instrument has their own thing to say."

Vincent implies that it is not only the difference in scale between EME and modern symphony orchestras that leads to different ways of interacting, but also the attitudes of players: "I can't imagine that [discussion] happening that much in a modern orchestra – people would think it's a bit strange."

"just playing the violin"

Another notable comparison points to the tendency for modern players to focus on the technical perfection of their own parts, or simply just on individual playing in a relatively unconscious way, rather than on the broader musical picture or a particular learning goal. Kirsty highlights this in terms of awareness of HIP within EME, thus indicating a learning affordance of HIP:

> I learn a lot more in EME rehearsal than I do in like a symphony kind of rehearsal – that's more learning the notes and getting the notes together, rather than you know, like moving the notes around and changing rhythms and all that, which is really new to me.

And in a similar statement Holly points out the difference emphasis on learning between EME and other orchestras. Again, the affordance of HIP is clear.

> … the biggest difference between EME and orchestras in general is that the focus is so much more on the perfection of style and sound, rather than "we gotta get the notes" or "this is a youth orchestra, we've got to be together", but they never are, so it's very refreshing!

Helen indicates the impact of both HIP and period instruments on students' sense of involvement and their willingness to learn by participating, rather than playing their instruments in a relatively anonymous way:

> [in EME] people feel like they have something very much to give because of their independent knowledge and what they've been doing with the instrument, whereas in orchestra, like modern orchestra, everyone's just playing the violin

Simon mentions that, in contrast to EME, he was not taught about communication or ensemble skills in several local modern music groups in his home town: "it was just play your part, play your part, play your part and play it well." He also states that there is generally less observation and less interaction between players in a modern symphony orchestra "because there is this sort of general consensus on the technique and the way things should be played."

Vincent makes another comparison about a musical skill:

> I think the importance of listening is emphasised more in the way that EME approaches music, and you know always listening to other parts. I think that does play a central role in all music making but unfortunately it's not stressed enough in other areas of music … than it seems to be in EME, which is unfortunate for other ensembles.

And Steve makes a rather disparaging comment about playing one's modern instrument without any learning goal in mind: "when you're playing in a modern ensemble … you can go to a rehearsal and just play. You know you don't have to think. You can be mindless."

Finally, Adam makes several powerful statements that sum up his learning outcomes in EME and then he links them with his desire to influence music making in a modern orchestral context. This is a condensed version:

> [You] can't play Mozart in a modern orchestra in a completely classical way, but I try and have an influence – I try and say "Let's use less vibrato" "Let's do this, let's do that" … I find myself in SUSO [Sydney University Symphony Orchestra] hearing what other instruments are doing and asking the conductor to ask for certain things in the sense of creating an ensemble … I'm asking for lines of music to be played in a way which contributes to the ensemble … [and which] allows the music to be heard properly … it just amazes me that I hear this stuff and I think that you know I've got so many ideas now about how the music needs to be structured and layered and it comes from working on that … that was what EME was really about … you know, sure I'd love a casual job in a symphony one day, just to enjoy the repertoire and some income or whatever, but my real passion will now be working in that kind of intimate and open setting and interpreting music and having everyone bring something to the table.

9.5   EME on modern instruments?

Interview questions 2e) and 4a) and b) all require the students to make comparisons between their learning experiences on modern and period instruments. Question 2e) sets this in the context of EME, whereas questions 4a) and b) relate to individual lessons. The questions are designed to encourage students to reflect further on their learning experiences in EME. The research focus is on the learning environment in EME and the mediating effect of the *artefacts* in the EME activity system, rather than on individual learning experiences on modern instruments per se. The responses to all three questions are summarised below.

Adam makes an illuminating comparison between modern and period cello by recalling his experience of playing the cello solo in Rossini's *William Tell*

Overture. In the modern context he is aware of playing the piece "in the way that people expect it to come across" as an "incredibly extroverted passionate experience." In practice this means using lots of vibrato and making a big sound. It is clear however that Adam's real feeling for the music is quite different – he uses the words "soulful" and "sense of nostalgia" to describe a "thoughtful opening to a piece." He then implies that the period instrument would allow him to realise this different interpretation:

> ... whenever I'm picking up the baroque cello there's a sense that I'm about to do something very intimate and deep that is more related to how I actually feel rather than how a piece of music is perhaps expected to sound

Angus also displays a mature awareness of learning in his comparison between modern and period instruments. He opines that he and other students are relatively "unconscious" when playing their modern instruments, because they have usually been playing since childhood and therefore "they are doing so much stuff that they're not aware of." Angus believes that the learning experience would be different if EME were on modern instruments because "we'd be playing how we've been taught and how we've unconsciously been playing up until that point." The reasons why Angus plays music in a certain way are not as apparent to him within a modern context – he implies that this relates to modern pedagogy as well as timescale. In recalling lessons with one of his modern teachers from the past he reflects on his learning goals by posing the question "what was I going for?" And he then comments: "It was kind of like just the way that she interpreted the music – her aesthetic and the way that she physically played the instrument." By contrast, Angus is more able to pinpoint elements of his learning on the period instrument within EME:

> I think I can trace back why I'm doing the things I'm doing and look back and say "Why I'm doing this bow stroke?" "Why am I doing that?" Because I've been learning it a short time I can kind of see the evolution in my playing in a way – and also the evolution in the way that I think about the music, the way that I've had ideas about how to play the music.

Charlotte also refers to the longer timescale and links this with a tendency towards stagnation in learning on the modern instrument:

> … I think with modern playing … because you've been playing it for longer and working on it in a certain way you do get stuck in just playing something a certain way, and not exploring it … because you've been playing it a certain way for a while.

In addition to this Charlotte comments that in EME she feels able to focus more on musical issues and to adopt a holistic approach to playing the music, whereas her learning journey on the modern instrument has been more associated with "getting everything accurate and perfect."

Amisha's main observation is that the different raw sounds and physical aspects of playing period instruments make the learning experience in EME much more challenging than it would be on modern instruments. She reveals that without the unique challenge of the period instruments: "I wouldn't be learning anything – I would just be playing Bach the way I've always played it." Rather than referring to challenge Helen compares the different styles of learning between EME and modern instrumental lessons. In EME the learning process is more about the style and character of the music and the portrayal of mood, whereas the modern approach is more concerned with achieving technical solidity before allowing oneself to focus on musical issues.

Holly makes the fascinating comment that in EME she focuses on her bow and in her modern cello playing she is more concerned with the fingers of her left hand. This could be interpreted as a reinforcement of Helen's observations; if the bowing and the right hand are associated with sound production and therefore primarily with the expression of the music, and if the left hand is responsible for the more technical matter of intonation, then Holly could be indicating that she is more connected to musical issues within EME. On the other hand, Holly may simply be implying that the means of achieving musical expression are different between the two situations: in EME the musical expression comes principally from the bow and in the modern context the musical expression comes more

from vibrato in the left hand. Unfortunately there was no follow-up question
within the interview to clarify this point.

When asked if her learning experience in EME would have been the same on
modern instruments, Holly implies that it would have been more difficult, not
just because of the instruments but also the attitudes of the students towards
learning:

> … we'd all be a lot more sure of ourselves. So I think we'd be less willing
> to learn, if that makes sense, and we'd have a lot less patience for the kind
> of music that is typical of the era, the early music. We'd all be playing in
> our own different way … so it would be interesting but I don't think it
> would work quite as well.

In considering the same question Kirsty and Melissa both reach a similar
conclusion to Holly – that EME and modern playing involve different mindsets
and attitudes towards learning. When involved in the more "natural" process of
playing her modern instrument, Kirsty feels she can look at the music and know
what she is going to do, and there is no need to think as much. Whereas in EME
she has to take a closer look at what she is doing and "see what's happening"
with regard to the period instrument and HIP. Melissa's response is that if EME
were on modern instruments her prior knowledge would prevent her from being
so eager to learn, because "when you go into something not knowing anything
you can learn a lot more exponentially than if you've already got your own ideas
about things – so a very different experience." Both Kirsty and Melissa also
discuss the different balances between technical and musical goals in EME and
modern playing. Kirsty suggests that in modern learning situations the technical
focus is stronger, whereas in EME "we go deeper" with musical elements.
Melissa's experience is that both environments require concentration on
technique before moving on to musical goals. Steve expands on this theme by
talking about how these technical aims differ for him: while technical
considerations in EME are more "for the whole sound of things" modern
technical learning is more geared towards efficiency and the avoidance of
physical pain through physiological awareness.

Simon makes it clear that the technical adjustment required between modern
and period instruments has a dramatically mediating effect on his learning:

> I think the whole idea of technically having to change the way you play in
> order to create the same musical result, we all find ourselves – is the word
> humbled? … So I definitely think that the instruments do change the way
> we perceive the music and it changes our learning a lot. I find it's a
> benefit, a huge benefit.

And after an initial assessment that period instruments make the learning of HIP
concepts easier, Vincent concludes that his learning journey in EME would be the
same on modern instruments: "it's not as if we can't you know come away from
phrases on modern bows, and it's not as if we somehow have the urge to vibrate
like nuts on modern instruments." This reinforces the impression he gives earlier
in his interview – that HIP has more of an impact than period instruments on his
learning journey in EME.

9.6   Additional learning statements

There are several powerful statements of a more general nature about learning
in EME. The most insightful of these come from two of the relatively mature
students in the group: Adam and Angus. Adam makes it clear that his experience
of EME has fuelled his thirst for learning and music making in a collaborative
environment. His words provide evidence of a constructivist approach to
learning in EME.

> And yeah it's definitely sent me on a path of discovery I suppose. I feel like
> my priorities in music making now are about not just making great noise
> but about learning … and yeah discovering something with people. And
> it's a special journey to go on. It's a special shared experience. You need to
> know that the people who you're playing with care about that as well.
> Yeah you don't have to be on exactly the same page but … they've got to
> share that spirit of discovery or whatever you want to call it.

Steve makes a similar point to Adam, imbued with a spirit of discovery and both a joint and collective experience of learning: "trying different things really kind of gives you a good understanding of things … a good understanding of the way you play because … you find what's best for you and what suits the ensemble."

Angus indicates that in EME he has learned to be more autonomous, confident and motivated in his musical decision-making, and he feels empowered to take risks:

> … now when I go back and play my other pieces I'm like "yeah I'm just going to take the time to do that, I'm going to take the risk to do that" … which is I think a really big philosophy to learn, is to have the confidence to have a musical idea, you know and to think about it and flesh it out, but also just take the risk to do it and … that's what you're really doing when you make good music and I think that's something that's definitely imparted, yeah … *Interviewer:* Within…? *Response:* EME, yeah.

Angus also reflects on the pedgogical differences between EME and previous experiences of mainstream chamber music tuition in his undergraduate days.

> … the way that the system is set up – they [modern tutors] come from that kind of different school of learning … maybe it's a more kind of traditional school of pedagogy which is kind of like "you do it like this, you do it like this" You don't make mistakes and it's not as forgiving …

By comparison Angus believes there is a perceived level of support for students within EME that "really makes music making a positive environment to learn in." In making these statements Angus reveals his experience of the EME tutors as less autocratic, more congruent and more willing to permit experimentation. This does not necessarily imply that the tuition is more effective – it is simply that Angus has now experienced a different learning environment.

Chapter 10   EME rehearsal video commentary

This chapter contains a commentary on a typical EME rehearsal. A video camera was set up in the Recital Hall East at Sydney Conservatorium in order to film the entire orchestra in action. Students were asked to sign participant consent forms, approved by the Ethics Committee of The University of Sydney (protocol number 14368). As explained in Chapter 4, this collection of additional data was initially intended as a form of triangulation, but the evidence emerging from the interviews was so rich and plentiful that an extensive analysis of the video footage was considered unnecessary. The video commentary is included here purely as an interesting audiovisual supplement to the main data in the interviews.

This particular EME rehearsal took place on 9th September 2014, approximately two years after the initial interviews, so most of the interviewees had either graduated or moved on to other ensembles. As mentioned in Chapter 4 the cross-section of students in the new cohort was similar to the original, and therefore comparisons between the groups were considered justified. The commentary consists of a description of the activity as observed by the researcher. Nvivo nodes and learning themes are identified by the researcher and these appear in italics just before the actions to which they relate.

Time	Researcher observations
0'02"	*Tutor congruence*. Neal thanks EME for last concert and gives feedback and encouragement from other staff members.
0'38"	*Reflection*. Neal asks students what they thought of the last concert.
1' 01"	*HIP, repertoire*. Annie mentions how lucky all the students are to play relatively obscure repertoire and to be able to experiment with tempo modification (an element of HIP); also that there is no problem if there are a few "nicks and bumps" along the way.

1' 33"	*Trust.* Neal responds that he felt everyone going with him when he gestured to do so in the concert.
2' 28"	*Reflection.* Neal invites further comments, including elements of concert that did not go so well.
2' 33"	*Sound. Active participation.* Shaun mentions that group sound was beautiful and blended, and everyone was thinking actively.
2' 48"	*Musical skills. Musical goals.* Rhiannon states she had a clear concept of what was happening in the piece and how to interpret it within her section.
2' 58"	*Tutor congruence.* Neal complements 2nd violins.
3' 08"	*Reflection.* Anthony notes that some of the concert was a bit "slapdash."
3' 13"	*Critical feedback, technique.* Neal gives a positive response to Anthony: bowing was mostly good, but at times players were not in the same part of the bow. Neal advises greater uniformity of bowing.
3' 57"	*Reflection.* Jemma states that the C.P.E. Bach "clicked" in the concert.
4' 13"	*Reflection.* Thea mentions that she often feels hesitant as a player in concerts, but this time was an exception and she played out more.
4' 35"	*Congruence.* Neal encourages Thea and gives advice to always remain focused on the aim of a concert, in order to help with stage fright and nerves. Neal relays more feedback from other staff members.
5' 43"	Neal reveals a plan for the next few weeks of rehearsal.
6' 13"	*Formality. Musical skills and goals.* Neal in lecture mode, talking about the importance of text in the music of J.S. Bach and linking it with musical figures.
6' 41"	*Collaboration. HIP. Musical skills.* Neal confers with Emil regarding German cultural heritage; social, cultural and musical contexts.

8' 28"	*Musical skills. HIP*. Neal relates a specific rhythm to "waking up"; references to procession, military themes, and a "watchman looking out."
9' 55"	Neal asks Emil if he knows the chorale tune and invites him to play it.
10' 13"	*Demonstration*. Neal walks over to the organ and plays the first line of the chorale tune.
10' 38"	*HIP*. Neal refers to using his imagination and Bach borrowing themes from Lutheran congregational music.
10' 50"	*Demonstration. Musical skills*. Neal show how a rising theme represents "waking up."
11' 23"	*Asking questions. Musical skills*. Neal asks what a particular ornamental figure represents.
12' 23"	*Asking questions. Musical skills and goals.* Neal asks what scales might represent. Bach is painting a picture and colouring a text.
13' 31"	*Informality. Congruence*. Danny jokes about Neal liking the piece so much. Laughter.
13' 51"	*HIP*. Neal sets out the goals of music making in terms of text and rhetoric.
15' 18"	*HIP*. Neal points out that "wo, wo"" means "where, where?"
15' 33"	*Non-autocratic teaching style, democracy.* Neal asks Emil if he agrees.
16' 10"	*HIP. Demonstration. Reflective practice*. Neal wonders about the colouring of the figure with the German word "klug." He asks Emil for a translation and uses the word "maybe" in his interpretation of the figure, suggesting there is more than one answer.
16' 43"	*HIP*. Neal talks about the problem of over-poeticised Victorian translations of texts.
17' 43"	*Collaboration, dialogue, constructivism*. Emil and Neal explore text and music together.
19' 43"	*HIP*. Neal refers to "stylus phantasticus" style and ornamentation.
21' 39"	*HIP. Interaction between tutors*. Danny comments on the score and the symbolism of figures being passed between strings and winds.

21' 58"	*HIP preparation and research. Individual constructivism. Musical goals.* Neal encourages students to think for themselves: "Don't just take this from me. Go away and think about it as your preparation. What does this music mean? How can we make it come out more and more?"
22' 28"	Tuning begins.
23' 03"	*Peer learning.* Annie (leader) gives tuning advice to new violinist.
24' 23"	*Informality.* Neal advises new violinist while bass instruments tune.
24' 51"	*HIP.* Neal talks to violinists about advising singers on Vallotti temperament.
25' 13"	*Deferring to students.* Neal asks Annie to do an "orientation." Annie sits in front of 1st violin section in preparation.
25' 43"	*HIP, period instrument.* Neal asks the students if they have seen a "violone" before and explains it is a member of the viol family. Neal asks the bass player about her bow hold – she chooses an "underhand" style.
26' 23"	*Formal peer learning, technique, sound, demonstration, collaboration.* Annie gives technical advice to the new violinist. Other players contribute.
27' 13"	*Musical skills.* Neal asks everyone to play an E flat major scale.
27' 35"	*Constructivism, peer learning.* Annie leads the scale practice. The new oboist experiments with his new instrument.
28' 43"	*HIP.* Shaun advises on Vallotti tuning.
28' 53"	*Reflection-in-action.* Neal says "I don't know quite how to describe that… I'm trying to think of a way… let's do it this way." He then suggests a method of identifying a tuning approach.
29' 23"	*Tutors collaborating.* Danny adds some tuning advice.
29' 41"	*Encouraging peer learning.* Neal tells Annie to explain the Italian term *messa di voce* and Annie responds.
30' 02"	*Peer learning. Musical skills.* Students start a new scale technique, led by Annie.

31' 53"	*HIP. Formal learning*. Neal talks about dance-like qualities in the music, hierarchy of beats, style.
32' 17"	*Asking questions. Technique. Collaborative discussion. Informality.* Neal asks about bowing. Then a discussion ensues with Danny, Jemma and Annie.
32' 33"	*Demonstration, peer learning, constructivism, relating music and technique.* Annie demonstrates bowing and Neal gives his opinion on hook versus "weavy" bowing, and relationships to musical tempi.
33' 23"	*Reflective practice, flexibility*. Neal states, in relation to bowing: "If we don't like it we can change it."
33' 33"	*Constructivism, democracy, empowerment*. Neal advises students on training conductors.
33' 43"	*Reflective practice, musical skills*. Danny advises on bowing in specific acoustics.
33' 51"	Orchestra starts playing *Wachet auf* cantata by J.S. Bach. It sounds scrappy and there are problems with tuning and rhythm.
34' 23"	*Congruence*. Neal stops the orchestra, but is not negative about the scrappiness.
34' 31"	*Congruence*. Positive encouragement for the new oboist.
34' 53"	Orchestra rehearses bar 5.
35' 08"	*Formal learning, technique, musical skills.* Danny gives bowing and musical advice to cellos.
35' 15"	Orchestra begins again. Lumpy dotted rhythms.
35' 23"	*Asking questions. Musical goals*. Neal asks "What are we showing?"
35' 31"	Jemma responds: "rising."
35' 32"	*Linking technique with musical goals, sound*. Neal adds: "We are showing the battlements, aren't we?" "*Wake up, wake up* – it has to be that sound world." He asks everyone to activate their strings and make those sounds straight away.
35' 53"	Nicole (tutor) arrives.
36' 20"	Orchestra begins again. More lumpy dotted rhythms.

36' 43"	*Sound, musical skills, technique, Förderung.* Neal stops the orchestra and asks them to try and make a better sound with less flabby dotted rhythms and without lifting bows.
37' 03"	*Technique.* Danny suggests that the cellos *should* lift their bows.
37' 08"	*Reflective practice, technique.* Neal and Danny work out what bowing style to experiment with: "not bounced" or "weavy."
37' 18"	*Sound.* 1st oboist arrives. Neal asks everyone for a better core of sound.
37' 38"	Orchestra starts again.
37' 48"	*Demonstration, technique, discussion between tutors, informality.* Danny suggests that the dotted rhythms are sounding like triplets and so he demonstrates alternatives. Students witness this discussion. Annie and Shaun discuss 1st violin bowings *at the same time.*
39' 03"	*HIP.* Neal asks for the same musical "affect" from the 1st violins.
39' 13"	*Constructivism, reflection-in-action, exploring possibilities.* In relation to bowing Neal states: "Don't throw it out yet – lots of time to experiment."
39' 20"	Orchestra starts again.
39' 46"	*Sound, tutor congruence.* Neal compliments the sound, even though it is far from perfect.
39' 53"	*HIP, student input.* Annie asks if every bar is important. Neal gives an answer in terms of harmonic hierarchy.
40' 01"	*Informality.* Danny and Jemma have a discussion simultaneously.
40' 13"	*Informality, verbal communication, musical skills.* Nicole advises Thea, Neal discusses phrasing and Jemma practises on her own. Simultaneous informal activity.
40' 48"	*Asking questions, technique.* Danny asks a technical question about dotted rhythms and getting back to the heel of the bow.
41"01"	*Student input.* Shaun and Annie respond.
41' 08"	Nicole adds to the conversation.
41' 17"	*HIP.* Neal comments on the bar hierarchy and Annie has input.

41' 30"	*Formal instruction, technique.* Danny advises Jemma while Neal gives simultaneous musical advice to the 1st violins.
41' 43"	*Förderung.* Neal reminds students to energise.
41' 48"	*Student input, musical skills.* Emil suggests keeping the chorale in mind to maintain the tempo.
42' 11"	Orchestra starts and gets out of phase.
42' 43"	*Musical skills.* Neal suggests doing the same section again and asks the oboes to match the 1st violins.
42' 53"	*Musical skills.* 1st violins demonstrate.
42' 58"	*Musical skills, peer learning.* Oboes imitate the 1st violins while Annie gives advice to the new violinist.
43' 03"	*HIP.* Neal asks for more gesture.
43' 33"	*Musical skills, HIP.* Neal asks 1st violins to make their musical figure "travel" more, as the ornamentation of the melody is falling behind.
43' 59"	Orchestra starts again.
44' 58"	*Demonstration, musical skills.* Neal asks Emil to play the chorale theme and then he approaches the organ to show the 2-foot stop.
45' 25"	*Informality, congruence.* Danny makes a joke.
45' 33"	*Musical skills, HIP.* Neal mentions that the bass sounds flabby and asks for a particular emphasis in the musical figure – more gesture.
45' 58"	*Student input.* Annie asks about scalic figures.
46' 03 "	*Collaboration.* Shaun makes a suggestion.
46' 23"	*Tutor's passion for music.* Neal says how much he loves the cantata.
46' 27"	Orchestra starts.
47' 01"	*Congruence*, *formal learning, HIP.* Neal asks the orchestra to play bar 16 again, while encouraging students by saying it is sounding "very good" and "lots of great things happening." Then he comments on rhetoric.
47' 13"	Orchestra plays bar 16.
47' 19"	*Musical goals and skills.* Neal asks for harmonic awareness during long notes.
47' 42"	Orchestra plays a section, Neal gestures.
47' 54"	*Student input.* Annie asks a question and discusses it with Neal.

48' 16"	Orchestra starts, and begins to sound better.
49' 41"	*Musical skills.* Neal stops the orchestra and asks for a slow bow on an A flat in the 1st violins, to intensify the long note over a strong harmony.
50' 06"	*Informality.* Neal tells an anecdote.
50' 20"	Orchestra begins. Neal advises and sings as orchestra plays.
53' 53"	Musical skills. Neal stops the orchestra and asks for more "light and shade" as the music has become very solid.
54' 06"	*HIP, technique.* Danny highlights a discussion within the bass group, regarding bowing and hierarchy.
54' 23"	*Collaboration, informality.* Discussion between tutors and Jemma about bowing and the sarabande. Simultaneous discussion between the violins.
55' 23"	*Constructivism, non-autocratic leadership.* Neal uses expressions "we'll work it out" and "experiment with things."
55' 33"	*Musical skills.* Neal and Nicole advise the inner parts to play strongly as they drive the music along.
56' 06"	Orchestra starts.
56' 11"	*HIP, technique.* Neal suggests to bass instrument players where to place hierarchy stresses in the music. Danny follows up with a technical tip.
56' 33"	*HIP, non-autocratic teaching style, constructivism.* Neal suggests looking at a score and putting stress indications into the music, thus leaving the decision-making up to the students.
56' 39"	Orchestra begins. Neal talks while they play.
58' 02"	*Musical skills.* Neal points out that players are moving late off tied notes.
58' 13"	*Asking questions, musical skills, collaboration.* Danny asks how to overcome the problem identified by Neal. Then Annie and Shaun contribute.
58' 33"	*Musical skills.* Nicole advises to cut notes short.
58' 53"	*Musical skills.* Neal gives musical advice to the 2nd violins and violas.

59' 17"	*Musical skills.* Annie asks a question about the appearance of a musical figure. Neal answers.
1h 0' 31"	Orchestra starts. Neal sings one of choral parts.
1h 01' 47"	Orchestra stops.
1h 01' 59"	*Musical skills.* Neal asks for a greater consensus on the dotted rhythms in the upper string parts.
1h 02' 11"	*Student input, HIP, musical skills, tutors confer*. Shaun asks a question about double dotting a rhythm. Tutors all give advice: French overture style, playing with poise and energy at the same time.
1h 02' 45"	Orchestra starts (upper strings).
1h 03' 11"	Orchestra starts (everyone).
1h 03' 28"	Musical skills. Neal asks bass instrumentalists not to rush and not to be "flabby" on 3rd beats of the bar.
1h 03' 48"	Orchestra starts.
1h 05' 08"	Orchestra stops.

Rehearsal continues. End of commentary.

Summary – video commentary

The video provides an audiovisual portrayal of the EME activity system. As this particular rehearsal took place towards the end of the academic year most of the students had already been playing their period string instruments for eight months; this explains why there are relatively few verbal exchanges in connection with the instruments. The value of this commentary lies in the observation of aspects of individual and social learning. There is evidence of learning content and processes: HIP, sound, technique, musical skills, collaborative peer learning, formal/informal learning and constructivism. In addition the tutors can be seen to exhibit reflection-in-action, with a generally congruent approach.

Chapter 11   Discussion

In this chapter the research themes are discussed in relation to the qualitative data from the participant interviews and the associated literature. Students' experiences are explored in the context of multiple theories of learning to paint a rich holistic picture of the learning and teaching processes in EME: surface/deep conceptions of learning, formal and informal aspects of learning, constructivism, Variation Theory of learning, learning by doing, reflective learning, collaborative peer learning. These are all used as indicators of the mediating effect of the *artefacts* in the EME activity system. As the themes of challenge and engagement pervade the interview transcripts I set the scene with brief descriptions of these affective elements of learning. The chapter concludes with a review of the principles of CHAT within the setting of EME.

11.1   Challenge and engagement – incentives to learn

> What we have in knowledge, we try to reproduce that sound, yeah and that's the music making – the fun part and the difficult part in EME. (Kenji)

In this statement Kenji succinctly sums up his experience in EME, indicating that it is both an enjoyable and challenging process. Within the EME activity system the introduction of the *artefacts* (period instruments, bows, HIP and uniquely reflective tutor approach) might be expected to induce frustration, anxiety or even fear in some students, but the evidence suggests otherwise. During the research analysis the early appearance of the 'enjoyment' node and the emergence of the 'challenge' node out of the 'fear' node are both highly significant. Those who mention the initial physical challenges associated with the instruments and sound production all manage to resolve these issues within their first semester. And those who mention the difficulties associated with HIP are not put off by the challenge, often admitting to their enjoyment of the process. Students who are presented with challenges that are not overwhelming are more likely to be engaged in the learning process (Elliott, 2009, p. 9;

Csikszentmihalyi, 2014, p. 231). Moreover, enjoyment has been shown to increase motivation and learning in arts environments (see Green, 2008, p. 93 for examples). There are no reports of boredom or overwhelming fear, both of which are likely to inhibit the efficacy of learning. The general picture that emerges from EME is one of engagement in the whole activity system: the experience of the period instruments/bows; the process of learning about music and music making through the lens of HIP; and collaborative peer learning.

11.2   Research proposition and link to research themes

The evidence emerging from the analysis of the student interview transcripts and the video footage of an EME rehearsal provides a powerful endorsement of my final research proposition:

> The combination of materials, HIP, a broadly constructivist tutor
> approach and collaborative peer learning is a powerful catalyst for deeper
> learning and music making in the EME activity system.

The reasons for my claim are set out below, in a format that links with the five research themes outlined in Chapter 4. The evidence supporting these reasons is then discussed with reference to the data in the Analysis chapters 5 to 9.

Reason 1 (Research Theme 1):
Period instruments and bows have powerful affordances, in terms of challenge, engagement, sound production, sound aesthetic, interpretation of repertoire, instrumental technique and HIP. Period instruments are different to modern and therefore present a CHAT contradiction or a variation to students' prior experience.

Reason 2 (Research Theme 2):
EME, viewed through the theoretical framework of Activity Theory, is made up of a network of interrelationships between students, tutors, materials and the

discipline of HIP, all of which contribute simultaneously to the outcome of deeper learning.

Reason 3 (Research Theme 3):

Students' experience of music making is broadened in EME by elements of HIP, freedom of musical expression and interpretation, collaboration, and exploration of repertoire on period instruments. HIP appeals to students' imagination and encourages greater awareness of musical interpretation and goals.

Reason 4 (Research Theme 4):

The HIP-influenced approach to musical interpretation in EME differs from the modern approach to musical interpretation and therefore presents a 'contradiction' or a variation to students' prior experience of group music making and one-to-one lessons.

Reason 5a) (Research Theme 5):

The EME tutors are reflective expert practitioners, embracing both formal tuition (transmission of content) and informal collaborative learning processes (learning by doing). The tutors are congruent, whilst encouraging students to engage actively in their learning.

Reason 5b) (Research Theme 5)

Peers engage in both formal and informal learning in their interactions with each other, in a way that sometimes resembles the relationships between students and tutors.

11.3   Relationships within the EME activity system

During the following discussions of learning *outcomes* in the EME activity system the relationships between its constituents have been continually borne in mind: *subject – object*: what do the students experience in their learning and music making?

subject – artefact: what do the students learn about period instruments and HIP and how do these mediate their learning and music making experiences? How do students perceive the tutors' approach?

subject – community: what and how do the students learn from their peers and tutors?

rules: engage with period instruments and the principles of HIP within the broad requirements of 'orchestral studies' – how do these rules mediate students' prior learning experiences within orchestral studies?

community – object: what are the perceived group-learning and music making experiences for the participants in EME, including tutors?

division of labour: all participate in a continuum between teaching and learning and between formal and informal ways of learning – how does this division mediate the perceived group-learning experiences within EME?

11.4   Discussion Research Theme 1 – Students' experiences of learning associated with period instruments and bows

The data in the interview transcripts provides plenty of evidence for the affordances of period instruments and bows in connection with sound, repertoire, music making, physical/sensory engagement, technique and HIP. It is significant that these factors are often mentioned in close proximity to each other, as it indicates the interrelatedness of them all within one large non-linear 'melting pot' of learning experience.

Categories of learning

In order to categorise the learning experiences of students in the context of period instruments I have chosen to adopt the conceptions of learning suggested by Saljö (1979), augmented by Marton, Beaty and Dall'Alba (1993) and distilled by Mun Ling Lo (2012).

Group 1

A Learning as increasing one's knowledge (facts, skills and methods)

B Learning as memorising and reproducing

C Learning as applying (using facts, skills and methods; doing)

Group 2

D Learning as understanding (making sense, abstracting meaning, relating parts of the subject matter to each other)

E Learning as seeing something in a different way

F Learning as changing a person

These conceptions have been derived in many fields of educational research as useful descriptors for the experience of learning. For the purposes of this study it is helpful to make the distinction between surface (group 1) and deep (group 2) conceptions in order to gain insight into the mediating effect of the *artefacts* (period instruments, HIP and tutor approach) on learning.

In the context of EME conceptions A, C, D, E and F are all relevant. Conception B is less relevant as students are not required to memorise repertoire in the disciplined way in which they might memorise formulae for a mathematics exam or Shakespeare quotations for an English exam. It is likely that students memorise musical patterns or 'schema' (Schön, 1983, p. 55) and derive musical meaning from their 'sonic properties and inter-sonic relationships' (Green, 2008, p. 87); however, these aspects of memory are not the focus of this study. Rather than using phenomenography to derive a set of conceptions from first principles I have extrapolated from the data a set of specific descriptors that resemble the general conceptions listed above. To avoid confusion I have used the word 'category' rather than conception to describe each level of learning within this study.

Learning Category 1 resembles Conception A and is defined as the cognitive phase of acquiring knowledge, or learning by receiving information. Category 2 resembles Conception C and is defined as the practical phase of applying knowledge to playing a period instrument and making music. The distinction

between Categories 1 and 2 is clearer for some Nvivo nodes than for others. For example the principles of HIP can be acquired mentally by reading a treatise (Category 1) and physically embodied by applying the principles to playing a piece of music (Category 2); whereas for the Nvivo node physical/sensory engagement the distinction is more blurred – the knowledge is not transmitted via text or speech, so the learning is implicit in the doing. Category 3 resembles Conception D and is defined as understanding, making sense, abstracting meaning or relating parts of the subject matter to each other. Category 4 resembles Conception E and identifies learning as seeing something in a different way. Category 5 resembles Conception F and associates learning with changing a person. These categories are clarified below for various specific Nvivo learning nodes associated with period instruments.

Variation in experience of period instruments and HIP across group

I associate my initial contact with period instruments with a strong sensory engagement and a fascination with their raw sounds, whereas my preoccupation with technical refinement and HIP came at a later stage. For me the physical and sonic experiences were initially more intriguing than the cognitive challenges associated with HIP. This experience appears to be mirrored by some of the EME students, but not all. For other students the focus of awareness is different. In this chapter the variation in experience of each particular learning node is assessed across the group of twelve participants, to gain deeper understanding of the general learning process in EME.

Period instruments and affordances of sound

The variety of adjectives used to describe the tone quality of the period instruments indicates that the students are intrigued with these new raw sounds and have differing perceptions of them, with some striking extremes. For example Holly identifies the basic sound of the period cello as cold whereas others describe it as warm. Charlotte admits to her initial fear of the scratchy tone of the period viola, providing a contrast with other references to purity of

tone. Adam's description of the tone of the period cello as "horrific and beautiful in the same sentence" is perhaps the strongest indication of a contradiction generated by the sound of period instruments within the EME activity system. Adam's high levels of motivation and engagement in this instance provide support for the activity-theoretical impact of contradictions on the learning process, or *object*, of the activity system.

The following four categories of learning can all be extrapolated from within the data on the sounds of period instruments in EME, reported in Chapter 5:

Category 1   Learning as listening, discerning, describing sound and observing sound production

Category 2   Learning as creating sounds, exploring timbres, textures and colours

Category 3   Learning as understanding the impact of sound, sound production, composers' intentions behind the use of specific sounds in their compositions, and making comparisons with modern instrument sounds

Category 4   Learning as thinking about sound in new ways

The vivid descriptions of sound and the exploratory nature of the attempts to produce sound on period instruments (see Section 5.1) provide ample evidence of Categories 1 and 2. Consideration and exploration of tone colour is of course part of the learning journey on modern instruments, but the differences in timbre of the period instruments appear to act as a catalyst for further exploration and to broaden the students' awareness of a sound aesthetic. The students' experience of this aesthetic varies considerably from one of relatively cool passive observation (Holly) to one that prompts action (Steve, Simon). The learning benefits reported in Chapter 5 are a strong indication of the affordances of period instruments and they also provide evidence of Category 3. Students are developing the links between sound possibilities and techniques, using the words "understand" and "why" and making comparisons with the sounds of modern instruments. There is evidence of Category 4 in Adam's thinking about

noise in a new way, Charlotte's acknowledgement of the gut sound world as completely different, and Simon's comments on the sonic textures of period instruments inducing a different response.

Variation across group – period instruments and sound

A qualitative assessment of the data points to a keen interest and engagement with the sounds of period instruments across all participants. It is tempting to draw conclusions from the Nvivo percentage coverage figures in terms of variation in interest and astuteness of observation, but the quality of the comments indicates that sound is central to all of the students' 'anatomy of awareness' (Marton and Booth, 1997, p. 82), even if relatively few words have been spoken on the phenomenon. Helen, for example, has the lowest percentage coverage of 1.88%, but nevertheless she is aware of a gut sound aesthetic and she states clearly that the sound of period instruments informs the way she plays the music. Kenji, with a relatively low percentage coverage in comparison to HIP and Technique, appears dismissive of the sound affordances of the period violin in his statement in Section 5.2. And furthermore he reveals a priority of HIP over sound: "it's not the way it sounds, it's just the authenticity that matters, I think." Despite this, however, Kenji still uses adjectives to describe the unique period violin sound and he shows in interest in producing a "good" sound. His interest in HIP also shapes his consciousness of "reproducing" a particular sound:

> … we try our best to make it sound good and also to make it from what we have: the knowledge, the treatises and everything, the books. What we have in knowledge, we try to reproduce that sound

Given the common interest in a sound aesthetic, the observable variation across the group lies in the reports of associated pleasure. Adam, at one extreme, describes how he is "blown away" by the beauty of the sound, whereas others report nothing in the affective sense. The different factors mentioned in combination with sound provide evidence of individually nuanced learning trajectories. For example, Helen's 'relational' SOLO response (Biggs and Collis,

1982, p. 24) in Section 5.1 links the influence of the sound of gut strings with several factors: technique, HIP and musicianship.

Period instruments and affordances of repertoire

As seen in Chapter 5 the open-ended nature of the question "Does the baroque instrument inform your understanding of the music in any way?" allows for a wide variety of associations with the word 'music.' Some students talk about music in general terms here, others refer to specific pieces of Baroque repertoire. For the purposes of forming Categories of learning here, the word 'music' is defined as a composition. In this instance the data from students' transcripts has been selected as evidence of learning only when 'music' is interpreted in its compositional sense, rather than, for example, as music making.

The following four Categories of learning can all be identified within the data from Chapter 5 on the link between materials and music in EME:

Category 1   Learning as listening to and familiarising oneself with repertoire, looking at facsimile editions and reading treatises

Category 2   Learning as playing repertoire on period instruments, using facsimiles, and trying out style points in the treatises

Category 3   Learning as understanding the message of the music, making sense of the repertoire, making links between period instruments and constituent elements of the repertoire

Category 4   Learning as thinking about music in new ways as a result of contact with period instruments

There is evidence for Category 1 in the multiple references to composers, repertoire, facsimile editions and treatises throughout the interviews. Category 2 is the *object* of the EME activity system, so it is not surprising that the descriptions involving period instruments and repertoire often contain references to elements of HIP. Students provide evidence of combining the practicalities of playing an instrument with the mental focus of HIP to gain

understanding of the music. Category 3 is clearly apparent in Angus's comment on everything making complete sense, Amisha's insights into composers' knowledge and use of instrumental characteristics, Melissa's descriptions of recreating music in EME, and Steve's link between playing the instrument and understanding the music. Evidence of Category 4 is found in Charlotte's statement that the baroque instrument completely makes one see the piece in a different way, Simon's comment that the instruments change his perceptions of the music and are a benefit to learning, and Helen's revelation that her mind is opened by the "interchange" between period instrument and music. Kenji is the only student who believes his understanding of the music is not influenced by playing the period instrument, despite his physical engagement and ability to discern differences in sound.

Variation across group – music

With the exception of Kenji there is common agreement that playing the period instruments leads to an increase in understanding of the music. The subtle variation across the group lies in the extent to which students refer to elements of HIP. Some (Amisha, Charlotte, Helen, Holly, Melissa, Simon, Vincent) give the impression that the combination of instruments and HIP is the primary motivating factor in the process of learning the repertoire, whereas others appear to give more weight to the physical and sensory influences of the instrument (Adam, Angus, Kirsty, Steve).

Period instruments and technical affordances

The transcripts reveal extensive awareness of the technical processes involved in playing period instruments and using period bows. Here are the emergent learning categories:

Category 1   Learning as receiving technical advice, observing technical demonstrations by tutors and peers

Category 2   Learning as adapting to technical requirements of period
              instruments; exploring technical processes through playing

Category 3   Learning as understanding period instrument techniques in
              relation to the body or sound production; comparisons with
              modern techniques

Category 4   Learning as re-evaluating technique, incorporating period
              techniques into modern playing, seeing techniques as serving a
              higher purpose

There is abundant evidence of Categories 1 and 2 in the descriptions of technical advice imparted between tutors and students (Chapter 7), and also in the reports of observations and collaborative demonstrations of technique taking place between peers (Chapter 8). In these categories of learning students are concerned with *how* to play the instruments. Examples include: adapting to playing period violin without chin and shoulder rests and consequent left-hand shifting techniques; playing period cello without a spike; adjusting the baroque bow hold to nearer its balance point and utilising different parts of the baroque bow. Categories 1 and 2 often take place simultaneously, indicating that the information obtained from advice and observation are usually applied immediately to playing the period instruments. This close link between cognitive and practical processes is core of the learning process within the EME activity system, and reinforces the notion of knowledge creation through the mediation (influence) of *artefacts* embedded in both local actions and broader-scale activity (Leont'ev, 1981; Engeström, 1987).

In Categories 3 and 4 students display a curiosity about *why* the techniques exist, leading to deeper understanding. Category 3 is focused on the links between technique, the body and sound production, and making comparisons with modern technique. In Category 4 students experience a transformation of their technique through the influence of period instruments, incorporating their technical learning into modern playing in some way; informed technical choices are made for musical reasons. Examples of Category 3 are found in multiple references to the use of natural weight of the baroque bow rather than arm

pressure to elicit sound from gut strings (Charlotte, Kirsty, Kenji); Simon's comment that the heavier down bow action of a baroque bow requires a different approach to changes of bow direction; and Kirsty's comparisons between period and modern approaches to string crossings and shifting.

Evidence of Category 4 is apparent in the many references to applying period instrument techniques to modern playing. Students also frequently display awareness of technical decisions serving musical goals. Examples in Section 5.4 include: Kenji's use of the shape of the baroque bow to enhance phrasing; Simon's descriptions of period instruments enforcing technical changes to achieve a particular musical result; and Steve's comparison of the different technical aims associated with period and modern instruments. Vincent's 'extended abstract' SOLO statement (Biggs and Collis, 1983, p. 24) in Section 5.4 provides compelling evidence of the approach to technical learning in EME as a means to a musical end, but he does not directly link this with the technical affordances of the period instruments. In fact he downplays the importance of period instruments by stating that his learning experience would have been more or less the same if EME were on modern instruments. Vincent's statement sheds light on the approach to music making in EME, which resonates with HIP principles and is discussed later in this chapter within Research Themes 3 and 4.

Variation across group – technique

Across the group there is broad and consistent interest in the technical intricacies of period instruments and bows. There are also widespread attempts to understand general instrumental technique through frequent comparisons between period and modern techniques (Category 3) and the application of period techniques to modern playing (Category 4). One notable exception is Steve, who does not discuss technique in any level of detail. However, this is clearly not an indication of lack of engagement – Steve displays a great affinity for his period viola, but he is more preoccupied with its sound and its role within Baroque music than he is with technique. This could simply be an indication that Steve perceives the period viola as easy to play, despite his general warning

about the dangers of ignoring technical issues during the learning of Baroque music. Apart from Steve, the relatively even volume of data provided by the students on period instrument technique resonates with research on the experience of students in their individual instrumental lessons (Reid, 2001). Technique is the primary preoccupation of tertiary students in the early stages of learning, and remains a preoccupation as they progress through later stages of learning, so it is not surprising that it appears as a strong feature within a group-learning situation. In the EME activity system the students experience a contradiction in their technical learning process, as pointed out by Helen: "something that is technically my instrument felt like I was learning something totally new." Period instruments, as *artefacts*, have an impact on the students' technical learning experiences; the contradiction generates a deeper understanding of technique.

Period instruments and affordances of HIP

Category 1   Learning as receiving advice and observing demonstrations of HIP-related concepts by tutors and peers, in relation to period instruments

Category 2   Learning as adopting HIP concepts when playing period instruments

Category 3   Learning as understanding the connections between HIP concepts and period instruments; comparisons with modern styles of performance

Category 4   Learning as forming an individual approach to musical performance based on any blend of HIP and modern approaches

All participants give evidence of Categories 1, 2 and 3 in their discussions of HIP in connection with period instruments. Category 3 is clear in all of the statements listed in Chapter 5; the students all display a curiosity about *why* the period instruments contribute to the realm of HIP. Examples include: Angus and Steve's sense that style is implicit in baroque bowing; Amisha's feeling that period instruments lead to "playing more historically"; Holly's notion that period

instruments "force a stylistic interpretation though the characteristics of their little quirks", and Vincent's reference to the interchange between socio-cultural aspects of HIP and the instruments. Category 4 is apparent in Adam and Kirsty's comments on HIP influencing but not dominating their musical decisions.

Variation across group – HIP

The prevalence of Category 3 across the whole group provides clear evidence that students internalise the HIP information presented to them and combine this with practical knowledge construction in the context of period instruments. From the perspective of the researcher and expert practitioner I have an intuitive sense of where each of the participants in the study lies within the spectrum of interest between period instruments and HIP. Some students, in line with my early experience, seem to be fired up more by the instruments than HIP (Adam, Amisha, Kirsty, Steve). For others the reverse seems to be the case (Kenji, Vincent). The remaining students seem equally motivated by the instruments and HIP. However, these variations are quite subtle, and it is the combination of the two elements that appears to be a conduit to deeper learning.

Period instruments and Learning Category 5

Within the context of this study the assessment of Category 5 – changing a person – is purely subjective from a researcher's point of view. It is worth mentioning three of the students who clearly stand out as qualifying for this category, in terms of the extent to which they feel the mediating power of the period instruments on their lives: Adam, Angus and Steve.

For Adam the physical and sonic properties of period cello steer him towards greater maturity and active participation:

> I think playing baroque cello has given me a new sense of oneness with the cello and many new layers of awareness of how even the finest details of your physical connection to it can make such a big difference to sound quality … I think it made be fall in love with the instrument again I

suppose, you know in a more perhaps adult but perhaps in just a deeper way … it made me want to be involved more and more in ensembles and take opportunities to learn from great people and put my hand up to play with the other students

Adam also reports that he is more willing to invest time in his music making:

it's the requirement for refinement on a baroque instrument that's made me what I am now, which is someone who's prepared to put the time in because I know that the results are worthwhile

Angus provides plenty of evidence that his physical connection to the period cello helps him to access musical meaning while exploring a more sensuous side to his nature and musicianship. This resonates with my own experience.

When I play baroque cello it feels like all the techniques are kind of serving a purpose … I think it [the baroque instrument] allows you to be more sensitive, like you can slow down your bow strokes and use a different kind of physical touch and things just work, which is kind of really liberating for my sensibilities … when I transferred over to Baroque just the things that I was naturally doing with my body suddenly made sense. I could kind of relax a bit more – I didn't have to be so into the string … just the softer response of the gut and the bow kind of allowed you to do that.

Steve's experience of the period viola helps him to access his feelings and a love of music making:

When I first picked it up I thought … how very different it [the period instrument] was, but … I didn't think it was majorly like a whole new world, first off. But then, it wasn't until I would say maybe the first concert when I thought Oh my God this is amazing. And it's like a totally different spectrum of music making, I think … the instrument definitely. After a while it became really intense, like a feeling … I couldn't do this on my modern and there's so many finer details that you can get across on a baroque instrument, and especially with the bow as well. Phrasing and

things like that become so much more fun. And just the sound that it makes in the orchestra combining with the other instruments … like you cannot describe it, it's amazing. And the feeling that you get … you can get chills, I mean I get chills anyway, that's why I play in EME.

Summary – Categories of learning and variation across the group in connection with period instruments

Five categories of learning have been extrapolated from the interview data – these provide a useful descriptors for the learning experiences of students within EME. From the volume of data in the Materials and Learning nodes it is clear that EME students adapt to the period instruments, embracing the associated physical and technical challenges, developing a deeper appreciation of sound and a knowledge of HIP. All of these factors contribute to a 'quantitative increase in knowledge' (Ramsden, 1992, p. 26, citing Saljö). It is also clear from node to node analysis that EME students make sense of these constituent elements by relating them to each other and combining them to influence their approach to music making. The process can also be seen as reflective learning or 'reflection-in action' (Schön, 1987). And in Ramsden and Saljö's terms EME students are engaged in both surface and deep approaches to learning. Across the twelve participants in this study the variation in learning experiences linked to the period instruments is surprisingly subtle. The affordances of the instruments are broadly acknowledged within the group. Even Kenji, who attributes more mediating power to HIP and the EME community than to period instruments, describes sounds and techniques in a way that suggests a greater influence than he is prepared to admit.

11.5   Period instruments as CHAT contradictions

The comparisons presented in Chapter 9 between period and modern instruments highlight the CHAT contradictions associated with the period instruments in the EME activity system. Some of these comparisons simply reinforce the categories of learning discussed above – for example, many

students embark on a re-evaluation of their technique, and both Amisha and Steve refer to the combined effect of new techniques and sounds on their learning. But the period instruments have further profound impacts on many of the students. Angus describes his emergence from a relatively "unconscious" mode of playing during his childhood into a more focused and critical approach to music making that is directly associated with the period cello. Others give a similar clear impression that the period instruments play a role in awakening their learning in some way, allowing them to transcend the tendency to "get stuck", as highlighted by Charlotte (Section 7.8).

There are also reports that the period instruments induce a greater awareness of musical skills and goals than experienced previously on modern instruments, for example Adam's more intimate and personal interpretation of the cello solo in the *Overture to William Tell* (Section 9.5). And for both Adam and Angus the period instruments provide relief from the musical expectations of others on modern instruments. Of all the students interviewed Kenji and Vincent are the least forthcoming about the mediating impact of period instruments – both students indicate that they feel able to achieve similar musical results on their modern counterparts, with HIP acting as a greater mediating agent on their learning and music making. However, they still acknowledge the role of period materials within their learning experiences.

In many of the students' statements it is often hard to distinguish between the influence of the instruments, HIP and the tutors' unique approach to music making. This reinforces my proposition that it is often the combination of mediating *artefacts* that provides a CHAT contradiction and shapes learning in the context of EME.

11.6   Discussion – Research Theme 2 – General learning experiences and outcomes in the EME activity system

The learning experiences emerging from the analysis of the interview transcripts can be formulated into learning *outcomes* within EME, both in terms of content

and process. Learning content is highlighted by the existence of both the Materials and Learning nodes in Nvivo. In addition to learning about the specifics of playing period instruments, students report on learning about aspects of HIP, repertoire, general musical skills, sound, technique, musical interpretation and music making. The data in the Learning and Materials nodes also provides evidence of multiple ways in which students experience the learning process in EME. At times content is simply reported with no qualification, without necessarily revealing how this learning process takes place. This is an indication of 'conscious' cognitive processing, meaning that participants are aware of transmitting, absorbing and processing information. At other times the students provide evidence of various types of learning that are familiar from the literature: formal and informal, collaborative, constructivist (learning by doing), reflective, and learning by variation to prior knowledge.

The nature of the interrelationships between students (*subject*), tutors (*community*), materials and HIP (*artefacts*) is evident in the data contained in the Analysis chapters. The powerful mediating effect of materials on the students' experience of music making and learning has already been discussed. As a result the impact of HIP has already become apparent and this is explored later in the chapter as part of Research Theme 4. In the following sections the relationships within the EME community are discussed in terms of social aspects of learning: formal and informal ways of learning, collaboration and constructivism.

Formal and informal ways of learning

The Analysis chapters are all imbued with evidence of both formal and informal ways of learning, as defined by the 'intentionality' of the learner and whether 'someone has taken on the role of being 'the teacher', thereby defining the others as 'students'' (Folkestad, 2006, p. 142). The evidence indicates that both ways can and do coexist in one environment. The content of learning includes HIP, repertoire, technique, sound, general musical skills and musical interpretation. Formal learning is apparent not only in the momentary master–apprentice roles that are reported between tutors and students, but also between students when

one of the group adopts the role of teacher within a peer learning scenario. Examples of formal scenarios are particularly apparent in the context of HIP, repertoire and technique, reported in Chapters 7 and 8. In formal learning information is passed from the 'teacher' to the learner via verbal advice or demonstration. The intentionality of the learner is directed towards cognitive understanding of these elements and *how* they are incorporated into music making. Informal learning is manifested in the students' perceptions of democracy, sense of community and casual discursive exchanges that are more typical of collaboration in pop ensemble settings (Green, 2002; Westerlund, 2006; Allsup, 2011); the intentionality of the learner is directed towards making music in a relatively 'unconscious' way (Green, 2002, p. 60). In EME the blend or 'continuum' (Folkestad, 2006) between the two poles of formal and informal learning is subtly different for each of the Nvivo Learning nodes. These will be discussed in turn.

Evidence of formal and informal learning – HIP

Formal learning about all aspects of HIP is apparent in the reports in Chapters 7 and 8. Adam provides a particularly clear example of formal learning in his reference to being told and shown HIP-related information by the tutors and the consequent "quantum leaps" in awareness. In this capacity the tutors are 'fully authorised carriers of knowledge' (Westerlund, 2006, p. 121) and as expert practitioners they are bringing their previously acquired knowledge of HIP into the students' 'internal horizon' of awareness (Marton and Booth, 1997, p. 87). The benefits of formal learning are apparent in Steve's reference to the direct transmission of the tutors' extensive knowledge of HIP "so we can use that later on in different things." And Kirsty implies that as "she is not much of a reader" she learns formally from the tutors about HIP concepts that she might otherwise miss.

It is not surprising that formal learning occurs frequently between tutors and students within the HIP node in EME, as this is a body of knowledge that is relatively unfamiliar to the students in comparison to their other technical and

musical skills. Nonetheless the evidence suggests that there is plenty of peer to peer learning in this context, some of which is given a formal flavour when students assume the authority of a teacher. For example, Helen and Melissa both convey a sense of formal learning from their peers on the subject of national styles. However, most of the peer learning in HIP appears to be more informal, with references linked to discussion, exchange of ideas, conversation, "compromise" and group decision-making.

According to Adam the new HIP information is absorbed and processed by the students in a way that "makes them want to start playing stylistically all of a sudden." This suggests that the intentionality of the students is initially towards learning about repertoire and technique from an HIP perspective, so it is a formal process, but later on the intentionality changes towards music making and the learning becomes more informal. There are other students who refer to both formal and informal ways of learning at the same time within the context of HIP; like Adam their intentionality is directed towards both learning about the content of HIP and putting it into practice. For example Amisha lists several elements of HIP that she has learned from tutors in a formal way (Section 7.1); in addition her observation of the link between Neal's practical involvement in EME as the harpsichordist and a sense of community provides an indication that informal music making is also important as a method of absorbing HIP concepts.

Evidence of formal and informal learning – Repertoire

Within EME the exploration and appreciation of the early repertoire is often linked with the concepts of HIP. This is not surprising as HIP is intentionally adopted by the tutors as one of the guiding premises of the activity system. Reports of learning about the repertoire from the tutors reveal a mixture of formal and informal elements, with the balance tipped towards formal. For example Steve, Charlotte, Melissa and Vincent mention the specific transmission of knowledge of repertoire from tutors to students (Section 7.2), thus indicating formal a way of learning; whereas Kirsty's intentionality is more towards music making with the tutors and an informal approach to learning the repertoire.

References to learning repertoire amongst peers are exclusively informal. This could be attributed to the fact that the repertoire is relatively unfamiliar to all the students, so none of them assumes the role of 'teacher' in this regard. Simon's statement in Section 8.4 makes a powerful link between the nature of the repertoire and collaborative relationships in the group.

Evidence of formal and informal learning – Technique

There is evidence of both formal and informal learning in the context of instrumental technique, and this applies to both tutor–student and peer–peer interactions. As might be expected, students' reports of technical learning from tutors lie more towards the formal end of the continuum, whereas technical learning between peers tends to be more informal. As the technical advice provided by the tutors is often informed by their knowledge of HIP, for example in the explanation of specific baroque bowings, the formality of the learning is similar to that discussed above, where the tutors adopt their more conventional role as experts. Again, this is made explicit in Adam's reference to "quantum leaps in instrumental technique" as a consequence of direct learning from the tutors. Likewise, Melissa provides clear evidence of formal learning in her acknowledgement of Nicole's "specific techniques" to be readily applied to the music. The formal intentionality of students in learning *how* to play their period instruments (Section 7.5) is often complemented with the informal intentionality of technical learning through music making, for example in Charlotte's observations about the management of bow weight and articulation whilst standing next to Nicole in EME (Section 7.1). Vincent also conveys a sense that formal and informal learning occurs concurrently in a technical exercise led by me from within the cello section at the start of an EME rehearsal (Section 7.5). I recall suggesting a few bowing exercises, along with a few technical pointers, and these were explored and extended by the students in a collaborative way.

Technical information is clearly exchanged between students on a regular basis within EME rehearsals, as highlighted by Simon's reference to relative freedom of speech between students in comparison to group-learning environments on

modern instruments (Section 8.3). Most reports of technical peer learning contain informal collaborative language, involving discussion and observation; Simon and Kirsty provide salient examples of this (Section 8.3). However, in a similar way to the transmission of HIP principles, there are also some descriptions of peer learning in which one student temporarily assumes the role of teacher and the learning has a formal quality within a predominantly informal setting. Melissa's compliments about Jen illustrate this well (Section 8.3); the students' intentionality is directed towards the formal learning of one of Jen's specific techniques, and then applied to the music making.

Evidence of formal and informal learning – Sound

The majority of references to sound are in connection with period instruments and bows rather than with tutors and peers. This suggests that the students' learning experience of sound production and aesthetic is motivated primarily by the raw experience of the materials and to a lesser extent by interaction between learners in the EME community. The activity-theoretical significance of *tools* or *artefacts* embedded in the activity system is clearly demonstrated here. Given the mediating power of the period instruments, evidence of formal learning is nonetheless apparent in the verbal advice and demonstrations offered to students by tutors on how to produce sound. Descriptions of concurrent peer learning in this context have a much more informal flavour (Section 8.2). Learning about sound takes place in a collaborative manner, with verbal exchanges and non-verbal elements such as attempting to blend sounds, imitating the sounds produced by peers on their instruments and exploring new sonic textures.

Evidence of formal and informal learning – General musical skills

Students' reports of learning general musical skills are expressed in language that is noticeably collaborative, and there are strong similarities between the tutor–student and peer–peer relationships in this context. In both cases the learning is underpinned by a remarkable sense of collective exploration:

students are motivated by tutors and peers to access their imagination and express musical ideas while developing ensemble and listening skills. The learning takes place at the informal end of the continuum, as the intentionality of students is directed towards music making. As Simon's comments illustrate (Section 8.6), peer observation plays an important role in this informal learning process. The references to feeling the rhythm, energy and groove of the music (Section 7.4) also provide evidence of informality akin to that in pop music settings (Green, 2002).

Evidence of formal and informal learning – General musical interpretation

The reports of learning about general musical interpretation in Chapter 9 are predominantly within the context of music making. Using Folkestad's terminology, the intentionality of the students is towards music making, and so the learning has an informal flavour. The language in these statements conveys a strong sense of personal exploration and interpretative freedom across the group, suggesting that students experience Reid's level 5 of 'learning to communicate personal meaning' (2001). While it is clear that Neal portrays his own vision of musical interpretation as he directs the ensemble, there is also collective ownership of the musical result. For example, Melissa describes Neal's fluid hand gestures as reflecting "the way he wants the music to come across", but Melissa then points out that Neal's approach to directing also allows for interpretative input from the players: "it's not like he sees himself as being like the top authority and us all below him, it's more of a communal idea and like he's always welcome to hear everybody's suggestions and everything." The descriptions of collaborative music making in Chapter 6 also provide evidence of democratic informal learning in the context of musical interpretation.

Formal and informal continuum

The evidence clearly suggests that there is a continuum of formal and informal learning in EME. One might expect individual students to have a propensity towards one end of the continuum or another, depending on socio-cultural

factors and maturity levels, but all the students in this study display an ability to learn in both formal and informal ways. The variation along the continuum appears to be more linked with the content of the learning. HIP and repertoire sit closer to the formal end of the spectrum, whereas musical interpretation and musical skills are closer to the informal end. Sound and technique sit near the middle of the continuum, with technique on the formal side and sound on the informal side. Based on a qualitative assessment of the data the formal–informal continuum emerges as follows:

Formal ↔ Informal

HIP–repertoire–technique–sound–musical interpretation–musical skills

At the formal end of the continuum the formal learning is predominantly associated with tutors, although formal learning from peers also takes place, alongside general informal learning. At the informal end of the continuum the learning is almost exclusively informal; in other words there is very little formal learning of general musical interpretation and musical skills. It is significant that the 'new' *tools* of HIP and early repertoire stimulate predominantly formal learning, whereas the 'old' familiar *tools* are associated with informal learning. This points to the tendency for musical learners to seek formal external guidance when faced with new concepts, whilst simultaneously building on their previously-acquired knowledge using more informal methods. The group-learning environment in EME provides a forum in which the formal–informal continuum can flourish; this adds momentum to theory and research in the field (Folkestad, 2006; Westerlund, 2006; Green, 2008; Allsup, 2011) and it is of benefit to the students to be able to explore this continuum within their learning journeys.

Interrelationships within EME

The interrelationships within the EME *community* are embodied in the group music making and the learning and teaching processes reported throughout the Analysis chapters. It is clear that all the students in the study are engaged in the

actions of music making and learning that constitute the *object* of the EME activity system. The emergence of a 'collaboration' node and its associated child nodes signals that students are aware of learning through regular verbal communication in EME, and this is made possible by a perception of democracy and sense of community. These elements point to the key social aspect of learning that complements individual learning trajectories and the mediating role of *artefacts* in Activity Theory. The social nature of both peer–peer and tutor–student interactions is evident in the discussion of formal and informal learning above, and is further explored as part of Research Theme 5. In addition, students make references to tutor–tutor interactions (Section 7.10), deepening the significance of *community* in the context of the EME activity system.

Collaboration

As shown in Chapter 6 the transcripts yield powerful evidence for collaboration within EME, in the form of perceived democracy, a sense of community and regular verbal communication. The evidence confirms my observation from a tutor's perspective that the students in EME feel comfortable entering into open group discussions during the rehearsal process. This is the most obvious manifestation of collaborative learning. The collegial atmosphere of EME facilitates a lively exchange of thoughts and ideas. The period instruments, their associated techniques, the early repertoire and the unique rigours of HIP provide rich material for discussion and a strong stimulus for learning.

The various challenges reported by all the students, coupled with clear manifestations of enjoyment, provide evidence for strong engagement with learning and music making, or the *object* of the EME activity system. This justifies my use of the term collaboration rather than cooperation to describe the interactive group-learning processes identified in the Analysis chapters. There appears to be relatively equal intellectual ownership of the activity and relatively equal engagement with the constituent actions. Any variation in learning across the group is more associated with content than with individual levels of engagement.

Within the collaborative/cooperative learning context there is evidence of both 'group learning' and 'peer-directed learning' as defined by Green (2008, p. 119). The relatively 'unconscious' aspect of group-learning is evident in the frequent references to watching and listening. For example Kirsty identifies the "casual learning" in EME as "learning by example … listening to other people play and watching how they move." And Adam links the learning of "basic ensemble skills" with "listening and watching and making compromises." Peer-directed learning clearly takes place in EME, as explained above in the context of formal and informal learning, and as discussed below in Research Theme 5.

Hunter's five benefits of collaborative learning (1999, 2006) are all in evidence within EME. Holly's description of Neal's style of leadership (Section 6.3) makes the interactive element of collaborative learning in EME abundantly clear. Students' active participation in their learning is apparent in their physical engagement with the period instruments and their experimentation to find a good collective sound. It is also manifested in their ability to identify the content and process of learning both as individuals and as a group, and in particular their awareness of the impact of HIP on musical interpretation, for example Melissa's comment that "it's not just playing how we think the composer would have wanted but deciding as a group the way that we want to recreate it." The students provide a clear picture of an enriched learning experience via their collaborative interactions with tutors and peers alike. The reports in Chapter 6 (particularly Sections 6.3 and 6.4) contain both direct and indirect references to the benefits of collaborative learning, in the context of HIP, musical expression and interpretation, understanding group dynamics, playing in a section, ensemble playing, sharing knowledge and ideas, and exploring sound. The interactive nature of the EME environment is highlighted by the frequent references to talking, discussion, argument and questioning, all presented in Chapter 6.

Hunter's fifth benefit of collaborative learning is more difficult to ascertain directly from the data in this study, as the open-ended questions do not invite the students to imagine the consequences of their learning for their working

lives. Nonetheless, there is plenty of evidence of development of both cognitive and generic skills that are highly likely to benefit students in professional situations. Examples of these skills include: listening and observation skills augmented by the production of a different spectrum of sounds on period instruments; research skills; awareness of musical interpretation enhanced by HIP considerations; and communication skills. In addition, students clearly acknowledge the opportunity to learn about group dynamics in EME. The advantages are made explicit by the evidence in Section 6.6. Moreover, while both Angus and Helen highlight their frustrations with aspects of the learning environment they also describe what they are learning about important social elements of music making. For Angus this is "tolerance" of his peers and espousing professional conduct. In Helen's case the opportunity to collaborate helps her to learn about her insecurities and how these manifest themselves in tricky egoic interactions with her peers.

Democracy

The statements in Sections 6.1 and 6.6 reinforce my observation that the students perceive the EME environment to be a democratic one, and therefore feel able to contribute to conversations. This is widely acknowledged across the group as an important feature of the EME learning environment. There are no reports of hierarchy, oppression or intimidation into silence by tutors or peers. Helen is the only student who experiences difficulties in her interactions with peers (Sections 6.6 and 6.7) but nonetheless she conveys the advantage of allowing all the "individual personalities" to participate.

Sense of community

Coffman and Higgins (2012, p. 844) define communal music making as striving 'to bind people together through performance and participation.' This resonates with my use of the expression 'sense of community' in the EME context. The benefits of playing in a smaller ensemble are clearly apparent in Section 6.2, in terms of a sense of belonging and forming close connections with peers. The

sense of community generated by fewer numbers is not unique to period instrument ensembles. Modern instrumentalists are just as likely to feel empowered to communicate, given the right conditions of intimacy. Nonetheless, this factor is one of several that combine to create the conditions for collaboration in EME.

Constructivism in EME

There is naturally an element of individual constructivist learning in all practice-based situations. In a musical ensemble of any kind there are bound to be 'light-bulb' moments arising from practical engagement with instruments or voices, without these necessarily being a result of direct instruction from a tutor or peer. In EME the constructivist aspect of the learning experience is intensified because students are expected to use unfamiliar period instruments and bows with no prior one-to-one guidance. The evidence in Chapter 5 highlights the key role that the materials have in the students' learning experience. Through the physical use of the instruments knowledge is both individually and socially constructed in the fields of HIP, sound, technique and repertoire. This complements the knowledge that is imparted more formally within EME via direct instruction. The evidence for the coexistence of formal and informal ways of learning also suggests that there is a balance of direct transmission and co-constructed knowledge in the EME environment. Either way there are frequent 'constructivist moments' (Cleaver and Ballantyne, 2014, p. 233) within the students' reports on their learning experiences. The spectrum of categories of learning outlined earlier in this chapter indicate that students go beyond the simple acquisition of knowledge and, to a greater or lesser extent, apply and make meaning out of their discoveries.

Examples of constructivist learning

Holly's description in Section 6.3 closely matches the constructivist ideal of collaborative learning by discovery. Neal "conveys what he wants" whilst encouraging the students to discover what *they* want to do with the music. There is an exchange of ideas between Neal and the students that clearly constitutes

social constructivism as co-construction of knowledge within the EME learning community; Neal's role is one of facilitator and collaborator rather than instructor, thus adopting the 'reframed' role of the conductor suggested by Morrison and Demorest (2012, p. 834). Angus's reflections on the different pedagogies of EME and modern chamber classes (Section 9.6) also suggest that constructivism manifests itself in EME as a result of a reflective, less autocratic tutor approach. And Holly's words support the notion of expansive learning within an activity system – her awareness of the learning experience as the *object* of the activity to be explored via open communication is an indication that she is responding 'in increasingly enriched ways' (Daniels, 2004, p. 190). Adam's direct link between learning and "discovering something with people" (Section 9.6) resonates with Holly's statement and provides further evidence of an environment in which constructivist learning is supported. Adam's follow-up comment that everyone has "got to share that spirit of discovery" suggests that a constructivist approach might not work if his fellow learners were resistant to knowledge as co-construction. This lends weight to Fox's (2001) concerns about the unrealistic underlying assumptions of constructivist ideology, but nevertheless the evidence presented by the students in this study indicates its efficacy within EME.

The students' descriptions of their approaches to musical interpretation provide additional evidence of both individual and social constructivism in EME. Some students refer to musical interpretation as their own personal journey of discovery: for example Adam's use of HIP as another tool to his musical belt, Angus's credit to Neal for setting afire his musical imagination, and the sense of personal freedom of expression experienced by Holly, Helen and Kirsty. Others frame their interpretative learning in terms of group decisions. Examples of social construction of knowledge include Charlotte's reference to "exploring different ways … not just a fixed way from one person", Melissa's reference to "deciding as a group the way that we want to recreate it [the music]" and Vincent's comment that in EME "we always try and find new ways of doing things."

Constructivism is also manifested by 'active participation' in the EME environment, as indicated by the evidence presented in Chapter 6. The students' perception of democracy gives them licence to communicate their ideas and opinions, leading to 'knowledge construction as a collaborative, social endeavour' (Rautiainen et al, 2010, p. 191). The comments on sense of community in Chapter 6 and the comparisons with modern symphony orchestras in Chapter 9 reflect the students' opinions that the more intimate scale of EME makes active participation easier to achieve.

Variation and contradictions in learning experiences

The existence of all of the aforementioned approaches to learning gives weight to one aspect of the Theory of Variation in learning (Marton and Booth, 1997), namely that students often experience learning in different ways within the same learning situation. One possible strength of a group-learning situation lies in the potential influence that its members exert on one another, not just in the transmission of content but also in their approaches to learning. Variation Theory asserts that within a group-learning situation such as EME students will vary in their awareness of what they are learning, how they are learning, the element(s) of the object of learning they choose to be in primary focus at any one point in time, and the meaning of the learning experience. The variation in responses between the students in this study provides evidence that each learning trajectory is unique, and each participant responds to different spectrum of learning stimulae within the EME environment.

The concept of learning through variation to prior experience bears remarkable resemblance to the activity-theoretical concept of learning through contradictions. In both Variation Theory and Activity Theory students learn as a consequence of experiencing something in a different way. When students are asked to make music in EME they engage in a task that on the one hand is familiar from previous experience – using their modern instruments and bows in an ensemble context, but on the other hand it is strange and unfamiliar to them – using *period* instruments and *period* bows with the principles of HIP in mind. In

addition to this the tutors' approach to music making is different because it is inspired by HIP and associated with a different set of *rules* and *division of labour*. At times the students contradict themselves in their interview responses. For example Kenji initially understates the impact of the period instrument in favour of HIP and the advice of his peers, but later he is emphatic about its influence; and Helen expresses frustration with the lack of structure and orchestral discipline in EME whilst acknowledging the benefits of open communication and collaborative learning. These seemingly contradictory statements are characteristic of the learning process itself – exploring different arguments, angles and possibilities, and forming opinions.

The Analysis chapters contain many references to the comparisons made by students between their learning experiences on modern instruments in other ensemble contexts and those on period instruments in EME. These comparisons suggest that students are indeed learning through variation to their prior experience. And in the language of Activity Theory they are learning through the contradictions that arise when new *artefacts* are introduced in the orientation towards the *object* of music making. The evidence for learning through variation or contradiction is particularly striking in the responses to questions involving direct references to modern instruments, reported in Chapter 9. Angus reflects that he has become more conscious of the evolution of both technical and musical learning as a result of the period instrument and bow. He is engaging in the same process of learning an instrument and music making as he did in his youth, but certain critical aspects of the object of learning are now in variation – the strings are made of a different material and these generate different sounds. For Angus the variation induces a deeper awareness of the learning processes involved. Other students report on different manifestations of learning through variation. For example Amisha, Charlotte, Kirsty and Melissa all indicate that the period instruments increase their willingness to learn about new ways of interpreting music (Section 9.5), having reached a less open-minded stage on their modern instruments. Amisha illustrates this with her salient comment that if EME were on modern instruments she would play Bach the way she had always played it. For Simon the variation from modern to period instrument

sparks an intense re-evaluation of technique – he reports on feeling "humbled" by the period instruments. And for Adam the period instrument induces a more "intimate and deep" approach to music making that releases him from his prior concerns about the expectations of others. All of these observations suggest that the variation in materials induces a deeper curiosity and awareness of aspects of learning – both content and process.

11.7   Discussion – Research Theme 3 – Formal and informal learning

The original intention behind this research theme emerged from a curiosity about formal and informal ways of learning. By asking open-ended questions about music and music making it was hoped that the students' 'intentionalities' (Folkestad, 2006) would become apparent, thus shedding light on the balance of formal and informal learning in the EME activity system. In fact the students reveal information about formal/informal learning throughout their interviews, indicating that it is not exclusively linked with intentionality, but also with learning content, materials and the interrelationships within EME.

The noticeably prominent factors in the responses to interview questions 3a) and b) are HIP, musical interpretation, sound and collaboration. Some students are initially confused by the reference to music making in question 3a); for example Amisha seems daunted by the possibilities implied by the term, Kenji takes an initial guess that it means "composing" and Vincent talks about pre-meditated sound. However, with some prompting all students are able to make salient statements.

HIP emerges as a highly significant and influential element in music making, with frequent references to historical background research, rhetoric, "improvised feel" and ornamentation. The fact that HIP pervades the students' responses without any reference from the interviewer is a clear indication of its importance in the EME arena. Across the entire group there is broad awareness of HIP in its 'purest' sense: interpreting a composers' intentions and adopting style points from the treatises. Many students then continue to describe their experience of

freedom of musical interpretation in EME, as presented in Chapter 9. There are also references to collaboration, including talking, arguing and group exploration of sound. As mentioned in Chapter 5 there is considerable overlap between the Nvivo nodes of HIP and period instruments and bows. Descriptions of the various aspects of HIP are often intertwined with those of the materials and their associated sounds. When combined the *artefacts* of HIP and the period instruments do indeed mediate students' experiences of music making and learning, resulting in deep learning and extended awareness of musical interpretation, as reported in Chapter 9.

The responses to interview question 3b) indicate that the students are overwhelmingly engaged by the 'music' or early repertoire, with clear appreciation of the variety of composers and different national styles involved. Again, the responses are imbued with references to HIP, indicating its mediating power in the students' learning and music making.

11.8 Discussion – Research Theme 4 – Individual and collective learning experiences

This research theme was created principally to explore the students' awareness of their individual learning experiences in one-to-one lessons, as compared with their individual or collective learning experiences in EME. Some students are initially puzzled by interview questions 4a) and b), pointing out the difference in scale between the learning situations of EME and individual lessons, and wondering if this answer is too obvious. In Vincent's words, EME is "not centred around you, it's centred around how you fit into this group." This, coupled with the reports of collaboration in Chapter 6, highlights an awareness of the social aspect of group-learning, lending weight to the activity-theoretical significance of *community*.

Unsurprisingly, responses to interview question 4a) indicate a broad awareness that students learn technical and musical skills in both EME and their individual lessons. Significantly, many of the students continue to discuss the different

relative focus on technique and music in these two environments – see Sections 9.4 and 9.5. There is broad agreement that modern lessons initially involve a stronger focus on technical goals than on musical goals, whereas in EME the musical goals feature more prominently at the outset.

It is worth noting that within this interview section the students' responses are briefer and less insightful than their answers to question 2e) where they are asked to imagine EME on modern instruments. In both cases they make comparisons between modern and period instruments, but in general they find it easier to make statements about their learning experiences when they compare EME with modern orchestral situations, rather than with their own individual instrumental lessons. This provides an additional indication of an extended awareness of learning that is generated by working in groups. The statements in Chapter 9 clearly reveal that the students have a learning experience in EME that is quite different to their experiences in modern orchestras and in modern lessons. Again, the elements of HIP, period instruments and collaboration present a contradiction to students prior experiences, enabling them to adopt a different approach to learning. These *artefacts* jolt the students out of a predominantly technical focus and a relatively fixed mindset into an approach that helps them to become more aware of a "greater musical purpose" (Helen). This statement is not intended to belittle the benefits that can be derived from intense technical work, but rather to point to the added benefits associated with the introduction of new *artefacts* into a group-learning environment.

Helen's reference above points to the higher levels of learning as identified by Reid (2001) in the context of individual lessons. The students' willingness to immerse themselves in HIP and their awareness of musical interpretation in its 'pure' sense provides an indication that they are engaged in Reid's level 3 – 'learning musical meaning.' Moreover, the process of re-enacting music through the lens of HIP gives the students an opportunity to experience Reid's level 4 – 'learning to communicate musical meaning.' Finally, the freedoms reported by the students in their descriptions of general musical expression and interpretation suggest that they are forming their own unique approaches to

musical interpretation, thus experiencing Reid's level 5 – 'learning to express personal meaning.' EME students may or may not experience these higher levels in their individual lessons, but there is certainly clear evidence of them in the EME environment.

11.9 Discussion – Research Theme 5a) – Tutors and learning

This research theme explores the EME students' perceptions of the tutors in their dual role as educators and fellow music makers in the EME activity system, as distinct from the role of the materials in the learning process.

Students recognise the tutors as expert practitioners in terms of their 'knowledge structures' and superior skills (Ethel and McMenimen, 2000, p. 88). The extent of the tutors' knowledge is reported both in the general sense and within specific descriptions of learning content. Examples of a general kind include: Melissa's appreciation of the variety of ways in which tutors share their knowledge (Section 7.2); and Steve's reference to taking on board the tutors' knowledge and using it "later on in different things" (Section 7.1). Recognition of the tutors' specific knowledge is particularly evident in the descriptions of learning related to HIP, technique and early repertoire. Although there are no direct references to the tutors' instrumental and musical skills there is plenty of evidence that the students recognise and learn such skills by observing the tutors during communal music making in EME. Many of the students refer to the practical advantages of tutors demonstrating and playing within the ensemble; in this context the evidence is clear that skills are being continually developed by listening, watching and copying. For example, Adam relates having a tutor "show you something which isn't anything like you've previously experienced" to "quantum leaps" in instrumental technique and musical awareness. And Kirsty shows clear appreciation of the opportunity to witness how the period instruments should be played by observing tutors participating in the ensemble.

The willingness of the tutors to permit both formal and informal ways of learning is evident from the discussion earlier in the chapter (Section 11.6). Evidence for

reflective practice is apparent in the students' reports in Sections 6.3 and 7.8, highlighting the tutors' flexibility of approach and willingness to explore more than one technical or musical possibility. These are two of the key factors that characterise reflective practice within the musical masterclasses described by Schön (1987, p. 175). Multiple descriptions of Neal's style of ensemble direction also point to an approach that is typical of a reflective practitioner. Neal's willingness to respond and adapt to suggestions made by other members of the EME community is characteristic of reflection-in-action. In addition Holly's reference to being guided rather than being made to do what Neal wants provides clear evidence that his reflective approach facilitates the collaborative learning process for the group, thus confirming Schön's portrayal of the relationship between tutor and students as 'partners in inquiry.' The challenge for any educator in a musical group-learning environment is to convey knowledge and impart the benefits of experience whilst allowing students to form their own conclusions about the various elements involved in music making. The summaries presented in Chapter 9 on the themes of HIP and musical interpretation indicate that students experience 'freedom' and access their imaginations in their musical learning journeys within EME. From an activity theoretical perspective the evidence suggests that the *combination* of HIP and the tutors' reflective approach has a strong mediating effect on the students' experience of learning and music making.

Many of the students convey their appreciation of the congruence of the EME tutors, thus suggesting that it is a valued quality for teaching – attracting students to the group in the first place and also facilitating the learning process. Angus's statement in Section 7.6 highlights the learning benefits of being able to make mistakes without tutor judgement; this supports Ramsden's (1992) assertion that tutor benevolence and humility encourages students to participate and learn quickly. The notion of Förderung, introduced by Holly and described by others, is an indication that tutor congruence is associated with effective teaching, 'perceived to combine certain human qualities with explanatory skills' (Ramsden, 1992, p. 75).

Helen is the only student who refers to her frustrations with Neal's relatively benevolent approach as a director; her concern is that the consequent lack of discipline leads to an unstructured environment with less 'cohesion' than one finds in a symphony orchestra (Section 6.7). This is precisely the dynamic that my research identifies as collaborative participation. Helen's perception that students sometimes display a lack of respect for Neal is not shared by any of her peers, or at least it not reported during interviews. It seems that Helen interprets collaborative participation amongst peers as a lack of discipline rather than an effective conduit to learning. It is perhaps her personal discomfort within the group dynamic that colours her attitude towards a collaborative environment, although she does point out the benefit of individual input for the group (Section 6.6) and she is generally enthusiastic and forthcoming about her own individual learning experience within EME.

11.10 Discussion – Research Theme 5b) – Peers and learning

This research theme explores the interaction between students and their peers in EME. Chapter 8 contains the evidence for students' learning experiences in direct relation to their peers, revealing both content and process. Clearly students embrace the role of educating their peers whilst simultaneously engaging in collaborative enquiry. The content of learning associated with peers is the same as that linked with tutors: sound, general references to music, technique, HIP and musical skills. Remarkably, an Nvivo node matrix query reveals that the volume of references to learning content in connection with peers is greater than with tutors for all nodes except HIP, as shown in Figure 11.1.
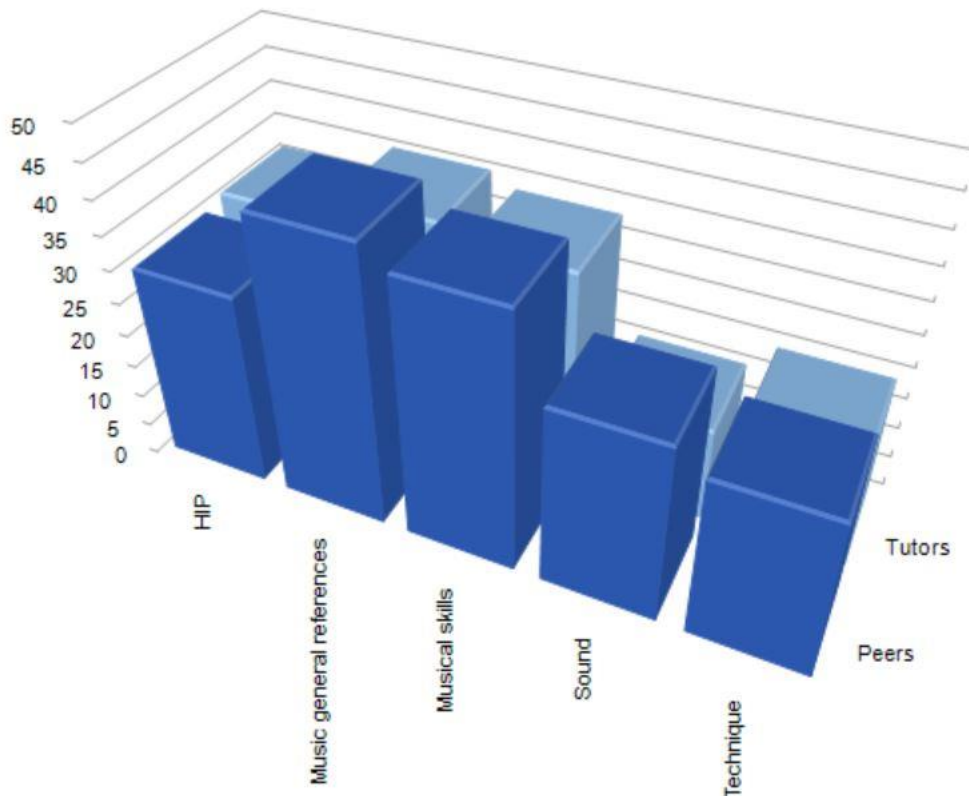
FIGURE 11.1 NVIVO NODE MATRIX CHART FOR PEERS TUTORS AND KEY LEARNING NODES

This highlights the awareness of peer learning amongst the students, as well as its significance within the EME activity system. The most striking figures in the node matrix are for sound, where the volume of references is almost double for peers than for tutors. This is an indication of the strong mediating effect of the sounds of period instruments in stimulating collaborative learning. The CHAT contradiction set up by these new sounds is a stimulus for discussion and experimentation amongst the students.

In terms of relationships between students and the EME community the elements that differ between tutors and peers are the balance of formal and informal ways of learning, discussed earlier in this chapter, and the extent of collaborative learning. An Nvivo node matrix query reveals that there are approximately twice as many references to collaboration in connection with peers than there are with tutors. In addition to this there is greater detail in the collaboration references containing peers. Reading the references in sequence gives me the impression as a researcher that the tutors are perceived as

facilitators for collaboration, and to some extent as co-collaborators, while peers are the principal co-collaborators.

Green's (2008) descriptions of peer learning are all in evidence in EME. Chapter 8 contains frequent references to watching and listening to peers, and some students specifically mention the associated learning benefits. Simon's comments on listening to the sounds of the period instruments and watching these sounds being created are indicative of 'group learning' as defined by Green, thus providing another example of the mediating power of the instruments. Simon reinforces the relatively unconscious aspect of group-learning in his comparison between learning by osmosis in EME and the behaviour of birds in a flock. The simultaneous collaborative exchanges described in Chapter 6 and discussed earlier in this chapter constitute the more conscious verbal aspect of the group-learning process. In the context of EME 'peer-directed learning' is more in evidence in its hierarchical form, in which one or more students adopt a temporary teaching role, rather than the scenario of 'informally rotating roles' between peers (Green, 2008, p. 126). From the data in this study it is difficult to ascertain whether students are more effective than tutors when they assume this role, or indeed if the nature of the interaction between students differs from tutor–student relationships; this would make interesting material for further research. Green (2001, p. 128) points to the evidence that students find alternative ways of communicating with each other in situations where teachers use language that is too theoretical. Such methods include non-verbal interaction, for example demonstration, and also simplification of teacher language into 'kid language.' The prevalence of peer learning in EME is a measure of its importance to students, and there are likely to be many subtle learning interactions that complement those between students and tutors.

The video footage described in Chapter 10 indicates that the role of teacher tends to be passed alternately between students and EME tutors. This suggests to me that, despite the tutors' best efforts to espouse informal teaching methods and to leave the students to their own devices, they still feel the impulse to retain a degree of control over the proceedings. Nonetheless the evidence indicates that

the input of the tutors within a peer-directed learning scenario is sometimes informal, and in this case the tutors assume a temporary status of peer. The complexity of the trust-control relationship in professional ensembles (Khodyakov, 2007) highlights the importance of combining democracy (collaborative informal learning) with a certain degree of control (rules, etiquette and formal learning) in an educational environment such as EME. As a tutor I am certainly aware of maintaining a balance between these two elements.

11.11 Surprises and paradoxes in the interview data

From my perspective as researcher there are several surprising elements within the interview data of this study. While many of the students describe the challenges involved in adapting to period instruments they all continue to acknowledge the associated benefits, even if their intention is to discontinue playing the period instruments beyond EME. It is surprising that some students do not express more resistance to period instruments, and indeed also to the principles of HIP, throughout their time in EME. My memory of the RCM includes observations of some fellow students who strongly disliked the sound of gut strings and who were opposed to the concepts being propagated by the HIP movement. It is of course possible that some EME students harbour similar doubts or frustrations, and that they withhold this information during the interviews for fear of offending me as a dedicated practitioner of HIP. Nonetheless it is significant that the learning benefits of the period instruments and HIP are acknowledged by all, and a pedagogy that fosters constructivism and collaboration appears to render these *artefacts* more accessible and enjoyable.

Another surprising factor is that those students who report on issues concerning group dynamics and discipline do so in a relatively benign way, rather than expressing overt frustration. Again, students may frame their interview answers in a polite or cautious way because they do not wish to offend me as a tutor. However I believe the participants in this study are all aware of the benefits of collaborative activity, even if this awareness is subconscious, and this factor tempers their comments on discipline. Thus a relatively chaotic learning

environment appears not to upset the students, and the significance of this is that the students tolerate this aspect of collaborative learning to enable individual input and creativity to flourish. Nonetheless it is important to acknowledge group dynamics and lack of discipline as issues that may cause frustration within collaborative groups. Tutors in such situations should be careful to keep a watchful eye on the proceedings, balancing the free exchange of ideas with elements of crowd control.

Although the findings of this study broadly align with my research proposition there are some paradoxes within the interview data that are worthy of comment. Some students appear to downplay the merits of period instruments and then later in the same interview they acknowledge their value and influence. Similarly, there are inconsistencies between some comments on a lack of decisive leadership amongst the tutors and weak discipline amongst the students, presented alongside praise for the collaborative opportunities in EME. These apparent paradoxes are an indicator of the *contradictions* experienced by students the activity system. The new artefacts provoke thoughts that are not always consistent within the transitional phases of learning.

11.12 EME and principles of CHAT

How does this study contribute to CHAT?

EME is part of a global conservatoire culture and is situated within the broad domain of tertiary education. It is also situated within the culture of HIP, a relatively recent development within the ancient tradition of western music performance art. Viewed as an activity system that operates in accordance with the principles of CHAT, EME contributes to cultural transformation in a group-learning setting within the conservatoire by employing a unique set of *artefacts*, *rules* and *division of labour*, as outlined in Chapter 3. More specifically, EME can be seen to map on to the five principles introduced in Chapter 3 (Engeström, 2001):

Principle 1

The cultures of HIP and orchestral studies in conservatoires are sustained and nurtured by EME activity. In Welch's terms (2007) these cultures are 'subject to ongoing sustenance' every week 'through the combination of elements embraced by the theorised activity system' (2007, p. 31). The *outcomes* are deeper learning and an awareness of different ways of learning and making music.

Principle 2

The multi-voiced nature of EME is apparent in the variety of points of view and external references presented by the students in their interviews. It is also manifested in the variation across the group in reports of learning content and process. Approaches to learning and 'categories' of learning differ, depending on prior experiences. Some students, such as Adam and Angus, are more primed than others in the HIP tradition at the point of joining the group, and therefore present a different point of view to those who are completely new to HIP, such as Ken and Vincent. As a relatively new ensemble in the history of the Sydney Conservatorium, EME serves as a forum for the discussion and enactment of HIP as well as the perpetuation of the orchestral studies tradition in western-style conservatoires. There are 'strands of history engraved in its artefacts, rules and conventions' (Engeström, 2001, p. 136) which are being continually re-interpreted.

Principle 3

EME contributes to historicity by engaging with HIP, in other words encouraging an awareness of approaches to performance in the past and then integrating this with modern performance perspectives. The approach to musical expression and interpretation is continually evolving, as is evident in the students' statements in Chapter 9 and the discussion of Research Themes 3 and 4. Historicity is also apparent in the adoption of learning processes that have not been widely experienced by the students in other group-learning contexts, particularly in the conservatoire environment. These include: a continuum of formal and informal ways of learning; a constructivist approach to learning, involving genuinely active participation; and collaborative peer learning.

Principle 4

Change and development is apparent as a result of the multiple internal contradictions experienced by students in EME – these are generated because the *tools*, *artefacts*, *rules* and *division of labour* all differ from those previously experienced in other musical contexts. The 'new' materials require different techniques. HIP challenges prior conceptions of musical expression and interpretation. The collaborative environment and reflective tutor approach require greater input and participation from the students. The contradictions influence students into modifying their approaches to learning: a direct response to the mediating elements of the activity system. The *outcomes* are extended learning and an enriched approach to music making that takes in multiple perspectives.

Principle 5

Expansive transformation is evident in the students' exploration of a musical aesthetic based on HIP and their prior musical 'instincts.' Music making is treated as an ongoing learning journey, rather than as fixed exhibit in a museum.

Chapter 12　　　　Conclusion

This study aims to make a unique contribution to the field of music education: the group-learning experiences of music students have been explored from the participants' perspective within a tertiary early music ensemble. Period instruments and bows have been shown to offer high affordances, in terms of sound aesthetic, technique, physical engagement, understanding early repertoire, and absorbing the principles of HIP. These factors lead to both surface and deep categories of learning and thus a rich learning experience; variation of experience from modern instruments deepens learning and stimulates a reassessment of the balance between technical and musical goals. HIP also offers high affordances: historical and musical content, awareness of musical goals, and an influence on modern approaches to learning, interpretation and music making; variation of experience from modern expression and interpretation deepens learning. The combination of period instruments and HIP is a particularly powerful learning *tool* for all the participants in the study, and the relative influence between these two factors across the group is surprisingly subtle.

The EME environment has been shown to support a continuum of formal and informal ways of learning, individual and social constructivism, and collaborative peer learning. All these phenomena present a variation or contradiction to prior experience of modern group-learning environments; therefore they expand students' awareness of different approaches to collective learning and music making. These elements also appear to coexist successfully with positive impacts on learning and are all made possible by a reflective and congruent tutor approach.

The lens of CHAT has enabled all of the above factors to be taken into account within a holistic picture of the learning environment. Materials are regarded as equally influential as the community, with both elements contributing simultaneously to learning; and the 'doing' aspect of learning is regarded as equally important as cognitive processing. This study contributes to CHAT in an

arts education context by endorsing Engeström's five principles (2001): musical 'activity' as a prime unit of analysis; multi-voicedness, or variation across the group; historicity, or a continually evolving approach to musical interpretation; contradictions as a motivating force for change and development; and expansive transformation. The inner workings of EME support both individual learning and expansive learning as a group, thus aligning with one of the key foundations of Activity Theory.

Within conservatoires there will always be a select few students ('racehorses') who wish to spend most of their time fine-tuning their instrumental skills to an exceptionally high level in preparation for careers as soloists, chamber or orchestral musicians, but these days it will benefit the majority of students to engage in as broad an educational experience as possible (Elliott, 2005). I suggest that it is of benefit to students' musical education to combine the linear step-by step nature of traditional one-to-one instrumental tuition with the more holistic 'everything at once' way of learning within groups. In ensembles such as EME students can observe multiple aspects of the object of learning simultaneously, and they can also observe multiple approaches to learning around them. It appears not to be confusing for students to be exposed to such a melting pot, in a tertiary level context.

The pedagogy of EME, explored in this dissertation, appears to be largely successful, and as both a researcher and a tutor I highly recommend its adoption within tertiary institutions. The only potential causes for concern arising from scrutiny of the data are the issues of group dynamics and behavioural discipline. Whilst encouraging informal collaboration in groups it is important for tutors to be vigilant, maintaining a degree of control that ensures a productive exchange of ideas.

Limitations of the study

As this study is purely qualitative and the main body of data is obtained by interviewing twelve students, the findings are not generalisable in the same

sense as quantitative research. The conclusions drawn about the EME learning environment are entirely based on what the twelve participants say in their interviews, and I acknowledge that there is a limit to how effectively these individuals can convey the reality of the situation. In addition, as the only researcher involved in the project I am entirely responsible for the coding of the interview transcripts, and despite my greatest efforts to be neutral there are bound to be subtle biases embedded into the process. There may also be further pieces of information to be gleaned about all of the themes of the study because the students did not collectively provide a comprehensive coverage of them in their responses. Despite these limitations the study has yielded significant findings in the context of a unique tertiary group-learning environment.

Further study

Period instruments, HIP and the aforementioned different ways of learning clearly have a powerful mediating effect on students' overall learning trajectories within orchestral studies. While the 'new' materials do have a desirable key role there are elements of this group-learning environment that could easily be replicated on modern instruments: incorporating HIP, a reflective tutor approach and encouraging a democratic collaborative exchange of ideas. A study of a modern chamber ensemble with these parameters would present an interesting comparison with this study of EME. It would also be of interest to undertake a much broader study of ensembles in tertiary music institutions across the globe, as a means of assessing the current pedagogies that exist within multiple group-learning settings.

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