

# Observational learning in the music masterclass

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*This article contributes to research on music masterclasses through examining learning through observation. It investigates how students are learning as observers in this context; whether and how they will transfer their masterclass learning to their own instrumental/vocal development, and whether they have discussed learning through observation. Data were gathered from higher education students observing two masterclasses. Their responses indicate observation of technical, musical, performative and pedagogic elements. However, they also suggest limited discussion of observation and of the processes involved in implementing observational learning within their own work. The findings suggest that there is scope for enhanced learning in the masterclass, including developing perception through facilitated engagement with systematic observation and consideration of processes of transferable learning. These may have positive implications for extending learning in other contexts.*

## **Introduction**

Although the history of music masterclass learning stretches back to the teaching of Franz Liszt (Walker, 2009) and virtuosi including Cortot (Taylor, 2001), examination of the processes by which students learn in this context have only recently become the focus of researchers and educationalists (Hanken, 2008, 2010; Creech *et al.*, 2009; Long *et al.*, 2011a, 2011b, 2012; Hanken & Long, 2012). While attention has largely centred on the behaviours of master and participating student, those observing the masterclass have yet to be the focus of research. However, in this context, greater numbers of students may potentially learn through observation than through active participation, given that a master will only work with a very small number of participants in any one session. This research investigates whether students receive any preparation for learning as observers, how they perceive this learning as taking place, and how they anticipate transferring it to their own instrumental or vocal development.

## **Background**

Learning through observation is acknowledged to be a fundamental method for acquiring skills such as those relating to language and cultural norms (Craig *et al.*, 2007). In Bandura's concept of 'vicarious learning' (Bandura, 1974), learners develop through observing and imitating the behaviour of others. Four processes are involved: 'skill in discriminative

observation, in memory encoding, in coordinating ideomotor and sensorimotor systems, and in judging probable consequences for matching behavior' (Bandura, 1974, p. 864). Bandura defined this process as a social learning construct, in which as a result of 'observationally derived rules, people alter their judgmental orientations, conceptual schemes, linguistic styles, information-processing strategies, as well as other forms of cognitive functioning' (Bandura, 1974, p. 864). This could lead to innovative thought and behaviour (Bandura, 1974, p. 864). Vicarious learning can also be viewed 'as a paradigm for becoming an expert in *learning*' (Mayes *et al.*, 2001, p. 3) through observing strategies used by expert learners. This process may also encourage the development of innovation through 'synthesizing features of different models [of learning] into new amalgams' (Bandura, 1974, p. 864).

Scientific research using functional magnetic resonance imaging (which enables the study of the brain's neural activity by monitoring blood flow to neurons) has discovered that the areas of the brain used to perform an action respond when observing another person performing the same action (Iacoboni *et al.*, 1999). Further research has confirmed that in addition to recognising the action, mirror neurons (cells firing in the brain in response to observing action in others) also allow the viewer to understand the intention behind the action (Iacoboni *et al.*, 2005). These studies suggest that humans have an innate propensity for learning through observation and for empathic understanding. Furthermore, Frey and Gerry (2006) discovered that there are differences between observing an action in order to carry out the same action, or to simply observe with no subsequent purposive intent. The former condition creates greater activity in the intraparietal sulcus which is located in the parietal lobe (Frey & Gerry, 2006). Frey noted that 'what appears vital is the intention of the observer, rather than simply the visual stimulus that is being viewed. If the goal is to be able to do what you are seeing, then it appears that activity through your motor system is up-regulated substantially' (Collingwood, 2007).

The process of learning through observation appears to be central to the acquisition and development of skill within a range of domains, including teacher training (Miranda *et al.*, 2007; Blair, 2008; Clements & Klinger, 2010), working with pre-school children (Hobart & Frankel, 2009; Riddall-Leech, 2010), healthcare practitioner training (Morris, 2003) and counselling training (Connor, 1994; Hough, 2010). In music, observational learning has been used within music therapy training (Hoskyns, 2002) and in learning conducting skills (Gonzo & Forsythe, 1976; Duke & Prickett, 1987; Johnston, 1993). In all of these domains, observation skills are taught, and may include the use of checklists or schedules to aid and guide observation (see, for example, the Teaching Observation Form developed by Louis Bergonzi, in Conway & Hodgman, 2010, p. 180 and the worksheets in Clements & Klinger, 2010).

Some areas of vicarious learning highlight the learning relationship with a partner or mentor. In training to be a music therapist or counsellor, individual relationships enable the learner to acquire skills in client observation (Connor, 1994; Hoskyns, 2002; Hough, 2010) and in behavioural modelling (Hough, 2010). In teacher training, validation of one's observations through discussion with a mentor can affirm and empower the trainee (Blair, 2008, p. 107). Roberts (2010) provides evidence of a number of studies demonstrating vicarious learning within a community of practice. The community of practice (Lave & Wenger, 1991) involves a group of 'people who engage in a process of collective

learning in a shared domain of human endeavor' (Wenger, 2006) who develop this learning through interaction. Observational work in these contexts has also been outlined by Morris (2003) in healthcare training, and delineated in the training of music conductors (Gonzo & Forsythe, 1976; Johnston, 1993). The social context provides possibilities both for empathic identification and also for developing understanding through peer dialogue. This can include confidence, support and subject understanding, developing a professional language and diagnostic skills (Cox *et al.*, 2008) as well as more sophisticated discussion skills demonstrating critical awareness and constructive thinking (Stenning *et al.*, 1999). Learners can become more aware of the learning process (Gonzo & Forsythe, 1976; Eken, 1999) and may also develop more realistic notions of their own ability following comparison of self- and peer-assessment of their own performance (Johnston, 1993). Students can also become involved in the learning process through developing tasks and activities for other learners (Morris, 2003) which could include discussion of documented observation (Conway, 1999). This process has to be managed carefully, as tacit or unstructured observation can result in unfocused and ineffective learning (Greene, 2009) and the possibility that 'we see what we want or expect to see – to the point where believing is seeing' (Ostermann & Kottkamp, 2004, p. 30). It can also create the potential for 'heightened anxiety and total "shut down" in the learner' (Morris, 2003) and result in unconsidered judgements on aspects of the observed behaviour (Hoskyns, 2002; Miranda *et al.*, 2007).

### **Observation within musical skill learning**

Within the context of classical instrumental and vocal learning, practical skills are still generally transmitted through the master-apprentice relationship in which 'the master is usually viewed as a role model and a source of identification for the student, and where the dominating mode of student learning is imitation' (Jørgensen, 2000, p. 68). Students may also encounter informal observation of peers in ensemble settings and performances. Close and collaborative peer observation in groups and more distanced observation of players with greater experience are also significant in learning jazz, traditional and popular music (Green, 2002, p. 82).

Observation can also occur in managed contexts including group instrumental/vocal learning (Davis & Pulman, 2001; Daniel, 2004*b*, 2006), peer assessment (Hunter & Russ, 1996; Blom & Poole, 2004; Daniel, 2004*a*) and self-assessment through video analysis (Daniel, 2001). In research by Hunter and Russ (1996), Daniel (2001, 2004*a*) and Blom and Poole (2004), undergraduate students received instruction in what to consider while observing performance. For self- and peer-assessment they were required to either reflect on the experience through completing written work (Daniel, 2001) or to assess peers and produce written reports and marks (Hunter & Russ, 1996; Blom & Poole, 2004; Daniel, 2004*a*). Students were directed to observe performance using prepared forms which also provided space for them to add general comments. Amalgamating the elements outlined by Blom and Poole (2004, p. 116), Daniel (2001, p. 219) and Hunter and Russ (1996, p. 70) produces a substantial list of aspects that observers could potentially focus on. These include repertoire (choice and programming); technique (control, intonation, bowing, pedalling, fingering, breathing, diction and rhythmic accuracy); interpretation (range of dynamics and tone colours, ornamentation, sense of direction and fluency of

performance, issues of taste, style and performance practice, tempo, use of rubato, shaping and phrasing, articulation, plus choice of edition); ensemble skills (partnership with the accompanist and knowledge of the accompaniment); performance skills (professionalism, overall presentation, confidence, stage presence, communication of structure, consistency of performance, entrance, exit, bowing, physical presence, gestures). Further elements could be added, including style and appropriateness of improvised elements, memorisation, the presentation of a spoken introduction to the piece/s and the use of the performance space.

The findings of the research on implementing self- and peer-assessment of performance into the undergraduate music degree demonstrated that the insights gained through the process of guided observation and self- and peer assessment lead to increased preparation for performance (Hunter & Russ, 1996) and the development of critical and reflective learning skills (Blom & Poole, 2004). The process also promoted an understanding of assessment including 'evaluation, critical judgement, and negotiation' (Hunter & Russ, 1996, p. 77) which engaged students as 'active participants in the learning process' (Hunter, 1999, p. 51).

### **Observation in the music masterclass**

The masterclass provides additional possibilities for learning through observation, including opportunities for the audience to: (1) observe interactions between master, student and audience; (2) consider pedagogical elements and the extent to which these are localised as specific master interventions or form general conceptualisations; (3) contemplate the degree to which the master may extract transferable elements and relate these to other works or areas of practice or performance; (4) note the extent to which the master may refer to his/her professional experiences and his/her lineage of teachers, and (5) consider the importance placed on using additional material such as recordings, articles and books to inform learning. Furthermore, observing subsequent masterclass performances given by the same student could enable others to evaluate aspects relating to the performer's progress and engagement with varied types of repertoire and/or with different performing personnel such as accompanists, as well as the development of their attitude to working with the master and receptiveness towards feedback.

Hanken noted that the masterclass audience can learn 'concepts, rules, standards of assessment and strategies for problem solving' (Hanken, 2008, p. 32), but the degree of learning relates to audience members' individual proficiency as performers: 'the higher their level, the more they will be able to perceive and hence learn from subtle nuances in the demonstrations, instructions and performances' (Hanken, 2008, p. 32). She also acknowledged that audience learning would, to an extent, depend on the master's aims, as some masters may focus more on the performing student than on transmitting knowledge to the audience (Hanken, 2010, p. 151). Effective interaction between master and audience could be strengthened by the master communicating directly with the audience and through clear audibility of master and student performer's speech (Long *et al.*, 2011a).

Creech *et al.* (2009) noted that participating masterclass students thought that peers who did not attend might feel unsure about how to learn through observing others perform and/or of the value of this learning. It is also possible that different learning

style preferences may affect the learner's predisposition to attending: kinaesthetic or tactile learners may prefer to be actively playing and internalizing information (Beheshti, 2009) rather than passively watching. Long *et al.* (2011a) found that students with prior experience of masterclass performance were significantly more likely than those lacking performing experience to learn through observation, finding the context motivating, and that females were more likely to attend than males, viewing self-reflection and comparison with their peers as beneficial. This suggests that teachers could emphasise the value of masterclass learning to observing students as well as to those who perform (Hanken, 2010) and that there is scope for providing increased development for masterclass learning, particularly relating to observer learning.

While masterclasses are increasingly becoming the subject of research, there is scope for this to be extended through the investigation of observational learning. In a context where a master is only working with one student (and accompanist) at any one time, the number of those observing is always greater than the number of performing participants. Therefore, developing our understanding of how to learn through observation in this context would be of pedagogic value.

### **Methodology**

Exploratory research was conducted at a UK university music department to find out more about music students' perceptions of their observational learning in the masterclass. Most of the masterclass research to date focuses on conservatoire students, but in many UK university music departments, masterclasses are usually one-off experiences, rather than built into the structure of students' weekly training as in a conservatoire. Therefore, it is likely that a university sample will display different attitudes to their learning within the masterclass.

In order to make participation voluntary and anonymous, a questionnaire was devised and distributed (by leaving on seats) to students attending two masterclasses in the Spring term, 2012. Attendance for observers was optional, as was participation in the questionnaire research. The study was given ethical approval by the Head of Department, and consent for research was given by the masters and the performers. The first class was for singers, and the second for string players, and each lasted around 90 minutes. Observers were invited to answer the following questions:

- (1) Please state your instrument/voice:
- (2) And your year of study here:
- (3) As an observer, how are you learning in the masterclass setting?
- (4) Will you transfer this learning to your own instrumental/vocal development, and if so, how?
- (5) Has anyone ever discussed with you how you learn as an observer? If yes, please detail:

These questions sought to capture data that would illuminate the understanding of observational learning, particularly in relation to its inclusion within the context of instrumental/vocal development. The questions were created in order to develop previous research and derived from an understanding of this research as well as from the author's

own perceptions of the pedagogical context as an attendee. Responses were received from 18 students: 11 attending the vocal masterclass (VM) and seven attending the string masterclass (SM). Where respondents are quoted in subsequent text, these codes show which masterclass they attended. This information is followed by the respondent's year of undergraduate or postgraduate study. While all of those attending the vocal class were first-study singers, the responses from the string class included two from first-study keyboard players (piano; harpsichord/piano/organ) as well as those from string players. The respondents ranged from first-year undergraduates to final-year PhD students, with a greater number of postgraduate students attending the vocal class and a greater number of undergraduates attending the string class. The responses were collated and thematically coded by hand through an iterative and inductive process. While the sample size is small, the process of analysis nevertheless revealed useful information relating to the learning of students observing masterclasses.

## Findings

### *Preparation for observational learning*

Twelve of the 18 respondents stated that they had never discussed learning as an observer. One of these students felt that 'it just happens naturally and I find it a very beneficial way to learn' [VM3, MA course]. Comments made by two other students outlined some discussion relating to 'things like mirror neurons as well as motor memory' [VM4, Undergraduate year 3] and vocal relevance: a singer noted that 'one learns more from observing singers than from any other tuition' [VM11, year 1]. While one student noted that the discussion did not extend further than 'beyond agreeing it can be useful' [VM8, year 3] another singer had been 'advised by teachers [on] what to listen for' [VM7, MA]. Self-directed study of observation had been undertaken by one student as 'something I have looked into in my own study mainly in the context of a school classroom' [VM6, MA]. Just one postgraduate student had experienced some formal instruction in observation. This occurred during music education and conducting courses in America which 'taught us different observation techniques in advance of requiring us to clock a significant number of observation hours in various classrooms or at rehearsals' [VM, PhD]. These findings show that two-thirds of this sample had never discussed how to learn through observation. The remaining third had experienced varying degrees of discussion, with postgraduates noting more than undergraduates.

### *Conceptualising the learning process*

Students showed a variety of responses to being asked how they learnt in the masterclass setting. Four students (two in year 1, one in year 3 and one PhD student, who all attended the string masterclass) focused on what was learnt rather than on the process of learning, for example: 'Importance of phrasing. Importance of physical stillness. Importance of sound projection. Importance of clear communication' [SM, year 1]. While some of these students detailed an understanding of the need for specific foci in practice, such as: 'the importance of highlighting key features of a piece of music – i.e. motifs to the audience. Consider

the dynamics – why are they there?’ [SM, year 3], their responses lack delineation of the actual learning processes within the masterclass. This suggests that some students may be unaccustomed to expressing the ways in which they learn in this context and may find this challenging.

A second group of responses demonstrated clearer links between observational processes and learning outcomes. Ten students noted ‘observing/seeing/watching’. Three of these plus an additional two mentioned ‘hearing/listening’, and another described learning ‘through paying very close attention, and through reflection’ [VM, year 3]. These respondents made connections between observation and their individual practice: ‘Taking general tips and applying them to your own work. Watching how singers emote/perform and applying to your own work’ [VM, MA course]. Their comments related to practical areas including performance, presentation skills and movement: ‘Observing another performer makes me more aware of what I do physically when performing – and how to stop doing anything not necessary for the performance’ [VM, MA]. Observing movement also translated to string playing: ‘in terms of bowing technique watching those with a stronger technique has helped me to improve my own. I was able to see exactly how their arm was moving and replicate it – although mine is still not where it should be exactly’ [SM, year 3]. This student also noted how performance could be personalised through gesture: ‘how people engage with the music ... by adding their own “touch” to it through their body language/movement’ [SM, year 3].

This group of students recognised that they might learn through observing errors: ‘learning from hearing other people who may make the same mistakes that I cannot hear myself make’ [VM, year 3], and ‘recognising mistakes that others are making that I am also’ [VM, year 3]. New repertoire could be encountered, which might inform students’ own work as instrumental/vocal teachers [VM, MA]. Students could also learn through ‘seeing improvements made to similar repertoire/pieces I am currently playing’ [SM, year 1]; from observing approaches to ‘style, expression and interpretation’ [SM, year 1] and through ‘hearing and seeing the improvement following new advice’ [VM, year 3]. This could include ‘paying attention to what is being said about interpretation of text, as well as practical elements of song performance: phrasing, delivery, ensemble and control generally’ [VM, year 3]. One student also noted that vocal masterclasses ‘tend to focus more on expression rather than technique, therefore different input to lessons’ and that the context ‘introduces you to different types of voice’ and ‘prompts further research e.g. ornamentation’ [VM, MA].

A third group of students (two PhD students and one third-year undergraduate, who all attended the vocal masterclass) also articulated pedagogical awareness. One student noted that the masterclass ‘allows me to see how other teachers work and how they react on-the-spot to offer improvement to people with a range of ability/training/problems’ [VM, PhD]. Another described learning through being able to ‘observe others, hear my observations confirmed by the “master”, having my attention drawn to details I’m not aware of’ [VM, PhD]. Both PhD students noted the productive cognitive and emotional separation of learner and performance that could occur through masterclass observation: ‘Allows me to hear criticism and solutions (technical/artistic) without being defensive or too close to the performance’ [VM, PhD], and ‘observing others allows you to step out of yourself and address issues without being distracted by your own perceptions and emotions’ [VM,



PhD]. The undergraduate student in this group also related the learning process to a wider context: 'Comparing [the master's] comments to my own opinions – and finding similarities and differences between their comments and those of other lecturers/professionals' [VM, year 3]. These three students appear to have a more sophisticated awareness of the process of learning in this context.

### *Transferable learning*

Students were asked whether they would transfer learning from the masterclass to their own instrumental/vocal development, and if so, how. The responses suggested that this was an aim for all students, although there was variation in their elaboration of this process. Many students focused on the specific points which were perhaps either most emphasised in the class or which contained the most relevance and resonance for them. These concerned technique and movement: 'pay more attention to vibrato use. Hearing all notes in a solo part. Pay more attention to movements I make when performing' [SM, year 1]. Students also referred to interpretation: 'makes me aware of how much difference expression makes to a performance – work harder on that in practice as a result' [VM, MA]. This comment shows an orientation to physical practice reflected in other responses: 'can try out different ways of singing a piece and see what works most effectively having witnessed different interpretations in the masterclass setting' [VM, MA]. Another student noted 'putting into practice the relevant advice given to other singers and experimenting with the vocal technique of other singers in my own singing' [VM, year 1]. Witnessing the 'intensity of work on each bar' (VM, year 1) during the coaching process may also have encouraged observers to work harder in their practice sessions.

While the majority of comments had a practical focus relating to the student's specific instrument/voice, the two keyboard players who attended the string masterclass also articulated areas of transferable value. These focused on communication: 'consider details more closely. Remember the listener is key. Ask "what am I trying to say?"' [SM, year 1]. The other student mentioned the objectives of 'ensuring I play with a clear knowledge of where the phrases are going, and achieving this more musically. To communicate a performance more effectively' [SM, year 1]. While a singer felt that learning was more effective when observing someone of the same voice-type [VM, PhD], these comments suggest that aspects of learning which are not instrument-specific can be applied from the masterclass setting, along with other more general practical reminders such as 'remembering to work with accompanist' [VM, year 3].

Two students articulated more expansive conceptualisations of transferable learning: 'utilise suggested practice techniques for similar sections in pieces studied and general advice for related pieces' [SM, year 1], and 'I try to identify non-piece-specific and non-person-specific elements to the work being done. I try to notice when I can relate to a suggestion as having impact on something I struggle with' [VM, PhD]. These comments suggest further capacity for extrapolating appropriate content and awareness of the relevance to the learner's individual needs.

It should be noted that none of the respondents mentioned the role of a teacher in transferring observational masterclass learning to their instrumental/vocal work. Comments such as 'it introduces me to new ways of looking at a text or style that I can adapt for



my own study' [VM, MA], suggest that it is the student who extrapolates meaningful and relevant learning and then decides whether and how to implement it. The lack of discussion on observation noted by the majority of this sample may perhaps be indicative of a subsequent lack of direction in the processes of implementation, and students may benefit from guidance on learning as observers in order for them to get the most out of this context.

## Discussion

In this research, the respondents' observations related to musical, technical, gestural, performative and pedagogic aspects, repertoire and the process of practicing. Observers may have varying perceptions of the same situation (Schön, 1987, p. 206) which may relate to their different positions as learners resulting from their backgrounds and experience (Morris, 2003). Duke and Prickett noted that 'it is often assumed . . . that student observers are capable of making discriminations concerning the effectiveness and appropriateness of the techniques observed and subsequently incorporating selected techniques into their own repertoire' (Duke & Prickett, 1987, p. 28). However, accurate perception should not be taken for granted (Duke & Prickett, 1987). Perception in observation may be influenced by variables such as the degree to which the observer is familiar with the situation, his/her past experiences and current physical and emotional state (Denscombe, 2003, p. 193) as well as his/her own goals and values (Duke & Prickett, 1987, p. 28). The responses in this masterclass research suggest that different perceptions occur. Furthermore, the lack of discussion on observation expressed by two-thirds of the sample of students suggests that there is scope for developing the understanding of observational learning within this context.

None of the students in this sample referred to structured observation. Popper noted that 'Observation is always selective. It needs a chosen object, a definite task, an interest, a point of view, a problem' (Popper, 1963, p. 21), otherwise an observer may be unsure who, or what, or how to observe, or what the purpose is (Morris, 2003). Clements and Klinger state that 'to observe is to watch attentively *with specific goals in mind*' (Clements & Klinger, 2010, p. 15, italics added). Literature on observation as a research method also advocates goals for observation, and recommends the use of an observation schedule (Levine *et al.*, 1980; Denscombe, 2003, p. 194) and note-taking during observation as well as subsequently writing up the material (Silverman, 2004, p. 141; Krüger, 2008, p. 88).

In their guidelines for observation in student class music teaching settings, Clements and Klinger advocate systematic observation which includes defining the purpose of observation, delaying interpretation until observation is completed, then considering the relevance of observations and finally inferring meaning (Clements & Klinger, 2010, p. 19). Structuring observation in this way appears to make it more likely for observers to delay judgement or criticism (Hoskyns, 2002, p. 177) and to move between descriptive and interpretive perspectives (Miranda *et al.*, 2007, p. 16). Guidance on the focus of attention during observation may help develop understanding relating not only to the content but also to processes, relationships and interactions that may be occurring, as well as 'issues and problems which participants themselves regard as crucial' (Denscombe, 2003, p. 204). Subsequent reflection on the recorded observations may move the learner from 'a

preoccupation with discrete events and a variety of assumptions to a more objective and balanced view of the whole interaction observed' (Hoskyns, 2002, pp. 187–188), creating greater perspective. In the context of the music masterclass, observing students could be encouraged to annotate the score or sheet music, to take notes, or to choose a specific focus for observation. None of these strategies were mentioned by students in this survey, which suggests that there is scope for consideration of a wider range of approaches to observational learning.

In healthcare and music therapy training, student observers are advised to also engage in self-observation, taking time to 'understand and process our own reactions to what we observe' (Hoskyns, 2002, p. 170). This suggests that awareness of personal responses to observation can be enlightening for the learner, perhaps because this could illuminate aspects such as the learner's feelings towards their learning preferences, or to the subject material. While none of the students in this sample expressed frustration or confusion, further research could investigate the learner's emotive reactions to learning in the context of the music masterclass.

In the masterclass, observers could ask themselves to consider how the observed learning could be applied to their own: what elements relate and can be transferred? Which aspects reveal gaps in knowledge, and which might stimulate further research? Students in this research articulated a variety of observational foci and all expressed ways in which masterclass learning may apply to their own instrumental/vocal work. Transferable learning was also expressed by the two keyboard players attending the vocal masterclass. However, only a very small number of students discussed the pedagogical aspects of observational masterclass learning. Observers could contemplate how they might have responded as performers to the master's coaching techniques, which may reveal insights relating to learning preferences. They could also consider how they might have responded as a master to the performer's playing, which might develop pedagogical understanding applicable to working with their own teachers. Engaging with reflection through these processes may lead to more active observational learning, which can be more easily transferred to learning in other areas. Long noted that students need to know how they have learned in a masterclass, what they have learned and what the transferable value might be (Long, 2012). If learners are encouraged to take a more active observing role then it may be easier for them to make transferable connections to their other learning.

## Conclusion

The university students participating in this research noted various ways in which they learnt as observers in the masterclass. However, only a small number of the sample had discussed observational learning, and no students mentioned the role of a teacher in connection with transferring this learning to their own instrumental/vocal work. This suggests that there is scope for guidance on learning as observers, both within the masterclass context and for subsequent application of this learning. Hanken and Long (2012) recommended that observers made use of scores and note-taking, were mentally active, asked questions and subsequently discussed any issues with their own teacher. Developing observational

learning skills through these starting points would also be likely to benefit students in other areas, for instance, as audience members and as viewers of digital media.

However, there is potential for extension and development of these ideas. The masterclass presents the opportunity to view master and participating student/s as generators of musical, technical and interactive potential for observation. Despite this, it is likely that for many audience members, perception could be enhanced through a facilitated engagement with systematic observation. Audience members could receive some guidance in creating individual or joint schedules for observation, and might find it empowering to have their observations validated and debated through comparison with others in a facilitated post-masterclass session, particularly if this was supported by video clips of the event to refresh individual and collective recall and to stimulate discussion. Observers and performing participants could also benefit from a question and answer session with the master and participating student/s where there is scope for discussion of the processes and methods chosen to facilitate learning. This would enable continuation of the acquisition of domain-specific vocabulary and professional attitudes towards musical performance and practice, as well as interactive pedagogical learning. These additional processes may enable greater articulation of learning, and allow audience members to connect masterclass learning more easily with their own development.

Long's finding that the only a small minority of masterclass students were aware of developing skills relating to discrimination, discernment, problem-solving, analysis, synthesis, evaluation and judgement (Long, 2012) suggests that these aspects could be brought to the fore through a facilitated approach involving observers as active learners who can also contribute to the learning of others. In a context where education in the 21st century may potentially and increasingly contain more instances of distance-based learning, which could include online examples of masterclasses (Lancaster, 2008), there is considerable scope for extending support for this means of learning and creating a more interactive learning environment. While Miettinen stated that 'Observation necessarily takes place in a certain activity, context or thought community, using the concepts, instruments and conventions historically developed in that context' (Miettinen, 2000, p. 63), it could be argued that the tools for learning through observation in the masterclass have barely developed since the days of Franz Liszt. Further research could explore whether facilitating observation and reflective learning has an impact on the experiences of the observers, and whether it is possible to extend and develop pedagogical possibilities through a more interactive follow-up session which could be relevant to performing students, masters and observers. There is also potential for research on the perspective and involvement of instrumental and vocal teachers, particularly in relation to guidance on observation and also on transferring learning. The findings from this research suggest there is scope for enhanced learning in the masterclass, which may have positive implications for extending learning in other contexts.

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