

Bi-musicality and dialogical musicality: Influences of Javanese gamelan participation on Western instrumental learning

Elizabeth Haddon

Music Department, University of York, Heslington, York YO10 5DD

liz.haddon@york.ac.uk

This qualitative research examines the influence of learning Javanese gamelan on aspects of musicianship, attitudes and approaches relating to the learning and performance of Western instruments experienced by a sample of UK university music students. In addition to benefits to musicianship, students delineated positive developments in attitudes and approaches to learning and performance. While bi-musicality may be the prerogative of only those who can maintain expertise concurrently in more than one musical style, the concept of dialogical-musicality is proposed as a construct emphasising productive inter-relationships arising from practical engagement with different musical styles at any level.

Introduction

Gamelan learning in Western institutions began with Mantle Hood's purchase of a Javanese gamelan for UCLA in 1958, through which he aimed to enable anthropology and ethnomusicology students to understand a culture through practical participation, acquiring musicianship skills as a foundation for theoretical knowledge. Since then, the educational use of gamelan has become widespread in America and the UK, operating in schools, community centres, prisons, and within higher education settings; contexts where gamelan participants may also concurrently play or learn other instruments. Research has included discussion of philosophies behind pedagogical practices (see, for example, Solís, 2004), yet within the literature there is little reference to the impact that playing gamelan may have on participants' learning of other instruments.

Immersion in the practical learning of music from another culture could develop 'bi-musicality' (Hood, 1960) which includes flexibility of attitude and approach through fluency in understanding two musical cultures. Despite the concerns raised by Baily (2001), who felt that comparisons with bilingualism suggest that the concept relates to ability gained in childhood, and who questioned the degree of distance between different styles of music, Hood's work with university students learning gamelan suggests that he viewed bi-musicality as potentially attainable at any age.

Titon noted that 'bi-musicality can operate as a learning strategy, a strategy that not only leads to musical skills, but to understanding people making music' (Titon, 1995, p. 289), whereas Sorrell felt that 'the real aim of "bi-musicality"... has the more modest aim of bringing *from within the individual* an awareness of contrasting music's grammars and vocabularies, and, perhaps most crucially of all – idioms' (Sorrell, 2007, p. 42, italics original). Bi-musicality can also 'induce moments of . . . *subject shift*, when one acquires knowledge by figuratively stepping outside oneself to view the world with oneself in it,

thereby becoming both subject and object simultaneously' (Titon, 1995, p. 289). Through applying Slobin's (1979) concept of 'code-switching', Cottrell suggested that bi-musicality not only included competence in switching between musical conventions of different styles but also the associated imperatives of dress code and social/performance behaviour (Cottrell, 2007).

However, Becker (1983, p. 85) suggests that there is a 'loss of faith in "bi-musicality" as a practical aim' because substantial commitment 'in another culture' is perhaps untenable for many learners. Aubert advocates a single-minded focus, abandoning 'all comparative concerns, and even all other musical practices, at least temporarily', as 'in the long run, recourse to external references can only preclude progression and distract from direct perception of the musical universe the pupil has decided to enter' (Aubert, 2007, p. 75). This perspective would clearly be untenable for undergraduate music students, immersed in a community of practice requiring breadth of musical engagement.

Hood's concept appears to be positioned at one end of a continuum of expertise, with a musician ideally fluent in more than one musical culture, whereas the degree of fluency is individual, affected by prior musical learning and experiences, context-dependent and therefore likely to be variable. Nevertheless, how aware of inter-connections between musical styles and practices are those involved in diverse musical learning? For university music students learning gamelan, this experience operates at the intersection of two paradigms: one of Javanese gamelan; the other of Western instrumental learning.

Learning gamelan alongside learning Western instruments may facilitate the development of bi-musicality; students are experiencing fundamental differences including contrasting tuning systems, divergent learning practices, for example, prioritising oral transmission as opposed to reliance on notation in gamelan, and a focus on the collective rather than on the individual. Diamond (1979, p. iii) noted that '... participation in alternative learning experiences may allow Westerners to rediscover and develop their capacity for intuitive perception', while contact with music from different cultures may encourage appraisal of 'existing systems of belief' and challenge 'preconceptions and prejudices on music making and learning' (Schippers, 2006, p. 333). Additionally, students may develop rhythmic, imitative and informal learning skills (Goldsworthy, 1997), musicianship skills, increased awareness of timbres and structures, and understanding of their own sociocultural and musical identity (Krüger, 2009). However, there is a lack of specific research on the particular impact resulting from contact with the pedagogical and performance practices of Javanese gamelan on other musical learning. This is of possible relevance to a large group of learners: no longer is learning gamelan restricted to those immersed in study in Indonesia.

My interest in the perspective of students learning gamelan was developed through experience as a pianist/violinist learning gamelan, and subsequently through playing new compositions for violin and gamelan and leading gamelan workshops. Following initial compartmentalisation of the two musical contexts I began to compare and question the different pedagogies. Later, as a classical piano teacher working in higher education, I realised that students may experience other modes of learning beneficial to their Western instrumental study that instrumental teachers might not be aware of, which I called 'hidden learning' (Haddon, 2014). While I have strived to maintain a neutral position in the reporting and discussion of the findings, it must be acknowledged that familiarity with the musical

style, teaching context and specific terminology was advantageous to the data collection and analysis.

Context: Gamelan at the University of York, UK

Music students at the University of York have the opportunity to learn gamelan using a double gamelan from Surakarta, Java. This comprises instruments in both the *sléndro* scale (five-note, tuned to roughly equidistant steps) and *pélog* (seven-note, tuned to a mixture of wider and smaller intervals which can resemble tones and semitones). The instruments include bronze metallophones and gongs of varying sizes, drums (*kendhang*), bamboo flute (*suling*), wooden xylophone (*gambang*) and two-string fiddle (*rebab*). The ensemble can accommodate around 15 players plus additional singers. Beginners generally learn how to play the *balungan* (basic melody of a traditional piece) on the metallophones, or play gong parts which provide the supportive colotomic structure¹ before progressing to the more complex faster gong-chime patterns of the *bonang barung* and *bonang panerus*, and the elaborating instruments (*gendèr*, *gambang*, *rebab*, *suling*) and drums. In traditional pieces it is essential not only to know the *balungan* melody but also to understand the structural elements as these denote where the gongs play and the patterns used by elaborating instruments. Gamelan music is learned as a group, although the more complex instruments require individual practice. The understanding created by experiential knowledge of all of the instruments creates flexibility of line-up in rehearsal and performance and provides a high level of ensemble understanding and awareness.²

Gamelan rehearsals take place twice a week during term. One session is led by Dr Neil Sorrell; the other is co-led by postgraduate and former students (some of whom have studied gamelan in Indonesia). While both groups play traditional and new music, the latter group is more experimental, prioritising new music and collaborative composition. Several players participate in both groups, experiencing different personnel, repertoire and practices. Players encounter varied pedagogical methods, including learning aurally and from notation, and the groups accommodate participants with differing levels of experience. The lack of conductor means that players become adept at listening for and responding to aural cues, including changes to drum patterns and tempi, and/or of register in the *rebab* part, which in a traditional piece may cue transition to a new section. Therefore, each player must be aware of others and of the progression of the musical work, particularly as the number of repetitions of a section of a piece may not be fixed. This contributes to group equality, which is also embedded through the fact that no instrument 'is more important than another, and none can be played without an awareness of the others' (Sorrell, 1990, p. 68).

This context provides a contrast from undergraduate students' learning of Western instruments, for which they receive regular one-to-one lessons and are expected to participate in at least one departmental ensemble. Students are assessed on their Western instrumental/vocal learning through a short, informal performance at the end of the first and second year, and if they choose, through a longer recital in the third and final year. Postgraduates who participated in this research were not studying Western instrumental/vocal performance, and therefore did not have any institutional obligations to maintain performance through one-to-one lessons or Western ensemble participation.

Participants and method

In order to explore students' views on their learning, a questionnaire was devised and sent to all 28 members of the two gamelan ensembles. The questionnaire was prefaced by a paragraph explaining the purpose of the research, and ethical issues, anonymity and data storage were detailed. A questionnaire was chosen as a research tool in order to give students space and time to contemplate relationships between areas of learning which they may have previously not considered. The following questions were asked:

1. *Please state if undergraduate or postgraduate:*
2. *What are your first, second and third instruments/voice?*
3. *How long have you been playing gamelan for?*
4. *Please answer this question in as much detail as possible: Has your involvement in the gamelan had any effect on your learning of your first, second and third study instruments/voice, and if so, what might this be? You may want to refer to certain aspects such as:*
 - *whether gamelan playing has influenced:*
 - *your perception of pitch and intonation in relation to your other instruments*
 - *listening and ensemble skills on your other instruments*
 - *learning methods for your other instruments (particularly thinking about the role of the teacher/group leader/other members of the group in your learning)*
 - *the use (or not) of notation and whether this has changed your views of learning and memorising on your other instruments*
 - *whether gamelan learning has informed your ideas in relation to structural aspects of Western music, timbre, texture etc.*
 - *and whether attitudes towards the performance of gamelan music have had any influence on your own perceptions of performance on your other instruments or voice*

Please elaborate on as many of these points as possible, and any others that spring to mind that aren't on this list – the more detail the better, but always focusing on whether/how gamelan has influenced your learning of your other instruments.

Completed questionnaires were received from 22 respondents: a response rate of 78%. Seven of these were from postgraduate students and a further three were from former students who only participate in the more experimental group. The amount of gamelan experience ranged from 11 to 19 years for the former students, 5.5 to 16.5 years for postgraduates, and three/four months to 2.5 years for undergraduates. Most respondents sang or played two or three other instruments; only two played just one other instrument. Gamelan was stated to have become the first instrument of three postgraduates. The other respondents defined their first instruments as piano (7), flute (6), cello (1), voice (1), guitar (1), trumpet (1), oboe (1) and electronic music production (1). Second and third instruments included voice, violin, cello, double bass, piano, flute, saxophone, guitar, drums, sitar, horn and djembe.

A process of thematic coding analysis (Braun and Clarke, 2006) was applied to the data. After initial close reading, preliminary codes were assigned to words, fragments or

phrases within the text, and though an iterative process of re-reading the codes were revised and structured into groups. The process was inductive, allowing themes to emerge. During this process I was careful to remain neutral and not allow my previous experience of gamelan learning to influence the analysis. Where quotes are used, FS = former student; PG = postgraduate student and UG = undergraduate student.

Findings

Following a discussion of variation of the influence of gamelan participation on Western learning, the findings are grouped into two main sections: 1) musicianship skills and 2) attitude and approach.

Variation of influence

Respondents outlined various connections between gamelan participation and their Western learning. While three postgraduates (focusing on gamelan for their PhD studies) felt that gamelan had little influence on their Western instrumental learning, the remaining respondents each described between one and ten influences, with an average of 4.8. Two of those three postgraduates defined gamelan as their main instrument, while the other noted that as his/her gamelan learning progressed, interest in playing Western instruments rapidly lessened. One postgraduate who identified gamelan as his/her primary instrument described a 'diminished' understanding of Western music and terminology since focusing on gamelan, and another noted the deterioration of his/her Western sight-reading skills. These comments perhaps reflect 'single-focus' musicality rather than Hood's anticipated bi-musicality, and perhaps result from deep immersion in gamelan and reduced involvement in Western instrumental contexts. This suggests that bi-musicality might only occur when both musical styles are practised concurrently.

Initial comments made by four undergraduates suggest the perception of only a slender relationship between gamelan and other learning: 'in terms of actual performance style on my own instruments I would say playing gamelan has had little influence'. However, each of these respondents subsequently defined various influences including awareness of temperaments, development of listening skills and benefits to ensemble playing. One postgraduate felt that it was difficult to articulate the relationship, despite feeling that 'playing gamelan has definitely influenced my playing of Western music'. Another response suggested compartmentalisation of the two genres: 'I don't think that gamelan playing has had a particularly large impact upon my learning and performance skills on my other instruments, as I generally seem to think of gamelan and Western music as completely separate entities'. This could be caused by the differing tuning systems, learning practices and styles of repertoire: nevertheless, this undergraduate subsequently discussed positive influences of gamelan on his/her Western ensemble playing.

Other responses demonstrated connections between the two genres which are discussed below, grouped into the following areas: musicianship skills (including rhythm, pitch, structure and memorisation, listening and ensemble skills, texture and timbre, stylistic influence and mental representation), and attitude and approach (including modes of learning, cognition, attitude and ego, reflection, re-evaluation and performance).

1. Musicianship skills

Musicianship skills are acknowledged as one of the primary areas to benefit from learning non-Western musics (Campbell, 2004; Wade, 2004). Hood (1971, p. 35) felt that Western musical training creates 'strongly conditioned limitations to overcome' involving 'stunted growth in the perception and execution of rhythm and melody'. Hood also noted that some performers found that 'experience in the actual performance of non-Western music greatly increases their performance capabilities in Western music' (ibid, p. 26), which aligns with improvement to string quartet performance following gamelan workshop participation (Mills, 2007).

Rhythm

Although traditional gamelan music will not normally present rhythmic challenges (apart from when a change of tempo or *irama* occurs and a novice has yet to become used to this), many modern gamelan compositions often rely on a keen sense of rhythm. However, respondents noted the greatest influence from traditional gamelan styles: 'through playing cross-rhythms, syncopation and inter-locking patterns' [UG]. A pianist noted that 'getting used to the *imbal* beats has helped my counting and perception of tempo and rhythm. I've learnt to not just count in smaller units, but to "feel" it as well' [UG]. This suggests the internalisation of learning, leaving the musician freer to concentrate on other aspects while playing: 'individuals in whom rhythmic internalization has taken hold tend to develop better focus and attentive behaviors, with more functionally organized body movements, upper-lower body coordination, visual and auditory focus and adaptive motor planning' (Berger, 2004, p. 114). This positive process could directly transfer to rhythmic skills employed in other musical styles, facilitating technical automacity enabling musicians to concentrate on expressive features (Sloboda, 1985).

Pitch

Hood felt that bi-musicality could also involve developing tolerance of pitch in order to 'manage a more democratic approach to the world of sound' (Hood, 1960, p. 56). This is particularly apt in gamelan as instruments are tuned uniquely to create a personality for each gamelan through its particular *embat*, or temperament (Sumarsam, 1988). Furthermore, intervals may often be perceived as out of tune to Western ears (Brinner, 1995), requiring openness to adjust to unfamiliar pitch relationships. Of the 10 respondents who mentioned pitch, one undergraduate acknowledged that each gamelan possesses an individual tuning, while the responses of the others could be positioned in terms of separation, reference and progression. An undergraduate with five months' gamelan experience felt that although gamelan had not affected his/her perception of pitch and intonation in relation to other instruments, it had created more awareness of other temperaments. For this student, and three others, the tuning systems seemed to be separate: 'the pitches are different in Gamelan music, and I don't relate them to their Western counterparts' [UG]. One postgraduate noted using Western pitches as a form of reference: 'Western intonation guides me in understanding and recalling gamelan intonation'.

For two undergraduates (both with 2.5 years of gamelan experience), perception could be viewed in terms of progression:

At the beginning of my degree I couldn't "hear" the pitches well at all, whereas now I am much more competent at pitching in both *sléndro* and *pélog*. This could well have affected my pitching of difficult intervals on the cello.

The other student described a similar development of understanding:

Initially [the different tuning systems] sounded very awkward and it was difficult to remember how the intervals should sound, however, frequent playing has made the scales sound more natural. In particular singing and transcribing gamelan music have made me listen to my tuning more carefully when I play the oboe. Before playing gamelan I just took the standard Western diatonic scale to be the basis of all my playing and since playing gamelan I have realised that it is only one of many options. This has led to me listening more carefully to the exact pitch of the note I play, particularly on the oboe.

This student also noted 'perhaps trying to hear the interval before playing', saying that 'this happens quite a lot in gamelan and I consider it may have transferred across to my other playing'. However, players only have to position their pitch when playing *rebab* or singing, for example in the vocal chorus, necessitating cohesive and unanimous agreement of pitch. Long-term memory templates for pitch are developed through training and it is possible that in learning a new tuning system, additional pitch information is initially stored in the auditory short-term memory (McLachlan, 2011) before being categorised in relation to previously formed pitch templates. Furthermore, while tuning systems are discussed in gamelan and Western learning contexts, it is likely that only in the gamelan context are they discussed in relation to each other. Therefore developing pitch capability can take some time; in terms of code-switching, this may be one of the most demanding codes to master, thus potentially slowing the development of bi-musicality.

Structure and memorisation

Three undergraduates noted that 'understanding of the cyclic structure' developed a sense of 'my role in the piece and where I am', which created analytic awareness: 'without a "score" . . . I need to consciously think about form to "keep my place"'. While two students did not feel this awareness aided memorisation, 'because there aren't the repetition or the cues in Western music on which I rely in gamelan', and because in cello playing 'there are so many elements, the notes, the bowing, the fingerings, shifting etc. to think about', eight respondents felt that the memorisation skills developed through gamelan helped learn other music.

Having memorised gamelan pieces, players felt more confident in memorising Western music: 'somehow it felt easier to memorise piano music when learning gamelan' as 'it has encouraged me to trust my memory and not rely singularly on notation' [UG]. Memorising gamelan music was seen as rewarding, enjoyable and beneficial: gamelan became 'much

easier to play when I wasn't relying on the music, and now I play off by heart so that I don't need to divide my attention between the instrument and the sheet music'. This practice could be transferable: 'this is definitely a skill that I might consider putting into practice on my other instruments'. The prioritising of aural skills over visual ones enables players to 'internalize the music rather than conceptualising it visually' (Diamond, 1990), involving deep, rather than surface learning.

Furthermore, memorisation relates to the group: 'gamelan involves playing with other people so there is something to guide my memorisation' [UG]. This is particularly helpful if players get lost, as they can rely on the 'interactive network' of players to retrieve their place (Brinner, 1995, p. 179). This collaborative context was reflected in the comment that 'players rely on observing each other and matching their patterns to the melody instrument (*balungan*) section' [UG]. Observation might then become a performative tool in other contexts, allowing musicians 'to be more attentive to the other players' gestures or signals' [UG]. This could enable more cohesive ensemble performance with greater group rapport: 'playing without notation, by memory or by improvisation, allows the musician to be creative, interactive, and sensitive to the concurrent events' (Susilo, 2004, p. 62). It is possible that students are able to approach memorisation of Western music more positively after using it in gamelan playing; they are able to appreciate its value in learning and performance.

Listening and ensemble skills

Improved listening skills were mentioned by 16 respondents. These could be developed through specific learning methods: 'when I haven't used notation in gamelan playing my listening and memory skills have improved which I could transfer to my other instrumental playing' [UG]. Another undergraduate felt that 'my ear has definitely been trained to better recognise and then rearticulate phrases, which in turn leads to a better understanding of whatever genre of music I am playing'. Listening to 'other player's cues, and the interdependence of parts' can be applied to Western ensemble contexts: 'when playing the flute in chamber ensemble situations, gamelan has really helped to enhance my listening skills, training oneself not to focus on their part entirely, but to really listen to what other parts are doing' [UG].

This practice could facilitate enhanced awareness in orchestral playing, particularly through consideration of 'the Javanese idea that every instrument is of equal importance in gamelan' [UG]. A flautist noted the importance of listening and blending with other players, and a cellist recognised that gamelan playing developed a sense of individual and social responsibility:

Learning gamelan has definitely helped me with listening and ensemble skills. It's all too easy (especially as a string player in an orchestra) to be inaudible, and therefore it is easy to play sloppily and/or think that you are unnecessary. Playing with the gamelan gives you [a] sense of ensemble which is entirely different. Everybody is responsible and you have to listen more, to change speed and be aware of all the other parts. This has certainly helped me listen more in other ensembles and makes me a more reliable Western classical musician [UG].

Two other string players noted similar benefits, suggesting that gamelan has ‘highlighted for me the importance of understanding the musical input of every player in a group (whereas my previous experiences in orchestra had encouraged me to only listen to my part of the few sections around me)’ [PG], and that ‘having played gamelan made me think about the bass’ role in the orchestra’ [FS]. This respondent also noted that as a piano accompanist, gamelan ‘has improved my listening skills, making accompanying and being sympathetic to a performer easier’. Therefore, the communal focus of gamelan can connect to greater awareness of others in Western ensemble contexts, and through the development of listening skills players appear to be less self-focused and more able to widen their sense of collective understanding.

Students recognised that gamelan also facilitated greater musical self-belief: ‘When I played in an orchestra recently I noticed that I wasn’t really counting as much as I used to . . . I trusted what I heard instead of counting so much’ [FS]. An undergraduate noted that ‘gamelan has made me less scared of playing something wrong – making a wrong noise is better than no noise!’, and felt that gamelan ‘has made me more confident to come in (say in orchestra or choir) when I think I should do rather than waiting for everyone else’. This increased self-reliance is reflected in a comment relating to gong playing:

Gamelan has probably also aided my listening and playing skills by increasing my patience. Playing the big gong in long, slow pieces involves a large amount of rests, and counting is extremely important as the gong has an important role in the structure of the piece. It has almost definitely made me more patient when I have to count indefinite amounts of rests when playing on the flute or drum/percussion in various ensembles [UG].

Many of these points demonstrate increasing individual and collective responsibility while also referring to the collaborative nature of gamelan playing. These players viewed themselves as part of a team in which ‘everyone can learn from one another and aesthetic decisions are now a collective choice [rather than] those of a strict group leader’ [PG]. Another postgraduate noted that ‘it really has highlighted the amount an ensemble can achieve without a conductor or a score/instruction sheet’. Gamelan participation may lead to greater perception, empathy and flexibility in other ensemble contexts: gamelan ‘has possibly made me more willing to accept suggestions from other players and group leaders’ [UG].

In this context, it must be emphasised that the leader’s approach created an environment acknowledging the value of every student’s musical and social contribution. Therefore, students are able to take risks in learning within a non-judgemental atmosphere, for example, learning aurally, or memorising pieces previously learned from notation. Improved listening skills appear to facilitate greater awareness of the role of other players; this can promote a more comprehensive knowledge of the piece of music, its structure, and of their own role within the piece. The enhanced self-belief created for some respondents is clearly valuable for other musical styles, particularly ensembles in which students may be playing one-to-a-part rather than as a section; for some, this experience is new when they enter higher education, and being able to negotiate this context comfortably and

productively is clearly of benefit to both their musical reputation and to their own sense of capability.

Texture and timbre

Some undergraduates mentioned ‘awareness of texture and colour’, openness to ‘new textures and timbres’ and enhanced perception: ‘having to listen to all of the different instruments in gamelan trained me to pay attention to detail when playing the guitar’, which included dynamic awareness. However, somewhat surprisingly, considering the striking difference in vocal quality between more nasal Javanese singing and Western classical vocal production, no respondents mentioned vocal timbre and the disjunction between Western and Javanese expectations of vocal quality. This could be because there were no first-study singers amongst the respondents. Unlike participants in Cottrell’s research (2007), who played the same instrument in different contexts and styles, and therefore had to consider timbre carefully as part of code-switching in diverse stylistic engagement, gamelan players are unlikely to transfer timbral expectations to gamelan as they are not playing their Western instruments – timbre is effected by the instruments themselves, and therefore, may be considered less consciously. However, players do engage with ‘authentic’ sounds of *gérongan* (male chorus) and *sindhèn* (solo female vocal lines) through hearing these on CD/DVD clips during rehearsal. This can develop awareness of diverse vocal timbres and discourage musicians from making value judgements (Krüger, 2009).

Stylistic influence and mental representation

While scholars have noted that participation in other musics can lead to enhanced understanding and performance in one’s own cultural domain (Hood, 1971; Blacking, 1987; Krüger, 2009), little has been written about direct influences. One respondent felt that:

The most obvious effect for me is my perception of pieces and composers in the Western tradition that I knew to be influenced by gamelan music. I was aware that Debussy and Ravel in particular had heard gamelan music, but this meant little until I came to York and tried it for myself. I find it useful when playing piano music to hear other instruments in my head, so having heard the sonority and timbre of gamelan instruments gives me a better understanding of these composers [FS].

Although there are varying views on the extent to which these composers were directly influenced by gamelan (Hugh, 1998; Sorrell, 1990, 2007; Howat, 2009), it is significant that gamelan participation influenced this respondent’s mental representation of relevant sound worlds. These connections may therefore directly inform learning of specific repertoire.

Musicianship summary

Gamelan participation can benefit areas of musicianship in Western instrumental learning. Respondents who noted lengthy involvement in gamelan and less contact with Western

instruments reported decreasing familiarity with Western terminology and deterioration in sight-reading skills, which suggests single-focus rather than bi-musicality. However, most respondents made many positive connections and offered examples evidencing deep learning. These appear to suggest that competence in areas of musicianship will facilitate code-switching from one musical style to another, although ability to process different tuning systems may be more challenging and will therefore limit the extent to which bi-musicality can develop in this context.

2. Attitude and approach

The following sections discuss modes of learning, cognition, attitude and ego, reflection, re-evaluation and performance.

Modes of learning

The range of learning activities engaged with during rehearsal may include watching video clips of gamelan performance, listening to and discussing pieces. Students may write cipher notation from dictation, which helps connect pitch and symbol and builds structural awareness. Students learn from each other through observation (sometimes watching the whole group if there are more players than instruments), and through modelling, oral and aural transmission. In this democratic and egalitarian setting they are encouraged to compose for gamelan and to participate in facilitating educational workshops.

One wind player noted that gamelan had encouraged the exploration of 'modes of learning which are commonplace in Western popular music but much less so in Western classical traditions' such as collaborative aural-based learning, developing openness to explore diverse methods of practice. In contrast, one undergraduate stated: 'I don't think gamelan has influenced my learning methods that much because playing a Western classical instrument is so tied up with practising on your own to improve'. This suggests that connections between learning methods may be apparent and appropriate in some contexts and for some players, but not for others. However, exposure to new methods may provide tools for future learning in different contexts.

Cognition

In discussing his experiences of teaching gamelan in Western contexts, Susilo stated that 'just as important as learning to do it is learning to think the way the Javanese musicians think' (Susilo, 2004, p. 57). Javanese masters tend to teach by imitation, using little verbal feedback (Brinner, 1995). While the 'gestalt' context (Bakan, 1993/4) of traditional gamelan rehearsal may sit uncomfortably with Western learners, one respondent noted the influence of 'gestalt' practice experienced when working with a visiting Javanese musician:

[This method] altered my approach to different sections in [piano] pieces: instead of repeating these until I got it right and separating it from the piece I now practice it a

few times and then play the whole piece... the Javanese method of rehearsing is to repeat the whole piece until it is right [FS].

While this practice requires the luxury of time, there is value in conceptualising a musical work as a whole, rather than as a sequence of sections (Bakan, 1993/4). In gamelan rehearsal this method can consolidate group activity, reinforcing the emphasis on process as opposed to performance (Sorrell, 2007, p. 39), which may create collective understanding and responsibility.

Attitude and ego

Some of the most powerful responses concern the attitude of gamelan players. One postgraduate felt that there was a 'greater openness of approach' compared to Western ensembles:

In an orchestra, if someone does not read music they are generally deemed to be a bad musician – in gamelan this is not a problem, they can learn by ear/memory instead. Gamelan also allows for musicians with a wider range of abilities and experience levels to play together, which ... also provides more opportunities for less experienced players to learn and progress 'in the field'.

These factors led this respondent to question his/her relationship with formal Western music and to participate in informal contexts involving aural learning:

Because the skills of playing in a folk session (picking up music by ear, remembering patterns, playing with varying ensemble line-ups and sizes, using musical intuition) are so similar to those involved in playing gamelan, it seems likely that my attendance at gamelan rehearsals does improve my musicianship in a way that is applicable to my fiddle and guitar playing at folk sessions.

Gamelan participation appears to promote tolerance of musical elements involved in the process of rehearsal as well as intra- and interpersonal skills. The points noted above concerning playing with varied personnel and musical intuition would be equally valuable in Western classical ensemble settings. Intuition covers aspects of competence including not just knowing 'when' or 'how' but also deeper connections between members of a group such as mutual support, musical freedom and rapport. These qualities, hard to define and rarely discussed, may make some of the most significant contributions to a musician's musical *persona*.

Furthermore, one postgraduate discussed the idea of the ego and the influence of gamelan on thinking about the self:

When I perform gamelan music, I do feel quite different from when I perform recorder... I feel that when I perform recorder, my ego tends to come to the fore, which it doesn't really in gamelan (although I do find myself sometimes preferring to play a more difficult instrument – *gendèr* or *rebab* etc. and find myself feeling a bit put out if I'm 'just' playing *saron*) – I find this interesting, as it's a feeling I'm not particularly proud

of, and I think stems from a big influence of how a Western performer is perceived which I have felt a lot of my life amongst classical musicians and when I was at music college, and with competitiveness amongst classical musicians – always feeling like I have to prove myself. I think gamelan is good at taming the ego!

Therefore, one consequence of gamelan participation may be that players become aware of egoistic tendencies, which could be exacerbated in Western contexts by a focus on the individual and on the measurement of one individual against another. Susilo felt that the 'higher goal' of learning music is to be 'a better member of the society' (Susilo, 2004, p. 65). The multi-ability nature of gamelan participation may encourage players to disengage from views of judgement or comparison and to re-engage with affirmation of others and of the ensemble as a whole.

Reflection, re-evaluation and performance

Comments from these respondents suggest that reflection on gamelan participation can cause re-evaluation of existing musical practice. One student felt that 'I consider playing in gamelan to be one of the most useful musical activities I take part in, since it has made me think about alternative musical options'. Many respondents expressed their enjoyment in the ensemble, noting that 'the laid back approach has helped me relax as a cellist' [UG] and highlighting the 'relaxed attitude' of the group: 'other ensembles might also benefit from this way of thinking; obviously, it is important to be able to play the music right, but it should also be about enjoying what you're doing at the same time' [UG].

This attitude transferred to performance: 'since being at university I have become much more *au fait* with playing in concerts and more relaxed: playing in gamelan concerts could well have contributed towards this' [UG]. Students also considered the nature of performance: 'The more informal, relaxed gamelan concerts where audience members can walk around and eat have opened my eyes to an alternative style of concert. I would want to explore this for other types of music' [UG]. Involvement in gamelan might also promote instrumental experimentation: 'when I have played cello *with* the gamelan I ended up playing with my cello across my lap, learning new pizzicato techniques and slapping – that was definitely something I wouldn't have sat down and started doing in my practice room!' [UG]. Aligned with this is the possibility of greater confidence on Western instruments:

I think learning and playing gamelan has given me more confidence and more responsibility in learning music... I wouldn't ever consider myself as a leader, but playing *kendhang* [drums – the rhythmic 'leader' of the group] had given me more confidence to do this. So, I think this has somehow given me more confidence as a recorder player [PG].

Therefore, reflection on the holistic experience of learning and performance could inform attitude, confidence, self-view, and ensemble awareness, and suggests the possibility that

students might enhance their involvement in other musical contexts through positive and open attitudes, extending to development of the musical style and its performance.

Discussion

These findings suggest that Javanese gamelan participation can influence Western instrumental learning. Students generally learn music from other cultures *alongside* the practice of Western music, which allows for the potential development of a symbiotic relationship in which each can inform the other. While this study has not examined how Western instrumental learning can inform the learning of Javanese gamelan, one undergraduate did note that 'learning the *rebab* has definitely been made much easier by my cello knowledge!' which supports the idea that 'switching from one performance tradition to another . . . may speed up the learning of both traditions' (Blacking, 1987, p. 117).

Participants in this research demonstrate variable degrees of engagement with gamelan and Western instrumental learning. Some students with greater experience of Javanese gamelan reported reduced competence in Western instrumental learning, which suggests single-focus, rather than bi-musicality, which possibly only results from concurrent practice to attain and maintain skill in more than one musical style. Perhaps for most of this sample, learning gamelan facilitates what might be termed 'dialogical-musicality', in which students, while not necessarily displaying mastery in either style, are able to make connections between components of learning which may include context, teaching style, attitudes as learners: therefore, they are considering learning strategies and social aspects of music-making and experience code-switching (Slobin, 1979), requiring cognitive flexibility, self-awareness, and understanding of contextual conventions. In addition to code-switching in performance (Slobin, 1979; Cottrell, 2007) these participants also experience code-switching as learners in diverse musical styles. This area is worthy of further research to examine how learners respond to different contexts, teaching styles and how they follow this work through in their individual learning.

Titon (1995, p. 289) emphasises the need to practice bi-musicality 'deliberately and reflectively'. This suggests purposeful conceptual engagement to understand different musical experiences. While acknowledging the role of the teacher-student relationship in developing bi-musicality, Cottrell (2007) also emphasises autodidactic concerns. In this study, students' reflection on learning was facilitated through completing the questionnaire; further research could illuminate the extent and content of discussion of 'dialogical-musicality' with teachers and peers. In this setting, students experience modes of learning that are perhaps more explicit and 'intervention-orientated' (Bakan, 1993/4, p. 9) than in authentic Javanese contexts, and the variety of pedagogical methods perhaps encourages reflection and comparison with those of other musical practices. Furthermore, involvement as workshop leaders and assistants may encourage students to contemplate aspects of transmission and reception beyond those of their Western one-to-one and ensemble learning contexts, thus encouraging further reflection on their learning.

Blacking noted that 'innovation in pedagogy could be enhanced by exploring the effectiveness of methods that have been used in other traditions, as well as the different idioms in which the skills are learnt' (Blacking, 1987, p. 117). As gamelan teachers increasingly develop combinations of traditional Javanese and Western teaching methods

for teaching in Western institutions (Steptoe, 2001), consideration of 'dialogical-musicality' might inform pedagogical approaches; likewise, teachers of Western instruments could seek to understand how learning non-Western music may relate to students' Western instrumental/vocal learning. While these findings suggest benefits to musicianship which align with Bakan's suggested gains from adopting Balinese teaching methods to Western musical learning, including 'greater self reliance, enhanced stylistic comprehension, improved ensemble playing, a better sense of musical content and flow, and better memorization skills' (Bakan, 1993/4, p. 2), this research has discovered further benefits including developing awareness, flexibility, openness, tolerance, disengagement with the 'ego', affirmation of others and of the ensemble as a whole, and interest in experimentation. These positive attitudes and approaches would benefit involvement in any musical style.

Conclusion

The findings suggest that participation in Javanese gamelan can benefit aspects of Western instrumental/vocal learning including musicianship, attitudes and approaches to learning. Respondents identified a number of transferable values relating to both practical work and to conceptualisations of this learning. The openness to exploration, experimentation and the sense of individual and collective responsibility demonstrated through students' comments could empower individual and group development. Although bi-musicality may be the prerogative of only those who can maintain expertise concurrently in more than one musical style, 'dialogical-musicality' may be a positive construct informing the learning of those participating in more than one musical culture at any level, such as the students in this research. While there is a need for further research, these findings suggest that relationships between gamelan and Western instrumental learning may transcend musical and cultural borders and can contribute positively to Western instrumental/vocal development.

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Notes

- 1 Traditional pieces such as *ladrang* and *lancaran* have a regular structural framework of a certain number of beats per form. This structure is repeated cyclically, starting and ending with a stroke on the largest gong, the *gong ageng*. Within this framework, gongs of various sizes punctuate the *balungan* melody at certain pre-defined points. This is known as the colotomic structure.
- 2 For more details of traditional gamelan music, structure and performance see Lindsay (1979), Sorrell (1990) and Pickvance (2005).

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Elizabeth Haddon is Research Fellow in Music at the University of York, where she leads the MA in Music Education: Instrumental and Vocal Teaching, and also teaches piano. She is the author of *Making Music in Britain: Interviews with those Behind the Notes* (Ashgate, 2006) and co-editor with Pamela Burnard of *Activating Diverse Musical Creativities: Teaching and Learning in Higher Music Education* (Bloomsbury, 2015), and *Creative Teaching for Creative Learning in Higher Music Education* (Ashgate, 2016). Her research is published in leading peer-reviewed journals, and her interests include instrumental and vocal pedagogy, the student learning experience and professional development.