

Playing with Teaching Techniques: Gamelan as a Learning Tool Amongst Children with Learning Impairments in Northern Ireland

Jonathan McIntosh

ABSTRACT: This article examines gamelan as a community musical tool in Northern Ireland, United Kingdom. In particular, the article demonstrates how traditional pedagogic practices are changed in order to suit the needs of those who learn gamelan. A gamelan is an orchestra that includes metallophones (large glockenspiel-like instruments), gongs and drums. Originating from Southeast Asia, particularly from the Indonesian islands of Java and Bali, gamelan ensembles have long been used in the teaching of ethnomusicology in academic institutions and for purposes of applied ethnomusicology, as a musical tool, in the wider community. In these contexts, a gamelan instructor acts as a 'mediator' (Naughton 1996: 16) in the transmission of gamelan knowledge; mediating not only between the music and the learners, but also between the role of gamelan in its original sociocultural context and its newly adopted milieu. Drawing upon my experiences as a gamelan instructor, in particular, teaching children with visual and hearing impairments, I demonstrate how traditional teaching techniques are adapted to facilitate the learning of gamelan in the Northern Irish context.

KEYWORDS: teaching and learning; gamelan; applied ethnomusicology

Introduction

Gamelan in Northern Ireland is constrained by its setting within short intensive periods of tuition after which there is little or no subsequent follow up. As a result, in order to learn more than the rudimentary techniques of gamelan playing, traditional methods of instruction must be extended to incorporate the musical boundaries and limitations of its newfound context. Wiggins (1996: 29) observes that 'this process of mediation and translation is a delicate one and it is the individual teacher who must make most of the decisions', according to specific pedagogic situations. This article discusses the teaching of gamelan in three contexts: first, it outlines traditional gamelan pedagogic prac-

tices from Indonesia and how they are applied to the learning of gamelan in academia; next, it sketches a framework for the teaching of gamelan as a musical tool in the wider community with able-bodied students; finally, it demonstrates how this framework is adapted to suit the needs of physically challenged students in a school for children with visual and hearing impairments. It concludes by highlighting the fact that the teaching of gamelan in such contexts must be sensitive to, and creative with, traditional teaching practices. However, before moving on to discuss the specific case of gamelan in Northern Ireland, it will briefly be explained how gamelan came to be used as a tool in the teaching of ethnomusicology in academia and then in wider community contexts.

Gamelan in Western Academia and Beyond

The teaching of gamelan in higher education institutions stems from the work of the US ethnomusicologist Ki Mantle Hood. In 1954, Hood purchased a Javanese gamelan for the University of California, Los Angeles (UCLA), which, along with other world music ensembles, was utilised in the teaching of ethnomusicology at UCLA. The reason for the purchase of various world music ensembles developed from Hood's premise that in order to study the music of other cultures it is necessary to try and comprehend such music in its own terms (Hood 1982: 32). As a result, Hood developed a performance-practice approach to the study of ethnomusicology, called 'bi-musicality' (1960). It was hoped that bi-musicality would provide ethnomusicology students not only with the opportunity to play the music they studied in lectures but also to develop a certain degree of ability in other musical systems. Today, performance-practice learning, involving the teaching of world music ensembles, is an important element in the teaching of ethnomusicology (see Ramnarine 2004). However, I do not wish to imply that all students who participate in gamelan, or other world music ensembles, in the university context necessarily become bi-musical. Only a few students go on to study a musical tradition in more depth and do fieldwork. The majority take a gamelan (or Andean, Brazilian or Korean music) course only for a semester or two.

However, because of Hood's concept of bi-musicality, the opportunity to learn gamelan is now commonplace in many academic institutions where ethnomusicology is included in the curriculum.¹ Moreover, the teaching of gamelan in these institutions has become the subject of recent debate amongst ethnomusicologists (cf. contributors in Solís 2004). Outside of the realm of academia, gamelan has actively been used as a community musical tool for the wider 'public practice of ethnomusicology' (Titon 1992: 315). But despite this fact, little research

has been published concerning the teaching of gamelan in the wider community context. Research published in this area includes work concerning the use of gamelan for crosscultural musical learning purposes (Diamond 1983), gamelan as a sociotherapeutic musical tool for music making with physically challenged individuals (Sanger and Kippen 1987; MacDonald and Meill 2002), a study of Javanese gamelan in the United Kingdom (Mendonça 2002) and, most recently, the applied use of gamelan in prisons in England (Eastburn 2003). In turn, these researchers owe a debt to the work of Hood, without whom the use of gamelan as a tool for the teaching and dissemination of a form of world music would perhaps not have occurred.

Gamelan in Northern Ireland

It was John Blacking, the late professor of Social Anthropology and Ethnomusicology at Queen's University Belfast (QUB) who, in 1982, instigated the purchase of a gamelan for QUB. At first, the procurement of a gamelan did not meet with wide-ranging approval because it was thought that a gamelan might not be relevant in the Northern Irish context.² Nonetheless, Blacking, realised that the purchase of a gamelan would not only further the teaching possibilities of QUB, but he also saw the potential for using gamelan as a recreational tool in the wider community outside of the academic context. Blacking asked Annette Sanger, one of his research students at that time, to find a gamelan for purchase. Sanger was already conducting fieldwork in Bali during 1981–1982. The gamelan chosen for QUB was a twentieth-century genre of gamelan, *Gamelan Gong Kebyar*. In a strange twist to this story, Hood also tried to purchase the same gamelan at the same time as Blacking. Hood, who was by this time teaching at the University of Maryland, Baltimore, like Blacking, wanted to purchase a Balinese gamelan to increase the teaching possibilities of the

Music Department at the University. However, Blacking secured the purchase of the gamelan for QUB. When the gamelan arrived in Belfast in 1984, it was given the Balinese name *Gamelan Widya Santi*, 'Gamelan of Knowledge and Peace'. Sanger's Balinese music teacher, the great composer and performer, I Wayan Sinti, had suggested the name.³ Furthermore, during her subsequent appointment as lecturer in ethnomusicology at QUB, Sanger earnestly promoted the newly arrived gamelan not only within the confines of the university but also actively sought to introduce the gamelan into new community contexts in Northern Ireland (see Sanger 1989a). Outside of its formal, educational context, the QUB gamelan was used in various workshop forums and as a sociotherapeutic tool in areas such as music therapy (see Sanger and Kippen 1987).

As a direct result of Sanger's applied ethnomusicological work with the Balinese gamelan at QUB, community arts organisations in Northern Ireland began to realise the possibilities of using gamelan in their own work. However, due to its role in the ethnomusicology teaching programme, it was difficult to move the ensemble outside of the university to partake in other music-making arenas. Consequently, in 1995, Open Arts, a Belfast-based community arts organisation, brought a Javanese gamelan from Yogyakarta, central Java, to Northern Ireland. Purchased as a touring gamelan, with no permanent home, *Gamelan Bhinneka Tunggal Ika*, named after the Indonesian national motto of 'Unity in Diversity', has for the past ten years travelled extensively throughout the north and south of Ireland.⁴ Primarily, basing itself in community arts centres, schools and museums, the Open Arts' gamelan provides both the accessibility and availability needed to facilitate practical world music making. Thus, considerably more people have had the opportunity to experience and play gamelan than if the ensemble was housed in one location. Specialising in the teaching of single introductory gamelan workshops and long-term residential courses,

Open Arts's mission is to provide access to music and other art forms for physically challenged and able-bodied individuals and groups. In spite of the fact that the majority of the company's outreach involves projects with physically challenged individuals, it does not regard this work as music therapy. Moreover, the company seeks to enable and empower such individuals through participation in arts activities. Although other research (Sanger and Kippen 1987; MacDonald and Meill 2002) involving physically challenged individuals and gamelan has stressed the possible therapeutic values of gamelan in such circumstances, this article, in keeping with the policy of Open Arts, does not explore this area. Similarly, because musicians, and not music therapists, are employed by Open Arts, it is not my intention to engage in debates concerning gamelan and clinical practice.

Traditional Methods of Teaching and Learning Gamelan

Gamelan playing involves the holistic practice of direct sociomusical participation in an ensemble where knowledge is acquired through developed modes of intuitive and experiential learning. This assimilated approach is a consequence of the integration of cultural values and human relationships common to many Indonesian art forms, where social aspects of experience are seen as essential to ultimate modes of artistic expression (Mead 1970; Sanger 1989b). Below are some of the key aspects of teaching and learning gamelan in Indonesia which will be drawn upon to propose a framework for the teaching of gamelan in Northern Ireland. Each category emphasises a specific factor important to the pedagogic practice of gamelan.⁵

Methods of Learning, Practising and Performing

Gamelan playing is an inclusive, group process where the general effect does not depend

so much upon the excellence of the individual as upon the unity of the group. The pedagogical context of gamelan teaching relies on the 'transmission of knowledge' (Brinner 1995: 45) through teacher–student demonstrations and interactions. In Bali, this directed method of learning is known as 'teaching with the mallet' (*maguru panggul*). 'Teaching with the mallet' is, in turn, dependent on another traditional teaching method that emphasises imitation and rote learning (*nuwitin*). In addition to the importance of teacher–student interactions, gamelan is usually taught in a group context. Not only is group learning crucial to the creation of a cohesive ensemble but it also facilitates the learning and teaching process of all the various instruments in an ensemble, i.e. once one instrumental part has been learnt all the other parts are then learnt in relation to it.⁶ The absence of explicit instructions, beyond corrections or explanations, highlights the limited verbal interaction involved in the process of learning. Consequently, nonverbal forms of musical communication such as eye signals and hand gestures have been developed to assist the intuitive learning process (*ibid.*: 292–307).

Instruments With Defined Roles

Each instrument in a gamelan has a defined role within the ensemble. Although some instruments are more technically demanding than others, each player is regarded as equal and essential to the overall effect and success of the ensemble (Sanger and Kippen 1987: 12). Nevertheless, in reality there are varying degrees of technical ability amongst the participants of a gamelan ensemble. Such differences are manifested in individual levels of experience of the musicians and the technical ability and knowledge required by an individual to play different instruments. Most individuals, when they start to learn gamelan, play one of the simpler instruments and then move on to play other instruments as 'their repertoire and knowledge of technique develops' (Lindsay 1979: 27). This

allows those with little or no gamelan experience to join an ensemble and still contribute something essential to the musical texture of a piece. At the same time, novice players gradually acquire more detailed knowledge by intuitively observing and imitating more experienced players in the group.

There are two main instrumental groups in a gamelan: keyed metallophones of various sizes and gong-like instruments.⁷ In accordance with these instrumental groups, the playing of gamelan involves two main methods of striking the instruments in the ensemble: 'damped' and 'undamped' techniques. 'Damping' is the technique used to play all metallophone instruments and involves the striking of a key with a wooden hammer or mallet held in one hand, and then, to stop the key from sounding, damping it with the other hand when the next key is struck. 'Undamped' striking refers to the playing technique required to strike the gongs in an ensemble, which are struck with padded beaters on the protruding boss of the gong. Whatever the particular playing technique, gamelan playing involves the coordination of individuals who are responsible for articulating their individual parts in the correct place, with the appropriate aesthetic quality.

Gamelan Music is an Oral Tradition

Gamelan is essentially an oral tradition and music is almost always taught from memory. When learning a new composition the melody is taught first. Even if members of the ensemble will not ultimately play it, everyone is expected to know and be able to tap out the melody because this 'nuclear theme provides the melodic basis for the elaborating instruments' (Sumarsam 1975: 3). In the teaching of Javanese gamelan the melody is usually taught in full. However, McPhee (1970 [1955]) and Bakan (1999) conclude that, due to the construction and length of Balinese compositions, segmentation of pieces occurs in the teaching process.

Notation

Although gamelan is an oral tradition, notation has been used and developed in conjunction with the establishment of national academies for the performing arts in Indonesia. The main form of notation used in gamelan music is the Javanese cipher system, *kepatihan*. Formulated in Java, the system uses numbers to represent pitches correlating to specific scales and tunings. In Bali, the Javanese cipher system is used (Sanger and Kippen 1987: 12; Tenzer 2000: 125), but has not been completely adopted. Tenzer emphasises that Balinese indigenous notation is still used for the preservation of musical material (ibid: 126). However, notation in gamelan playing is generally used to refresh players' memories and is rarely used in performance. Tenzer (1998[1991]: 106) states that reading notation 'is a process of translating symbols into sound; Balinese musicians bypass this stage entirely and learn by transforming a received musical gesture directly into a physical act of playing'. If notation is used it is usually transmitted as a handwritten source from either a teacher or a gamelan leader. Despite this, the use of notation in the learning of gamelan only serves as a guide to the interactive approach to gamelan playing. The interactive teacher-student transmission of knowledge still remains the main mode of gamelan instruction.

Musical Structure

Gamelan is essentially a cyclical musical form. As such, it enables players to grasp parts quickly and develop playing techniques (Harnish 2004). Furthermore, the structure, form and intricacy of the music ensure that there is discipline and control amongst the players (Tenzer 2000: 8). Each instrument has its own particular role to play in the overall texture of the ensemble, such as pitch, tuning, technique, timing and timbre. As a result, players are able to make the 'appropriate choices of musical and social conduct' (Brinner 1995: 46). But restricted choices do not

mean that there is not room for improvisation, which, in relation to gamelan, is usually carried out within a set of musical perimeters.

Applying Gamelan in Northern Ireland

The transferral of gamelan from Indonesia to Northern Ireland has meant that teaching techniques have had to change in order to facilitate the learning of the ensemble outside its socio-cultural context. For the most part, the teaching of gamelan in Northern Ireland attempts to adhere to the traditional pedagogic practices but such techniques only serve as the basis for teaching. Moreover, due to the short time frames within which gamelan is taught in Northern Ireland, teaching methods must ultimately suit the needs of those learning gamelan in various contexts. Such an approach allows for greater access to the music by those in the instrument's newfound context (cf. Eisentraut 2001: 96), by 'assembling [traditional] traces into [newfound] patterns' (Perlman 1996: 128). In an article about music education Blacking (1985: 1) writes that 'the score is only an approximate guide to performance' and that 'the purpose of arts education should be to help individuals to develop their aesthetic experience and understanding by exercising their powers of discrimination' (ibid.: 17).

Below I propose a 'score' for the teaching of gamelan in Northern Ireland. This assimilated framework is a result of many years of experience of working with Beverley Whyte, the music facilitator for Open Arts. Beverley first studied Balinese gamelan with Sanger in the late 1980s and went on to study music at Queen's University Belfast. When Sanger left Belfast in 1989, several postgraduate students took over the teaching of Balinese gamelan but with the departure of Sanger the profile of the ensemble began to diminish. However, when, in 1995, Open Arts brought a Javanese gamelan to Northern Ireland, the teaching of gamelan was rejuvenated. As a result, Beverley has established a

teaching tradition particular to Northern Ireland. Drawing upon the traditional pedagogic practices of gamelan discussed above, this framework approximately describes Beverley's approach to the teaching of gamelan. And as will be pointed out, in the ethnography concerning children with visual and hearing impairments, this framework is flexible and can be adapted to suit the needs of those learning gamelan.

Welcome, Introduction and Background

At the start of any gamelan workshop the instructor welcomes the participants. This welcome is not only meant to introduce the instructor and the participants to each other but to also introduce the gamelan. The instructor also provides information regarding the cultural background of the ensemble in Indonesia. The exact detail provided to the participants depends on the purpose of the gamelan workshop, whether it is a 'taster' session or part of a project intended to be long term. In either case, it is important for the instructor to tell the participants by the end of the session that they will be able to play a piece of music. However, before any playing begins, certain ground rules are quickly introduced to the group to facilitate the learning process. These include:

1. When playing gamelan, participants should respect one another and the instruments; everyone must work together and listen to one another.
2. No one in the ensemble is more important than anyone else; in order for gamelan music to work everyone has to take responsibility for their own individual part.
3. Everyone should conduct themselves in the correct manner when sitting, standing, entering and exiting the gamelan room, (removing their shoes if possible—as a sign of respect to the gamelan) and wearing suitable clothes for playing gamelan.
4. Treat the instruments with care. In addition, participants are shown which beaters to use for individual instruments, how to hold them and the appropriate manner with which to strike them.
5. No one should talk when the instructor is speaking; respect should always be given to the teacher and if s/he signals for silence, or to stop playing, everyone should do so without question.

(Source: Roth 1987: 5)

Introduce Basic Techniques

After introducing all the instruments of the gamelan and allowing the participants to 'settle', the basic techniques of gamelan playing are introduced. First of all, the instructor asks the participants to listen to, and then explain, the difference in sound quality between 'damped' and 'undamped' striking of a metallophone. The aim of this demonstration is to draw the participants' attention to the fact that if one successive key on a metallophone instrument is damped at the same time as the next key is struck then the sound of the first key is stopped. When 'damping' is used the sounds produced by the two keys do not 'mix' with one another and the overall sound effect is much clearer. After this, the instructor explains how to 'damp'. To explain the 'damping' playing technique, participants are asked to hold the mallets or hammers appropriate for their particular instruments in their writing hand.⁸ All participants are encouraged to try 'damping' and, if possible, use the thumb and index finger of their free hand to squeeze the end of the note to stop it vibrating and, thus, sounding. After this, everyone practises damping collectively using simple exercises. It is important that everyone in the ensemble be given the opportunity to try damping because this allows the participants to orient themselves with the instruments. Moreover, by actually playing the keys of metallophones, whilst learning to damp, participants have the opportunity to listen to

the different pitches produced by the instruments and to become used to the tuning system of a gamelan.

Introduce 'Melody'

After introducing 'damping' the instructor will usually move on to teach the participants a traditional piece of music, usually a short, eight- or sixteen-beat, cyclical melody. These melodies can be taught and mastered in a short time frame and are used in 'taster' workshops to allow participants to achieve a sense of confidence and cohesiveness in their performance. Everyone in the workshop is taught the melody and only once the melody has been learned are other instruments introduced into the ensemble, i.e., gongs and elaborating instruments. It inevitably takes time for metallophone players to learn the melody and those playing gongs or other instruments can sometimes feel excluded from this process. To combat this, these players are asked to either sing along with the melody or they swap places with the metallophone players to be given the opportunity to learn the melody that way. It is important that players do not feel excluded from this melody learning process and are not just kept waiting to learn their part.

A Final Performance and Conclusion

The aim at the end of a workshop is for participants to perform the material they have learnt. The end performance will be as good as it possibly can be, taking into consideration circumstances such as the time constraints and the abilities of the participants. A final performance should instil a sense of achievement in individuals and the group as a whole; a sense of achievement that should be affirmed by the instructor when the workshop is concluded.

Having sketched the above framework, I will now describe how it was applied in the teaching of gamelan to children with visual and hearing impairments. However, before doing so, I

wish to make it clear that it is not my intention to compare the teaching of physically challenged children with that of able-bodied individuals. Instead, I wish to emphasise how the traditional techniques, and the proposed teaching framework above, are adapted to facilitate the learning of gamelan in Northern Ireland. The following ethnographic examples show how such techniques are adapted in an attempt to ameliorate physical impairments, to enable individuals and groups to participate in gamelan to the best of their ability.

Gamelan in the British National Curriculum for Children with Visual and Hearing Impairments

During November and December 2001, the Open Arts gamelan was in residence at Jordantown Schools for the auditory and visually impaired children, in Jordantown, County Antrim.⁹ During the six-week residency, the gamelan was housed in the music room of the school where weekly workshops for six classes took place every Tuesday and Wednesday. The instructors for the sessions were Beverley Whyte, the Open Arts music facilitator, and myself, then a final-year ethnomusicology undergraduate student at QUB. The aim of the project was to use gamelan within the context of the British National Curriculum to demonstrate how gamelan, as a crosscultural medium, could be applied to classroom music making. For the purposes of the gamelan workshops, pupils were organised into small groups of approximately fifteen children, and as is the case with the organisation of regular classes in the school, the groups were segregated by auditory and visual impairment; the two, because of timetabling difficulties, were never mixed. The two short ethnographies that follow, recount some of the approaches to the teaching of gamelan in relation to two particular groups at the school. Furthermore, the approaches adopted were also dependent on the ages of the chil-

dren involved. The first group consisted of adolescents aged fourteen to sixteen, all of whom had various degrees of visual impairments, studying music at General Certificate of Secondary Education (GCSE) level. The children in the second group, aged eight to ten, had a variety of auditory impairments. These children were chosen to participate in gamelan sessions for the simple reason that they attended music lessons on the days that the gamelan tutors were at the school. Moreover, gamelan, as the medium to explore crosscultural, musical learning, was chosen due to the success of similar projects in other schools by Open Arts. Both groups consisted of children with a wide range of abilities, including several individuals with severe learning difficulties. However, the fact that these students had visual or hearing impairments did not in any way obstruct their enthusiasm for playing gamelan. Throughout the project, the gamelan was used to explore the possibilities of music in the classroom, where everyone, no matter what their ability, was included in collective music making.

'Feeling' Gamelan

The children in the visually impaired GCSE music class in Jordanstown Schools had visual impairments ranging from poor sightedness to complete blindness. At the start of the residency, as is the case in any workshop situation where the participants have not played gamelan before, background information, concerning the origins and practice of gamelan, was provided by the instructors. The children were told that the gamelan had been made in Java, Indonesia, after which it had then been brought to Northern Ireland. When asked if anyone in the class knew where Indonesia was, one child volunteered that Indonesia was situated to the north of Australia and, for those who were able to see, a map was passed round for the children to examine its exact location. Next, the different instruments of the ensemble were introduced to the children, who were given the opportunity

to explore them. Moving from one instrument to another, the children commented upon how the size of individual instruments affected their pitch, i.e. large instruments produced lower pitches and smaller instruments produced higher pitches. By touching the iron bars on the metallophones (*saron*), examining the curvature of the small individual gong chimes (*bonang*), feeling the large expansive dimensions of the deep-sounding gongs (*suwukan* and *gong ageng*) and rough texture of the goat's skin used to cover the drums (*kendang*), the children began to associate different sounds and sensations with individual instruments. They also examined the carved wooden cases of the instruments and commented on the intricacy of the designs. By examining the size, shape and, in some cases, weight of the instruments, the children discovered more about the physical dimensions of the ensemble than Beverley and I could have ever told. In addition, the students were told that the Javanese gamelan used a *pélog* scale that comprised of seven notes. Furthermore, the seven notes in the *pélog* scale corresponded to the seven bars on the *saron* that were numbered one to seven, with number one representing the lowest pitch, situated to the left on each *saron*, and number seven representing the highest pitch, situated to the right. This also explained why there were seven *kenong* and *kempul*, and why both *bonang* chime racks had fourteen chime gongs.

Teaching Gamelan-Playing Technique

Beverley and I approached the teaching of gamelan to the class of mixed visual impairments with the same objectives as we would approach a class of sighted individuals. At the start of every class, exercises were used to develop the technique of damping *saron* keys. However, it was not possible to explain the technique using visual demonstrations. We could not rely on the children to watch Beverley's hands when she demonstrated damping at the front of the class. Instead we had to imagine that we

were in the place of our pupils—how would we explain damping if we had a visual impairment? Consequently, we asked the pupils to differentiate between a damped and an undamped example. The class was unanimous and quick in its response to the two examples, stating that the undamped demonstration sounded ‘jumbled’, whereas the damped example sounded ‘clearer’. To teach damping, every aspect of the process, such as how to hold the mallet and where to strike the metal bars with it, had to be patiently explained. In some circumstances, we achieved this by gently taking hold of children’s wrists and moving their hands in a way that was similar to that involved in the process of damping. During the initial introduction to damping the children found it difficult to strike one key and then move on to strike the next because they often found the distances between keys difficult to predict. As a result, most of the children needed to use their damping hand to act as a guide, to orientate themselves around the different instruments of the ensemble. When, after some time, we asked the children if they could possibly ‘damp’ more, one child responded exasperatedly, ‘It’s all right for you, you’re not blind. For you it’s easy!’ In some ways the response was true, but in others it was not. The process of explaining the damping technique, which we as instructors had embodied, was very unnatural for the children in the class, particularly since none of the children had played gamelan before. With sighted individuals, Beverley and I relied on visual demonstrations of gamelan playing to aid the learning process. By asking the group to learn to damp, we were asking them to try something which, to begin with, felt very unnatural and, for some members of the ensemble, disorientating, due to the different sizes of the *sarons* (which made it especially difficult to know where notes were without using their free hand to orientate the spaces between specific keys).

However, in spite of this initial setback to the learning of damping, the class was determined to succeed and learn how to damp com-

petently. In order to do this, musical games and other teaching strategies were developed to achieve this. One game, called ‘pass the beat’, where everyone in the class played a note in sequence, one after another—each child using damping after they struck a note—helped develop not only damping but also listening skills of individuals and the group as a whole. The ‘counting’ or ‘number game’ was used to improve children’s musical counting and their orientation to the particular instruments they played in the ensemble. In this game, the children had to repeatedly count silently from one to eight in their head. At the same time one of the instructors played a steady beat on the drum to keep time. As the children counted, Beverley would shout out a number for everyone to call out, e.g. number three, and the class would then count through the sequence until they got to number three and shout out the number. Gradually more numbers would be included in the sequence until all of the numbers from one to eight had been included. Once this point had been reached, Beverley would start taking numbers away, and the children would have to remain where they had just previously called out a particular number in the sequence. Once this exercise had been sufficiently mastered orally, it was then applied to the gamelan and, instead of calling numbers out, the children played the numbers corresponding to the specific keys on the gamelan. As more numbers were added to the sequence, the children began to damp keys more regularly and with more confidence. Moreover, this exercise not only allowed the pupils to practice and develop their damping technique, but also allowed for the orientation of an individual’s body in relation to their instrument. These musical exercises attempted to improve the children’s playing technique, as well as other aspects important to gamelan playing, such as counting, musical timing and the collective striking of instruments; and finally improving each individual’s orientation of their particular instrument in the ensemble.

Learning Melody

Equally, because of the children's various visual impairments, traditional teaching methods specifically employing visual modes of learning could also not be employed. During the teaching of traditional pieces to this class, an oral 'call and response' method for learning the notes of a gamelan melody was used. The piece taught to this class was a sixteen-bar, thirty-two-note melody (*balungan*) called *Ladrang Uyun-Uyun* (Figure 1). In accordance with traditional methods, the melody was played once for the children, who initially responded that they thought the melody was too long and, as a result, they would not be able to learn it. To make it easier to teach the melody to the children, it was segmented into four-note phrases, i.e. 2, 3, 2, 1, and then 3, 5, 3, 2, etc. Groups of four numbers at a time, representing four consecutive pitches of the melody, were recited first of all by the gamelan instructors and then repeated by the children: this was learning by means of rote repetition and the gradual extension of the phrase, from four notes to eight, twelve, sixteen, etc., until all thirty-two notes comprising the melody had been learnt and memorised. Only when this process had been completed and all the numbers of the melody could be confidently recited by the group were the aural number sequences integrated in the playing of the number sequences on the gamelan. The process of learning to play the melody on the *sarons* was exactly the same as that of reciting the notes of the melody; the melody was segmented into four-note phrases, with the initial phrase gradually extended to include the next four notes.

A result of this adapted teaching method was that the children learnt the above melody in

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| . 2 . 3 | . 2 . 1 | . 3 . 5 | . 3 . 2 |
| . 5 . 3 | . 2 . 1 | . 3 . 5 | . 3 . 2 |
| . 6 . 3 | . 5 . 6 | . 2 . 1 | . 6 . 5 |
| . 3 . 6 | . 3 . 2 | . 5 . 3 | . 5 . 6 |
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FIGURE 1: Cipher transcription of the melody (*balungan*) for *Ladrang Uyun-Uyun*

one hour. Furthermore, by the end of the workshop, all of the children attempted to play the melody using damping, although most of the pupils still required their free hand to orientate themselves round their instruments.¹⁰ For those who had particular difficulties playing the melody on the *saron*, other instruments such as the *gong ageng*, *kempul*, *kenong*, *kethuk* and *kempyang* (see Appendix 1) provided less technically demanding alternatives, but also new challenges of playing such parts at the correct moment of the melody. By means of contrast, other instruments, such as the drum (*kendang*) and gong chimes (*bonang barung*), provided those children proficient at playing the melody the opportunity to learn a more challenging part.

The 'Crocodile' and Musical Story Telling: Modes of Interactive Learning

Whereas the teaching of gamelan to children with visual impairments at the school mainly used oral teaching methods, to develop listening and memory skills, the teaching of gamelan to children with auditory impairments relied more upon visual teaching methods. All of the children who took part in these gamelan classes used hearing aids whilst some children had cochlea implants. And, although the majority of the children could lip-read, the main form of communication in these classes was British sign language (BSL). Thus, the instructions given by the gamelan instructors to the class were translated into BSL, by either the class music teacher or a signing assistant, and signed to the class. In order for this teaching method to be effective, all the children in the class needed to pay attention not only to the gamelan instructors but also to the person signing in order to fully comprehend instructions. This extended process of translation, through the use of sign language, had an impact on the way that playing instructions and explanations were phrased. Explanations and instructions for the class had to be clear and concise so that information spo-

ken by the gamelan instructors was not abated through the further process of translation. To start with, this extended process caused a few problems. Just like any other workshop or gamelan session, the children were given some appropriate information concerning the sociocultural background to gamelan music. However, even this process was difficult, especially due to the fact that not one of the signers in the school knew the sign for Indonesia. The next best option was to point to Indonesia, and the island of Java, on a world map and explain that it was 'near Australia', which, in turn, then became the adopted hand sign for Indonesia.

Throughout the six-week residency, in arrangement with the class music teacher, a vocabulary of 'gamelan' hand signs were developed to use as part of the teaching. Combinations

of letters from the BSL alphabet (also known as FingerSpelling) were used to denote particular instruments, e.g. the great gong (*gong ageng*) was signed as the letter *g* followed by a second letter *g*; *saron* was signed as the letter *s* followed by the letter *r*; *slenthem* as *sl*; *kenong* as *kn*; *kempul* as *km*; etc. (see Figure 2). Despite the fact that we were only learning, attempting to use elementary signs and spell out individual words allowed Beverley and me to communicate with the children on a more personal level. Moreover, the children were excited to see that we, as their teachers, were willing to try and learn from them and they were as eager to learn about gamelan from us. The children also taught us particular signs, such as the sign for 'soft'—which involved repeatedly circling the three middle fingers of the right hand on the right cheek-

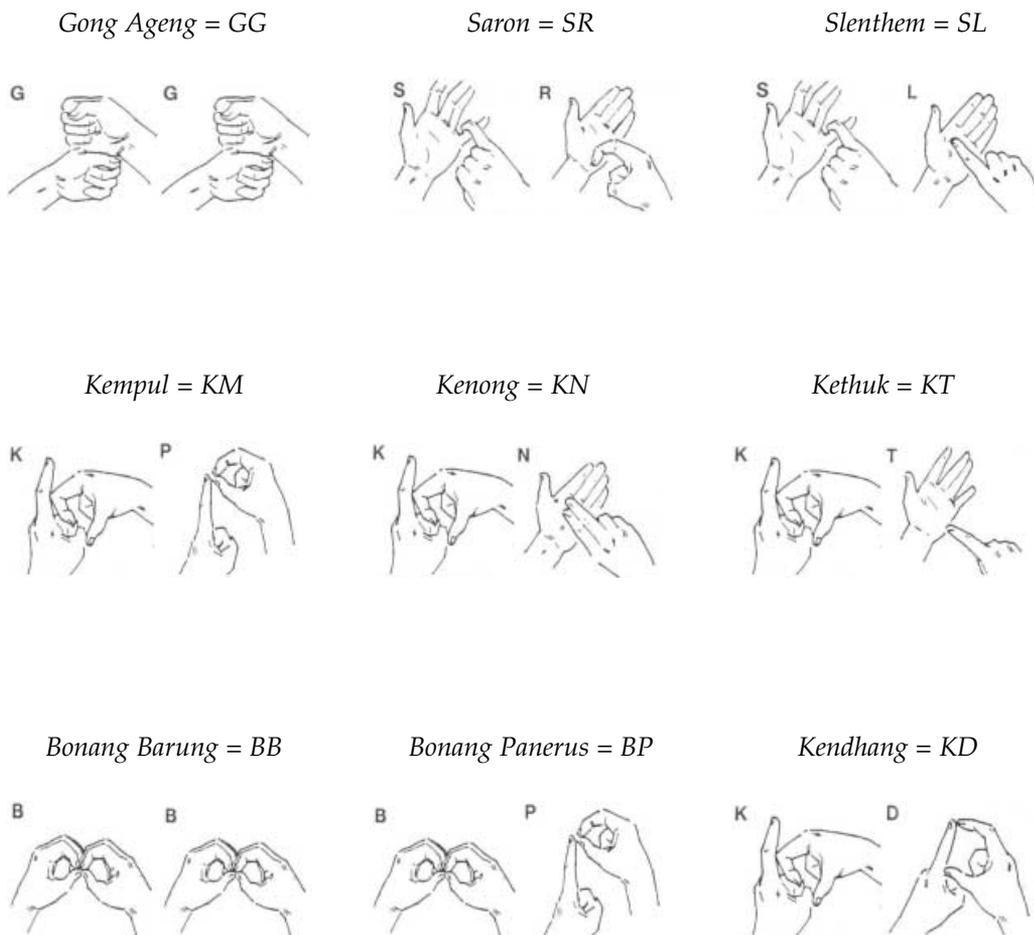


FIGURE 2: Gamelan instrument signs used in workshops for the auditorily impaired at Jordanstown Schools

bone, and 'loud'—placing both hands over the ears. These two signs were very useful in transmitting performance aesthetics to the children, who at the start of every class were so excited that they almost always struck the instruments forcefully. The children did this for two reasons: first, they enjoyed hearing the sounds of the instruments, and second, the harder they struck the instruments the greater the vibrations they could feel through the wooden floor of the Music Room. There were times, however, when the children struck the instruments with such veracity that we thought they might possibly break something.¹¹ The teaching of gamelan relied on the class teacher or signer to translate knowledge about the gamelan to the children. In order to do this, Beverley and I had to develop a close working relationship with those responsible for signing to the children. As a result, signers had to take part in the gamelan in order to understand how to play the instruments and, thus, explain the learning process to the children.

The children with hearing impairments learnt damping with almost no verbal or signed explanation. The children were simply asked to watch my hands whilst I played a traditional Javanese melody, *Lancaran Manyar Sewu* (Figure 3). After I had played a melody a few times the children were then asked to explain what I had been doing to stop notes from sounding. The response to the question was instant, with all of the children raising their hands, but before they were asked to answer some of them picked up their mallets and began copying the hand movements I had demonstrated only moments before.

In order to facilitate the learning of *Lancaran Manyar Sewu*, the melody, just as in the visually

. 5 . 3	. 5 . 3	. 5 . 3	. 6 . 5
. 6 . 5	. 6 . 5	. 6 . 5	. 3 . 2
. 3 . 2	. 3 . 2	. 3 . 2	. 7 . 6
. 7 . 6	. 7 . 6	. 7 . 6	. 5 . 3

FIGURE 3: Cipher transcription of the melody (*balungan*) for *Lancaran Manyar Sewu*

impaired class, was segmented. It was taught in four segments, and each segment consisted of four repetitions of two notes: firstly, 5, 3; and then 6, 5; followed by 3, 2; and lastly, 7, 6. Whilst learning the melody, the class would watch the instructor's hands and then copy the damping technique. The children were told to play each of the segments four times, and the individual segments were practised as such, i.e. first segment—5, 3, 5, 3, 5, 3, 5, 3, etc. The children were also asked to say the notes, i.e. to repeat the number sequences aloud, in time with a steady beat played on the drum, while also signing the numbers. Once this exercise had been repeated several times, the children were asked to say and sign the numbers as a group on their own, without the instructors. When it came to actually playing the melody on the *saron*, although the pupils could play the melody, they did not play together with steady tempos set by the drum (*kendang*). The reason for this was that the children looked down to concentrate on the movement of their hands when they damped the keys. As instructors, Beverley and I had no way of attracting their attention to the fact that they were not in time with the beat (although the children assured us that they could feel the vibrations of the drum through the wooden floor of the classroom). Over the six weeks of the residency, Beverley developed a method of signing the numbers of the melody with both hands. This method worked to some extent. However, the children found it difficult to watch Beverley, who was seated at the front of the class, whilst at the same time looking at their hands. Nevertheless, as they became more and more secure in their ability to sign, speak and play the melody numbers, they also managed to look up from their instruments at Beverley more often and to learn when to play in time. As a result, the overall cohesiveness of the ensemble improved and as a class the children began to learn how to play and strike instruments together. In order to develop the visual awareness of the children whilst they were playing, the 'croco-

dile' game was used. The game involved one child volunteering to stand at the front of the class with one raised arm in the air and with the other hand outstretched below—like the jaws of a crocodile. We explained to the children that when the hands of the 'crocodile' came together they were all to play one note, on their instruments, together. The children enjoyed this game and were eager to be given the opportunity to be the 'crocodile'.

Apart from the learning of traditional melodies and playing techniques, story telling involving music was an important part of many classes. In particular, stories were taken from the Indonesian version of the Indian epic the *Ramayana*, which are used as the basis for shadow-puppet theatre performances (*wayang kulit*) in Java and Bali. The sounds of different instruments in the ensemble were used to represent characters in each story and every time a character was mentioned, the instrument or musical motif associated with that character would have to be played. During these story telling exercises, Beverley adopted the role similar to that of a puppeteer (*dalang*) in a shadow play performance. By watching Beverley and following the story, the children were involved in the production of a multimedia event, where understandings of visual signs and their meanings were translated into musical sound. The process of story telling combined narrative dialogue with musical elements, and because the pupils decided what sounds would represent particular characters, the group became responsible for the composition of their own short musical motifs.

Conclusion: Learning, Playing and Experience

In describing some of the techniques used to teach gamelan to children with visual and hearing impairments, I have tried to show how traditional pedagogic practices of gamelan have been adapted to facilitate the teaching of gam-

elan in Northern Ireland. In doing so, I have also demonstrated how procedures for teaching and teaching techniques are context specific and I have emphasised how musical skills were learnt through a process involving social elements. Unlike the traditional Indonesian pedagogic approach, where gamelan knowledge is accumulated from a young age over a long period of time, the transmission of gamelan in Northern Ireland is always confined by a finite time frame. Thus, in order to teach effectively, instructors must develop techniques that best suit the needs of those who learn gamelan. Through clear and concise explanations and demonstrations, the gamelan teacher must instruct and shape a group of individuals into a musical community through the creative process of the music making. He or she is responsible for organising knowledge so that musical skills may be easily acquired and learned effectively (Blacking 1987: 117). Such an approach should not only teach musical factors but also communicate information regarding the wider sociocultural background of gamelan to participants. As such, the transmission process of gamelan is no longer confined to traditional modes of teaching and learning, but is re-arranged, borrowed and applied to its newly transculturated context (Becker 1983). Since its introduction to the academic arena in the 1950s, due to the work of Ki Mantle Hood and his theory of bi-musicality (1960), gamelan has acquired a role as a community and educational pedagogic tool.

In Northern Ireland, the teaching of ethnomusicology at QUB has had, and continues to have, a strong impact on both teaching and the dissemination of gamelan knowledge to the wider community. In addition, the institution has also been responsible for the training of those now working with gamelan there. Due to the formative work of Annette Sanger and John Blacking in the 1980s, and current work by Open Arts and Beverley Whyte, gamelan has allowed world music education to be included in both educational and recreational community con-

texts. Community projects involving the use of gamelan have allowed for the learning of a different form of musical expression and perhaps an opportunity to gain a 'deeper understanding of some of the principles on which the social and cultural experience of its makers is founded' (Blacking 1990: 272). Gamelan, as a communitywide tool, offers numerous possibilities and only some of them have been explored here. But most importantly, it can offer those who participate and play in a gamelan ensemble the opportunity to gain an insight into the sociocreative process of another musical world and possibly the chance to reflect on the music that surrounds them in their everyday life.

Jonathan McIntosh is completing a Ph.D. in ethnomusicology in the School of Anthropological Studies, The Queen's University Belfast, Northern Ireland, U.K. His email is jonathanmcintosh@yahoo.com.

Notes

1. See Mendonça (2001) for a concise history of gamelan outside of southeast Asia.
 2. From email communication with Annette Sanger, March 2002.
 3. From email communication with Annette Sanger, April 2005.
 4. See appendix 1 for a description of the Open Arts Javanese gamelan.
 5. The category headings are taken from Sanger and Kippen (1987).
 6. Exceptions are made in the gamelan learning process. An example of this process can be found in Bakan (1999: Ch. 8).
 7. There are other instruments, such as spike-fiddles (*rebab*) and flutes (*suling*), that do not fit into these two broad categories.
 8. In Indonesia, the mallet/beater is always held in the right hand and the left hand is used to damp. However, during my involvement with gamelan in Northern Ireland this rule has never been enforced.
 9. I realise that this term is somewhat problematic but it is the term used by Jordanstown Schools.
- As a result, I will use it in this article. In addition, for reasons of confidentiality, the names of individual children have not been used.
10. Outside of the gamelan workshops some students requested a transcription of the melody in Braille in order that they could study and refresh their memory of it at home.
 11. I realise that some readers may find it ironic that gamelan was taught to deaf children at Jordanstown Schools. It was obvious from the children's reactions that they enjoyed playing gamelan. Moreover, out of all of the groups taught during the residency this class of children with hearing impairments was the most enthusiastic.

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Appendix 1: The Open Arts Javanese Gamelan: *Bhinneka Tunggal Ika* (Unity in Diversity)

The gamelan uses a *pélog* (seven-tone, nonequidistant) scale:

1=D, 2=E↓, 3=F↓, 4=G sharp↓, 5=A, 6=B flat↑, 7=C↑
(↑/↓ = a quarter-tone sharp/flat approximately)

Instruments

Metallophones—struck with hard mallets

- 1 × *Peking/Saron Panerus*—seven-note small metallophone
- 4 × *Saron Barung*—seven-note metallophone an octave below *peking*
- 4 × *Saron Demung*—seven-note metallophone an octave below *barung*
- 1 × *Slenthem*—seven-note metallophone with resonators

Chime Gongs—struck with beaters wound with chord

- 7 × *Kenong*—cradled gongs
- 1 × *Kethuk*—low-pitched, cradled gong (usually plays on the offbeat)
- 2 × *Kempyang*—high-pitched, cradled gongs, usually placed beside *kethuk*
- 1 × *Bonang Panerus*—set of fourteen small, cradled gongs
- 1 × *Bonang Barung*—set of fourteen small, cradled gongs an octave below *panerus*

Gongs—struck with padded beaters

- 7 × *Kempul*—small hanging gongs
- 4 × *Suwukan*—large hanging gongs
- 1 × *Gong Ageng*—largest hanging gong

Drums—struck with the hand

- 3 × *Kendang*—two-sided drum

Instruments not used at the Jordanstown Schools residency, but that belong to the Open Arts' gamelan ensemble, include:

- 1 × *Gambang*—wooden-keyed instrument
- 4 × *Gender*—fourteen note metallophones with resonators