Learning to become a professional orchestral musician: going beyond skill and technique

Paul Hager *a and Mary C. Johnsson a

aFaculty of Arts and Social Sciences, University of Technology, Sydney

Faculty of Arts and Social Sciences, UTS, P.O. Box 123, Broadway, NSW 2007, Australia.

(Received 23 October 2008; final version received 31 March 2009)

Current theories of learning hold dominant assumptions about the type and scope of knowledge and skills taught in formal courses that prepare novices for professional practice at work. In performing arts educational contexts, a common emphasis continues to hone individual performance skills in order to gain technical mastery and to differentiate competitively against others. Our paper analyses a case study of an alternative educational program developed by a major orchestra, which serves to induct young players into becoming professional orchestral musicians. Our analysis reveals the multiple kinds of learning that we claim can only be gained from context-sensitive participation in orchestral practice at work. We discuss six distinctive features of this practice-based learning and draw implications for how well the various main theories of workplace learning account for the types of learning identified in the case study. We conclude with some observations on what these findings suggest for Vocational Education and Training (VET) in general.

Keywords: workplace learning; transitions to work; mentoring; orchestral musicians

Introduction

In Australia, and elsewhere, there is much debate about the type and scope of knowledge and skills that should be taught in VET and other courses that prepare novices for practice in the workplace (e.g. Winch and Clarke 2003; Hager 2004; Clarke and Winch 2006; Burwood 2007). Further, a conventional view of learning is that young adults and vocational novices learn through dedicated study at school and then transfer that learning when they transition to work in organisations and workplaces (Detterman and Sternberg 1993; Eraut 2004). This paper joins the debate about the nature and process of VET learning by discussing the learning of novice orchestral musicians (we use the term ‘developing musicians’ in this paper) situated within the Australian performing arts educational and workplace context.

Australia does not possess the rich traditions and history of involvement in the arts in the same way as continental Europe; nor has it enjoyed America’s tradition of private philanthropy for the arts (Brooks 1999). It is a young multi-cultural country whose musical traditions are still forming and whose public cultural policy and funding has been criticised as inconsistent and in uncertain transition (Craik, McAllister and Davis 2003). Rather than sequential notions of study then work, Australian youth are increasingly studying and working simultaneously (Stokes and Wyn 2007). Given the competitive performing arts economic climate, this means most existing and intending professional musicians cannot make a viable living from their

* Corresponding author. Email: paul.hager@uts.edu.au
profession; they therefore must resort to seeking additional arts-related (e.g. teaching) or non arts-related jobs (e.g. often hospitality) to secure an economic livelihood (Throsby and Hollister and Institute of Applied Economic Research as cited by Bott 2003). The challenge in learning to become a professional orchestral musician is situated within this complex Australian vocational context.

Our research on developing musicians draws on empirical analysis from a multi-year research project that is testing a theory of learning at work conceptualised as a growing capacity to make appropriate context-sensitive judgements (Beckett and Hager 2002; Halliday and Hager 2002; Hager and Halliday 2006). We report on a qualitative case study of learning within a multi-faceted development initiative designed and implemented by Sydney Symphony Orchestra (who gave us prior permission to disclose its identity). The purpose of the initiative is to initiate outstanding young musicians into professional orchestral practice and to enact the orchestra’s vision to extend music education outreach to children and adults (a vision not consistently supported by government policy as mentioned earlier). Two complementary educational programs provide experiential learning opportunities for two segments of developing musicians:

- The *Sinfonia* Program for students currently studying music at various tertiary education institutions (we have collectively designated these institutions as Music Schools), and
- The *Fellowship* Program for recent graduates from these educational institutions.

Our research methodology included, firstly, semi-structured interviews of a cross-section of program musicians. These included professional musicians who functioned as mentors and colleagues in the Sinfonia Orchestra, developing musicians participating in both the Sinfonia and Fellowship programs, the artistic directors involved in the design and ongoing leadership of the programs and Education staff who supported and organised the programs. The primary focus of the interviews was to understand how orchestral musicians define their professional practice and what kinds of learning from what sources contribute to and shape their practice. There was also exploration of the notion of an orchestral musician as a career and the current societal forces influencing their vocational considerations.

Second, the material obtained from the interviews was supplemented by notes we made when we attended several rehearsal sessions, during which we observed the musicians in group interactions. In some cases, these observations were accompanied by concurrent discussion with one of the Education staff. This discussion assisted us to understand some of the finer points of what was occurring in the rehearsal sessions. Thirdly, we reviewed documentation that recorded how these programs have been modified to reflect the changing needs of developing and professional musicians, including student feedback surveys and notes from mentor discussion forums identifying areas for improvement.

Our case study analysed both the Sinfonia and Fellowship programs. Entry to both programs is highly competitive. In the Sinfonia Program, students perform concerts for the general public and for school children as part of school touring. Students are paid a small honorarium. Throughout the program year, students are mentored by professional musicians from the main orchestra; together, students and their mentors form the Sinfonia Orchestra. The Fellowship Program is a more rigorous professional development program (currently six positions) and involves master class training, mentoring, tutoring of school children; performances of
chamber music concerts and Sinfonia Orchestra concerts; and casual employment opportunities with the main orchestra. Fellows are paid a modest stipend.

It is important to note that the Sinfonia Orchestra is not a training orchestra per se. Participating musicians are paid as for other professional engagements: part of the quota of rostered calls for salaried professional musicians, and a per-performance amount as part of the honorarium calculation or part of the obligations for the Fellowship stipend for developing musicians. The concerts delivered by the Sinfonia Orchestra are paid by the schools participating in the regional school tours or by ticket sales from the general public for the adult concerts. For simplicity in the remainder of this paper, we use the term ‘Sinfonia experience’ or merely ‘Sinfonia’ to refer to the various learning experiences that students and Fellows identified from participating in these development programs, including interactions that emerged and were not explicitly designed by the program leaders. All participant names used in this paper are pseudonyms.

**Some distinctive features of the Sinfonia experience**

This first substantial section of the paper discusses six learning themes that we characterise about the Sinfonia experience based on our empirical analysis. In the remainder of the paper, we examine how well the various main theories of workplace learning account for the types of distinctive practice-based learning identified in the case study. This, in turn, leads us to conclude some general implications for VET.

We start by making two over-arching observations. First, there seems to be a clash between the kinds of solo competitive technical skills and musicianship needed to gain entry to the program (and indeed into the main professional orchestra), and what is valued as an ongoing basis as a professional orchestral musician (i.e. the collegial peer-to-peer support that is characteristic of ways of working in the main orchestra, that Sinfonia seeks to emulate). This observation seems consistent with other Australian empirical data (Bennett 2005) that highlights a common Music School emphasis to hone individual performance skills to gain technical mastery and to differentiate competitively against others. In our case study, this issue surfaced continually as interviewees contrasted their Music School experiences with Sinfonia experiences. As Riva, a professional musician explained it, the transition from student to professional musician, in some ways, is a small step, but it is also

… like a giant sieve. You’ve got all these brilliant [for example] violinists … at [Music School]. They can all play concertos standing on their heads from memory … since they were twelve probably. Yet the ones out of all those who can pull their heads in enough to play in an orchestra are very few. It’s not always the absolutely star players that will get through to us. So it finds those players that aren’t necessarily going to win the concerto competition but they will be fabulous orchestra players, gets rid of all the ones that everyone thinks are the best – I’m not saying we don’t get the best – but it’s a very specific skill playing in a group as opposed to playing a concerto or winning a competition. So yes, we find those players and out of those, we find the ones who really have their brain connected in the right way.

Second, this case study provides many clear examples of the rich learning that essentially stems from being embedded and participating in practice. In what follows, we argue that mostly this kind of learning can only be gained from context-sensitive participation in orchestral practice that teaches participants importantly, the consequences of performing at work (e.g. the implications of being prepared (or not) to perform at professional levels, or the aesthetic pleasure of audience reactions to concert performances). We now present our findings through discussion of six themes
that emerged from our interviews. While there are some inter-connections and overlaps, each of them reflects important aspects of this form of practice-based learning.

**Peer-to-peer mentoring in Sinfonia versus master-to-pupil teaching at Music School**

Sinfonia participation involves a growing number of core mentors who remain strongly committed to its developmental value. As an Education staff member observed, ‘if they’re not rostered on, we get phone calls – why am I not on Sinfonia this year? And we certainly didn’t see that in the first couple of years’. The aim is to roster different mentors each time the Sinfonia Orchestra comes together so that students are able to work with a range of different musicians and perform different roles each time (e.g. as a **tutti** member, i.e. one of the section; as part of a sub-section in passages where the larger section is divided; or as leader of the section in a particular work).

The interactions between mentors and students are typically one of ‘more-experienced’ peers guiding ‘less-experienced’ peers. For example, Riva contrasts teaching at Music School with mentoring in Sinfonia as follows:

> I do it [in Sinfonia] by *not* telling them what to do all the time ... I just hope that they pick it up ... and they do, most of them. Of course in one-to-one lessons [at Music School], I do nothing *but* tell them what to do ... then that’s the big difference between teaching one-to-one and teaching in a more professional ... setting. I mean they’re getting paid to be there ... and we’re performing to people who have paid money, either in the [adult concerts] or the schools concerts, even the kids they’ve paid to be there. And they are training to be professionals ... Am I still able to tell this person that they’re sharp or flat, too loud or whatever, or should they know that by now? It’s not like I set traps by not saying anything ... but it really is important by that stage for them not to have to be told too much. But they listen and pick things up (emphasis by musician).

Yet we also found that the descriptors of ‘more experienced’ or ‘less experienced’ are context-sensitive with mentoring roles being relative and dialogically-generated (Bokeno and Gantt 2000; Darwin 2000). For example, Steve, a professional musician comments:

> [Mentoring has] always [been] a good chance for me to keep up with what the students were talking about and doing ... ... There’s one guy who comes in now and has a new designer valve, ... so he’s brought it in and I’ve had a chance to play it, so it’s been interesting from that point-of-view; you know it just looks like a simple thing but there’s a lot of ... technological advances going on. It’s easy to sit in a job and think this is what I do. Suddenly someone comes in with a new one and makes you think about it again. Yeah, it’s been a two-way learning street.

Here, our use of the term ‘peer-to-peer mentoring’ deliberately differentiates from more traditional mentoring literature (Kram 1988; Kram and Hall 1996) or vocational literature (Dreyfus and Dreyfus 1986) that typically attributes fixed roles and notions of power relations to terms such as ‘mentor’, ‘expert’, ‘master’, ‘novice’, ‘beginner’ and ‘pupil’.

**Practice-based learning in Sinfonia versus more theoretical learning at Music School**

Sinfonia provides a holistic, practical kind of knowing and learning (Beckett 2008; Nicolini, Gherardi and Yanow 2003) that interviewees argue is virtually unattainable
at Music School. As Steve, a professional musician, reflected back on his own student experiences:

[At Music School, we had] what they call orchestral excerpts. We’ll play a brief fragment from what happens in the orchestra and then you get told about what the orchestra’s doing, you go away and you listen to a recording of what it sounds like. You try to prepare but it’s a very sort of sterile sort of process. So when you actually sit in the orchestra then and play these things that you’ve been practising … ohhh, I understand now why this has to be soft, I understand now I have to articulate here. (emphasis by musician)

The difference here is partly logistical:

A lot of good Music Schools will get the whole, say, brass section together and run some excerpts from that symphony as a brass section. But there again, you can get a whole feeding frenzy happening where, you know, the First Trumpet might be a really loud player and you try to play up to that instead of having a conductor out the front saying: no, you’re too loud for the strings and the winds. You only learn that, when you are actually in situ. I guess you can learn a lot about the theory and about your own instrument in a lesson and that’s important. But I think when it comes right down to ensemble playing, there’s really only one way: you really have to suck it and see. (same professional musician).

However, the difference is more than logistical since Music Schools can and do run their own orchestras drawn from their students. Interestingly, some interviewees mentioned that participation in school orchestras taught as many bad habits as good ones. Cody, a developing musician, explains it this way:

Cody: You probably learned all your worst habits when playing in orchestras at [high] school [and] a little bit the same [at Music School]. Because they haven’t had professionals come in and give them a clip over the ears when they weren’t coming into line and stuff like that … it’s a lot more competitive when you’re young actually. You want to show you’re better than other people and you’re going to make it. That’s how I interpret it at least.

Researcher: So [does that mean having, for example,] violinists competing against one another rather than just playing … showing off?

Cody: Yes, just showing off. Trying to play the loud hard bits; they would try to play it louder and faster and cause the music to be reasonably unsettled and just a general disturbance. Whereas the way I feel about playing in an orchestra now is that there’s always enough time to interpret every bit of the music at one point. It’s never too fast, and I think that professional musicians are always aware of this so they always understand what’s going on and it’s always comfortable … they are always aware of every aspect of the music at one point. And they never overplay their instruments, which is what younger people do all the time – play too hard and kill the instrument sound.

While the practical learning available in Sinfonia is clearly connected with the kinds of theoretical learning available at Music School, it seems that practice-based learning also has its own distinctive dimensions that are crucial for high-level orchestral playing. For instance, Riva described her understanding of harmony:

I didn’t go to university, I didn’t study it in that way. I’ve just absorbed it I suppose. Often I don’t know the proper names – oh, that’s a such-and-such chord – I know it now
because I’ve just been around long enough to pick it all up. But yes, I just think the only way to learn it is on-the-job, really no matter how much, how good a student you are, even if you love it doing it that way, it’s not really going to happen until you’re actually in there.

And it’s never going to work unless you’re actually in that group playing and hearing it and feeling where you are in the chord or whatever. Sometimes I feel a bit inadequate because I can’t quote the right rule or it sounds like this because – I just say, it sound like this because it just does so (laughs). Sometimes I think, hmm I should do a bit of study but I don’t need to, because I’ve managed to miss out on that … I suppose it’s the same in any area of study; but it’s the practice that really teaches you.

While harmony is something that does have a detailed theoretical foundation, many interviewees suggested that much of the learning in Sinfonia is essentially tacit, rendering it difficult to learn from traditional pedagogical situations. This is considered in the next theme.

**Tacit learning from Sinfonia participation with others versus focus on explicit learning from a teacher at Music School**

Tacit learning describes a form of knowing where ‘we know more than we can tell’ (Polanyi 1983). It contributes to the notion that the enactment of practice is often more an art than science (Duguid 2005; von Krogh, Ichijo and Nonaka 2000), that exposes practitioners to the unwritten protocols of practice and ways of behaving appropriately within an organisational or cultural context. As Cody reveals:

> I feel there’s … two main parts of being a professional orchestral musician. The first is obviously musical and the second would be etiquette.

> [With] musical, you learn … what kinds of articulation are needed, what kind of approach to rhythm is needed in an orchestra, how to interpret Principals, Principal Players, conductors and concertmasters. How to interpret the difference between how one section of the orchestra interprets something … [especially as] a rank-and-file player, you have to be able to follow what’s been understood. [Also, the] stylistic approach to music changes within the city, within the country and you have to be aware of all these different stylistic approaches.

> [Then] the etiquette that comes with playing in an orchestra is just as important because obviously there’s a hierarchy of older players who need to be respected and expect you to respect their ways of doing things. And they want you to learn; at the same time, they want you to learn the way they’ve done it. And yes definitely not tread on anyone’s toes, which means not playing before anyone, not playing while people are speaking, to take it seriously but at the same time, not to be stiff so-to-speak. And that’s not hard to learn, that’s more … just filtered into you, you know; the way you behave. And the younger you are, it seems that you haven’t quite learned that yet, it’s a maturity [thing] … I think when I was younger, I probably annoyed a lot of people … you’re not meant to play concertos and things while you’re warming up … you’re not meant to look like you’re showing off [so] it’s all about humility really.

Further, music-mediated communication appears to require embodied competence (Beckett 2008); it requires actively using all the human senses rather than the frequent pedagogic talk that is more common at Music School. Table 1 summarises comments by two developing musicians, Valerie and Dean, who identify how they learn tacitly from others.
Table 1. Ways of tacit learning with others.

<table>
<thead>
<tr>
<th>Valerie</th>
<th>Dean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Someone can give guidance by just being there – it’s kind of a mental moral support. Because music is a lot about communication, you can actually improve by copying someone by watching them from the corner of your eye. Just as much as if someone was sitting there and giving you instructions.</td>
<td>Any smart student should realise … they shouldn’t <em>have to say</em> you should be doing this and [that] and you should be looking here and doing that. It should all be done by the student watching and sitting next to [the professional]. That’s what’s so great about being a casual is every week, you’re next to a different player and that player … they’ve had a lot of experience, they’ve played all the pieces many times before so there’s just a huge amount you can learn from them. It doesn’t necessarily mean that they’re going to spoon-feed you, tell you everything. You actually just … lock onto that player and … watch where they are in the bow; what sort of bow-stroke they’re using; what sort of fingerings they’re using; you look at the formations of their hands just to see different things; and the lengths of notes they’re doing, all of these things. It wouldn’t even really be possible for them to necessarily <em>say</em> … and yes that’s <em>really</em> how you learn and that’s how you learn on-the-job (emphasis by musician).</td>
</tr>
<tr>
<td>Body language, through what you hear, everything … a lot of it is visual … and aural – that’s big thing.</td>
<td>[The feedback I’ve received is] definitely way less – to just about nothing now. I think it would be healthy to have as much.</td>
</tr>
</tbody>
</table>

I’ve received some very small amounts of information here and there, which is kind of reassuring; it means I haven’t got any huge potholes in my technique. | [The feedback I’ve received is] definitely way less – to just about nothing now. I think it would be healthy to have as much. |

Source: UTS research interviews.

Prominent amongst the kinds of tacit learning suggested by these comments are various ways in which professional orchestral musicians need to fit into the practices and traditions of the orchestra as a whole. This issue is developed further in the next theme.

**Emphasis in Sinfonia on fitting into the group style versus emphasis at Music School on developing one’s own individual style**

By its nature, symphonic repertoire is founded on music produced by the coordination of various instruments according to the composer’s creativity, and the structure of an orchestra who plays symphonic repertoire must ensure the group cohesion of instrumental players. Orchestral cohesion is founded on a certain hierarchy often coordinated by a conductor. As Steve, a professional musician, comments, ‘You’ve got a hundred incredible well-qualified people there. There has to be someone in the middle to direct it; otherwise you will have a hundred different [players] going a hundred different ways’.

Riva outlines what is involved in helping students subordinate preferences about individual instrument playing and adapt to group playing:

Group playing involves relatively boring but practical things like coming in at the right place, not screwing up the solo, and it might not be as hard as anything you might play at home practising – but yes, fitting in with the tuning, the intonation and the ensemble and getting along with people. Not … picking ‘musical fights’ if you like, not playing different to other people or louder or whatever, just because you think you’re right.
You’ve got to put your ego to one side as an orchestral musician … for Sinfonia, they’re not really allowed to have too much opinion of their own in that situation because nobody is going to follow them, I’m not going to follow what they do, they’ve got to do it my way, but that sounds awful to say it. It’s just a general realisation that you put your own ideas to one side. And you do what everyone else does … there’s no time for negotiation about who’s right and who’s wrong and most of them pick that up immediately.

You could write two lists: what’s priority in a soloist and what’s priority in an orchestral player and they’d come out in a different order. At the top of the list of orchestral would be *rhythm* and then next *intonation* and then next, all kinds of things about how to be adaptable to different styles of music and different conductors; to be able to do what you’re told, and actually understand what you’re being told. A soloist … they can get away with murder and everyone thinks they’re wonderful. They can play out of time, out of tune but if it’s brilliant, fast, flashy … exciting, it’s fine. It’s pretty rare to find someone who can do both. (emphasis by musician)

Matt, a developing musician, illustrates Riva’s points through his own comments about the adaptability needed in tacit learning:

I think [we’ve] definitely adapted. Even playing in tune. If you think you play in tune on your own, once you’re in an ensemble … everyone has a slightly different ideas of pitch, but also just depending on which part you’re playing as well, you have to fit various parts of the chord. You might have to play a note slightly higher or slightly lower just to make the chord work. So it’s learning things like that. Everyone has their own musical expression so yes, getting used to those, trying to get a sound that blends. Some people have a brighter sound, others have a darker sound. Some vary more than others.

These examples suggest that the notion of group learning goes beyond the task of coordinating a group of highly-talented individual musicians, perhaps toward Marotto, Roos and Victor’s (2007) notions of group level peak performance or collective virtuosity. In our case study, groups of players producing a required musical sound appear to involve more than each individual player learning to make his or her own contribution. This seems especially evident in cases like brass players where the instrument is capable of producing only one note at a time. Hence several players are needed to play a chord. At given points in the score, each individual in the section plays a different musical note, so that the group of players as a whole plays a chord. Successions of such group chords are in turn parts of, and need to blend harmoniously with, the overall musical fabric of the composer work being played by the orchestra as a whole. Thus, there is a clear sense in which the whole is more than the sum of the parts. While Music School exposes students to group playing in orchestras, a dominant part of its program is typically individual mastery of skills and techniques (Bennett 2005). Beyond instrument technology and coordinated delivery of composer works, we believe there are further situational circumstances that influence musician learning. These are examined in more detail in the next theme.

**More context-rich learning in Sinfonia versus more context-limited learning at Music School**

Some of the preceding discussion has suggested that professional orchestral players require adaptability of various kinds and sound judgement about how to adapt as circumstances change. Essentially, every orchestra could be viewed as a distinctive cultural and organisational context. However, the orchestral player’s recognition of the need to adapt and capacity to judge how to adapt, is not restricted merely to
adapting to other players or practices within the orchestra. There is also a wider context, including the conductor (often a visiting guest), the concert venue, and the size of the orchestra for performance of a particular work. All of these can influence how the orchestra handles aspects of performance that are not specified in the musical score. Steve’s comments serve to illustrate nicely this kind of adaptation and judgement-making:

Steve: In terms of the Tchaikovsky [Four Symphony that the Sinfonia Orchestra was performing later that evening], early in the week, before we even started, I said to the [others], normally when we play this … it would be a much bigger string section. Then I said: what we want to do is to get really nice definition and maybe to just cave the sound just a bit on each note so that there’s not this massive sound and also being in quite a live hall … so that was something specific and pertinent to our instrument. Because there’s a couple of different ways you could play it without them being too much of a musician … you could play softer [but] without that definition on the front of the note, suddenly it becomes a completely different experience out the front. It becomes a sort of dull sound; it’s not exciting and energetic any more. So and those are the sorts of things you learn over time and just listening to recordings and performing yourself.

Researcher: Because you wouldn’t get that by looking at the score?

Steve: You wouldn’t have a clue. In Tchaikovsky in particular … this particular phrase, you might crescendo to the end of the phrase; start less then crescendo to the end of the phrase: it’s not written. But everybody does it that way, you know. Or sometimes we’ll play something and it might be my preference that we shape the phrase to the middle then away. And it’s a very small detail … you might say to the section: let’s try it and if the conductor pulls it up, we won’t do it … you’re really dependent on the conductor’s view on a lot of these things. So if the conductor wants less, you have to play less; if the conductor wants more, we have to play more, no matter what our personal feeling is about it.

One size doesn’t fit all. You can’t say: this is how we play Bruckner; it’s like this is how we play Bruckner with an orchestra this size … and the next time might be a bigger orchestra or it might be something else. Now if we’re really playing it in a big orchestra, well we want to play it like this … The bigger the string section, the more it’s like you know a real orchestra. And so for the brass section in particular, they get the chance then to actually play it at the dynamic that they’re expected to play. Whereas normally we’re saying: look for this size orchestra, we’re probably a bit too loud, let’s just tone it back a bit.

The size of the orchestra … has implications too in a professional environment because you might get to play a Dvořák Symphony with Sydney Symphony Orchestra in the Opera House, which is a big hall; you’ll probably have a bigger orchestra. [Well] if you’re a young player and you don’t have a job, and you’re in demand for casual work, there’s a good chance you might then play it with [another state orchestra] the next week, which is a smaller orchestra in a smaller hall. So you have to be able to adapt the way you play the same repertoire to different situations.

Steve’s comments illustrate how many contextual factors must be taken into account by the orchestral musician that can affect the quality of professional performances. It would be logistically difficult for Music Schools to expose students to this variety of different contextual situations, but in the diverse contexts of
professional musician work, the judgement skills needed to learn these adaptability skills are crucial to understanding and learning orchestral work.

**Becoming a professional orchestral musician through the Sinfonia experience versus being a competent orchestral player at Music School**

This final theme is concerned with Sinfonia participants being exposed to understandings of identity, heritage and the connectedness of belonging to a professional practice as emerging orchestral musicians. Using vocational models of attainment (Dreyfus and Dreyfus 1986), an instrumental goal at Music School could be stated as learning how to be a competent orchestral player as a pathway towards entering a profession and obtaining employment. Following the years of practice and study, the successful graduate can claim to be a competent professional on their instrument, albeit one who typically will be faced with stiff competition to gain work.

However, far from portraying entry-level to professional orchestral musician as an attainment of a specific goal, Sinfonia presents it as part of an evolving journey, as joining a changing practice that shares with other practitioners, the heritage, passion and respect for music and its aesthetic role in society (Thom 2007). As Kris, a developing musician observes: ‘It’s the concept that a musician is part of [something much greater] than applies in his/her own life … all musicians have a responsibility with regard to education … both self-education and the education of future generations’. Obviously, there is a specific start and end to program activities in any one year. But the vision for Sinfonia is for participants to experience some of the multi-faceted roles that the practice of a professional orchestral musician encompasses. Such roles might include being an instrumental player, performer, mentor, teacher, employee, chamber group member, audience communicator, cultural advocate, specialist interpreter of particular types of music, or numerous other roles. They reflect the social, cultural and economic contexts in which orchestras operate here in Australia and more broadly, and evolving musician identities as broader cultural citizens as well as proficient practitioners (Delanty 2003; Johnsson and Hager 2008).

We summarise the six themes we have discussed arising from the Sinfonia case study in Table 2 below.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Features of learning at Music School</th>
<th>Features of learning through the Sinfonia experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Master-pupil dyad</td>
<td>Peer-peer team</td>
</tr>
<tr>
<td>2</td>
<td>Pedagogical learning</td>
<td>Practice-based learning</td>
</tr>
<tr>
<td>3</td>
<td>Explicit learning from a teacher</td>
<td>Tacit learning from a group</td>
</tr>
<tr>
<td>4</td>
<td>Emphasis on developing own style</td>
<td>Emphasis on fitting with group style</td>
</tr>
<tr>
<td>5</td>
<td>More context-limited learning</td>
<td>More context-rich learning</td>
</tr>
<tr>
<td>6</td>
<td>Goal of being</td>
<td>Continue becoming</td>
</tr>
</tbody>
</table>

**The implications of our findings for theories of workplace learning**

The above discussion has identified various kinds of learning that are significant for successful performance as a professional orchestral musician, yet it seems that these kinds of learning can only be achieved by engaging in actual orchestral practice. This is not to say that the learning attained at Music School is irrelevant or of poor quality,
but merely that a Music School education alone is unable to produce fully-fledged professional orchestral musicians. From our wider research (e.g. Hager and Halliday 2006), we believe that a similar gap exists between formal education arrangements and actual practice in many occupations. This is evidenced by the frequent rhetoric from employers that formal courses are failing to produce graduates with the full repertoire of characteristics (or specifiable graduate attributes – see Australian research conducted by Bath et al. 2004) needed to be immediately productive in their particular workplaces (Harvey 2000).

What about theories of workplace learning and how well do they account for the various kinds of learning identified in this case study? This is a large topic that is the focus of our ongoing research. In the present paper, we give a necessarily provisional overview of our current thinking on this matter. A major issue that is clear from this case’s findings is the importance of individuals being able to participate in group learning and adapting to situations. Learning of professional orchestral musicians embraces both individual and social dimensions. We are wary of reductive theorisations that seek either to explain the social in terms of the individual or the individual in terms of the social (Kim 1993; Lehesvirta 2004). Rather than reify one over the other, we see a place for both in attempts to understand holistic embodied practice and the learning that accompanies this practice.

Accordingly, we judge that much of the early thinking on learning from work (e.g. Argyris and Schön 1974, 1978; Schön 1983, 1987; Marsick and Watkins 1990) is severely limited in relation to our findings. There are several problems we see with the work of these early writers. Firstly, they very much focus on the individual learner, with social factors and general contextual factors being viewed more as background to the individual. Secondly, they put most of their emphasis on cognitive aspects of learning. Thus, for example, Schön’s (1983) almost exclusive focus is individual practitioners engaging in ‘knowing-in-action’ and ‘reflecting-in-action’. While reflection no doubt has some role in successful learning to become a professional orchestral musician, our data above suggests that it is, at best, a very small part of a much more complex process. These first two problems taken together also serve to locate learning firmly inside of individual heads. Thirdly, these early writers, reflecting their emphasis on cognition, favour explicit learning over tacit learning. Our data provides many examples of learning that appears to be inherently tacit.

More attuned with our findings are theorists who specifically recognise the social dimensions of learning. Notable here is the work of Lave and Wenger (1991; Wenger 1998) that locates learning within communities of practice. For them, learning is situated within a framework of participation that is experienced in a community of practice. This makes learning something that extends beyond individual heads or even bodies. Much of our data sits well with what Lave and Wenger (1991) say about communities of practice. Sinfonia students and Fellowship holders could be viewed as ‘legitimate peripheral musicians’ working towards achieving full status in the community of practice as professional orchestral musicians. However, as noted by Fuller et al. (2005), the ‘community of practice’ concept has variable and ambiguous scope. For instance, in our case study for a cellist (say), is their community of practice the cello section, the strings as a whole, or the whole orchestra? Each might be relevant in a given situation. Likewise, especially since many of the students do casual work with other orchestras, might not their community of practice be something wider than any of these, such as: cellists in general, strings players in general, orchestral musicians in general?
While Lave and Wenger’s (1991) work illuminates the social dimensions of learning, it is less informative about what happens to individuals as learners, a dimension that we have claimed is also important. Fuller et al. (2005) see this as a significant shortcoming in Lave and Wenger’s original 1991 work – its strong focus on the learning of novices, with the implication that once you are a full member of the community of practice, learning is complete. Fuller et al. (2005) also found in their research, that the ongoing learning of fully-fledged practitioners was highly significant. Our orchestral case study is similar in this respect. All of the musicians, especially the more accomplished senior ones, had a strong sense that their ongoing career success was contingent on a capacity to continue learning.

In going beyond the original Lave and Wenger (1991) concept, Fuller et al. (2005) found that communities of practice are partially reshaped by what newcomers bring to the community. Our research found some of this effect (cf. Steve’s reference to the mentoring process being ‘a two-way street’). However, our data also suggests that this effect could be counteracted by institutional pressures to mould novices to fit in with established protocols and ways of behaving, raising the issue of power relations at work (Blackler and McDonald 2000). Fuller et al. (2005) argue that,

Lave and Wenger acknowledge, but never fully explore, the significance of conflict and unequal power relations as part of their theorising on the internal operation of communities of practice and its relationship with the wider context. The issue of power has emerged as relevant to understanding the opportunities and barriers to learning experienced by musicians in all our case studies. (Fuller et al. 2005, 66)

Our case study suggests that the power relations within a professional orchestra can also demonstrate productive tensions. All of the interviews reflected a strong culture of peer-peer equality within the various orchestral sections, yet the orchestra itself is very hierarchical. From the data, it seems that the players believe both that the peer-peer equality is important for the section to play well together and that the hierarchical structure is necessary for the orchestra as a whole to perform well.

Also relevant to the issues in this case study, is Engeström’s (1999, 2001) research on workplaces as activity systems, comprising a range of components including workplace rules, the division of labour, and mediating artefacts. Engeström (2001) regards learning as occurring when work proceeds within such activity systems, because contradictions and tensions are thrown up that need to be resolved. This account of workplace learning takes note of social, organisational and cultural factors within the activity system. However, our data leads us to question whether all learning in Sinfonia arises from contradictions and tensions within the system. While some aspects of orchestral activity, such as concentrating on smoothing out certain passages during rehearsal time, might be thought of as resolving tensions, it was clear that much of the learning uncovered in this case study did not arise from contradictions or tensions. Perhaps some of our findings can be usefully thought of in terms of competing activity systems (‘Music School’ versus ‘Sinfonia Program’) which are navigated in different ways when students must adapt to the changing contexts of study and work.

We believe Fuller and Unwin (2003, 2004)’s framework for an expansive learning environment centres on two broad sets of features: those relating to organisational context and culture, and those relating to learning opportunities arising from various forms of participation in workplaces. Both of these are prominent in our case study. In fact, the Sinfonia and Fellowship programs can be said to be centred on
a close integration, wherever possible, of these two sets of features. This case study, and the others developed as part of our wider research project, connect with and challenge in interesting ways various theories of learning at work. We have similarly found other theorisations of collective competence and culturally-shaped learning to be useful (e.g. Boreham 2004; Boreham and Morgan 2004; Hodkinson, Biestra and James 2007).

**Implications for VET in general**

We conclude this paper by drawing some brief implications for changing understandings of VET in Australia. As we mentioned in our introduction, rather than youth transitioning from one context of formal education to another in the world of work, increasingly they perform and learn in multiple contexts that co-occur (Stokes and Wyn 2007). According to Stokes and Wyn (2007), the concept of ‘transition’ incorporates three inter-related defective assumptions. First, it suggests a linear movement from one clear cut state to a very different state, from ‘the status of student (immaturity) to vocation (maturity)’ (Cohen and Ainsley as cited by Stokes and Wyn 2007, 498). This masks the typically more complex and chaotic processes in young people’s lives, whether still at school or not, in which significant learning occurs across many different sites including workplaces. Second, the concept of ‘transition’ conflates biological developmental processes with social processes. Increasingly, the two do not coincide:

Socially, the boundaries between youth-adult and student-worker are increasingly blurred. The conflation of social and developmental understandings of youth only serves to mask the extent to which young people engage in adult practices incrementally and early, across many dimensions of their lives. (Stokes and Wyn 2007, 497-8)

Third, based on the two previous assumptions, a ‘normative framing of the concept of transition creates expectations that, by a particular stage (and age) young people should have achieved a particular milestone or reached a particular level’ (Stokes and Wyn 2007, 498-9). Examples of such norms may be that ‘early school leavers are at severe risk’ and ‘tertiary graduates move into well paid jobs’. However, as Stokes and Wyn (2007) stress, evidence is emerging of increasing exceptions to such norms.

Stokes and Wyn (2007) propose that the concept of transition be replaced by awareness of contexts as crucial sites of learning and identity formation, both for young people in formal education and for those who have exited it at whatever level. They urge recognition of both the breadth and depth of learning across different sites and a blurring of the boundaries between formal and informal learning sites. Our case study, as discussed in this paper, has illustrated many of the issues and trends involved both in the critique of the concept of transition and in its suggested replacement. Hence, we suggest that our case study surfaces wider implications for the changing role of VET in the early twenty first century.

**Acknowledgements**

Although we carried out the particular case study reported in this paper, the wider research project included our colleagues John Halliday (University of Strathclyde) and Jim Athanasou (University of Technology, Sydney). An earlier version of this paper was presented to the Seventh International JVET Conference in Oxford in July 2007. We acknowledge funding support from the Australian Research Council and useful comments on an earlier draft from two anonymous reviewers.
References


