Chapter Six

Interpretative reports drawn from the teachers' profiles and associated compositions

9 year age group

This chapter, and the following three, contain interpretative reports about the nineteen participating teachers who engaged their students with project material from *The Pulse Music Album* through composing activities and the associated compositions. These reports were drawn from the teacher profiles and analyses of the student compositions (situated in Appendices 6 to 9). They sought relationships between the analyses of the compositions, the backgrounds of the teachers in the study and the teaching roles, approaches and strategies adopted to facilitate composing activities drawn from *The Pulse Music Album* with their students.

Many of the nineteen participating teachers submitted work with more than one of the study's age groups (see Appendix for Chapter Five - 5.xxvii 31 teachers who submitted material to the study). As the study has investigated the teachers' responses and compositional outcomes by student age group, there are therefore four interpretative reports for the 9 year age group, six for the 12 year age group, eleven for the 15 year age group and five for the 18 year age group.

In the narrative reports, text in inverted commas indicates the voice of the participating teacher.

6.1 Teacher No. 5 – a female primary music consultant working with a male class teacher in Hong Kong (profile and associated compositions in Appendix 6 and CD for Appendix 6)

Education, experience, preference; teaching environment; teaching perspective

Education: tertiary music education qualifications;

Experience: female music consultant in a Hong Kong primary school. An experienced teacher, she had previously undertaken composing activities a number of times with students of different ages – a recent composition project with the 9 year old students of the study, for example, involved composing in groups with pitch and rhythmic parameters, stimuli, performance and self-appraisal through recording the student works, all providing common ground for her work with the Phase Shifting project. No previous student composing activities based on twentieth century compositional techniques and despite teaching in a multi-racial school, no response to the question about including music of other cultures in her teaching;

Preferences: composing and arranging named as two personal musical activities;

Teaching environment: constantly expressed frustration with recent change in role from music teacher, with designated venue and sufficient resources, to roving music consultant with unsuitable venues and insufficient resources. She viewed classroom teachers interested in music as a resource. As consultant she was expected to take on the dual role of 'teaching' teachers and students. This change in her role was reflected in changes to the way classroom teachers had to cope with a new curriculum approach giving students more choices, new approaches to teaching some subjects (music included) and 'through-school' topics. School had a strong interest in music performance but less so in other areas of music. The negative attitude of the head, who felt music had "too high a profile", added to her frustration and her feeling that music was now being "put in its place".

Several classroom teachers were identified as interested in music and one male teacher with no music qualifications chose to actively participate in working with the minimalist project material. He named teacher No.5 as the source of music's strength in the school, stating that the school's interest in music was strong because of the "full time non-class based music co-ordinator" and the children's "high degree" of interest in school choirs and orchestra taken by her. He also noted that "some staff do feel a lack of confidence in this area". This triangulation of response between music specialist and classroom teacher highlighted the strength of music within the school because of the specialist's activities and the ability of some classroom teachers, rather than support from the upper educational staff. He worked with the music specialist and learnt from her, reflecting Kuzmich's (1987) experience of music teachers learning about composition teaching from composers in the classroom (213).

Main music teaching venues were now cramped classrooms, where insufficient musical instruments resulted in time being wasted as gear was moved from classroom to classroom, a point noted by both the specialist and the classroom teacher. Performing arts subjects shared a designated venue and competed for the space. High noise level in the background of submitted recordings of many pieces indicated large numbers of students were in the room while the recording process was taking place. Music lessons were often cancelled because of other school events (sports, galas, trips, for example). Despite these conditions, performances of the phase shifting pieces were successfully achieved with a number of recording takes;

Teaching perspective: composing activities were ranked first in her curriculum, a feature of the two syllabus structures found by Hogg (1994) to facilitate enrichment of students' lives. The music curriculum was designed by the music consultant. Her teaching philosophy and educational aims combined values of empowerment ("interest kids in the subject") with achievement in composition and performance ("feel the excitement and

confidence in self"; "create situations in which kids can succeed"; 'perform as much as possible") and addressed her own teaching ("I try to work from their strengths"). Eclectic teaching approach adopted, using whichever pitch and rhythmic terminology worked with the students with continuous assessment of student process and product.

6.1.1 Analyses of seven student compositions associated with teacher No. 5 written in response to the Phase Shifting project (Appendix 6 – 5.1-5.7)

Pitch: Composition 5.1 has a three-note pitch set – b,a,g, 5.3 and 5.5 have two-note pitch sets of a and b, and 5.4 and 5.6 have two-note pitch sets of g,a and g, c respectively. These two and three-note pitch sets are smaller than that of *Wind Chimes*, the project model, and represented a development of its four-note pitch set.

The pitch sets of the student compositions were based on consecutive notes rather than leaps of thirds. Consecutive notes, for practical performing reasons, are easier for students to play accurately on tuned percussion instruments and resulting dissonant intervals, seconds, in pieces 5.1, 5.3, 5.4 and 5.5, and the open quality of the fifth in 5.6, explored harmonies very different from the tertian harmonies of the project.

Time: Composition 5.1 has a 5/4 metre, with 5.2, 5.3, 5.4, 5.5, 5.6, 5.7 all in 4/4, the metre of most of the phase shifting exercises in the album. By adopting a 5/4 metre, the student composers developed the concept of metre in a more adventurous direction and level of metric difficulty beyond that of the phase shifting exercises in the album.

Played fairly accurately at a fast tempo, the 5/4 metre of 5.1 resulted in a circular 'vertical time' effect in which the bar line appears to shift forward by two crotchet beats. This effect was, at times, partially achieved when accuracy and speed were present in performances of 5.2 and 5.4 as well, although they are very short.

Construction and structure: The rotation of the phase shifting process in all of the pieces was made from right to left - 4123 (or 51234), the reverse rotation of the phase shifting pieces given in the project. The resulting repeated note negates the smooth transition from cell to cell and is also more difficult for students to play. This misunderstanding of the rotation procedure demonstrated in the project material does not add to the musical aesthetics of minimalism and perhaps made the move from cell to cell, in performance, more awkward for the students.

Composition 5.3 recycled the rhythmic cell of 5.2 but added defined pitches and composition 5.6 recycled the rhythmic cell of 5.7 thus transforming the material into new works. This represents a development of the unpitched rhythmic material of compositions 5.2 and 5.7.

6.1.2 The approach and strategies adopted by teacher No. 5 in facilitating student composing activities with the Phase Shifting project

Teacher No. 5 worked with material from two projects in conjunction with the classroom teacher whose students were in the nine year old age group. The student participants consisted of two mixed classes of 30 each and seven student compositions were submitted for this study representing their composing work with the Phase Shifting project.

In her preliminary planning Teacher No. 5 made the empowering statement that the project material was to provide “yet another means of allowing the children to discover that music, composing especially, is accessible to all”. Within composing activities, students were to start from common ground composing rhythmic and melodic patterns based on words drawn from the school topic. This integrated one aspect of the school topic with music and from these patterns she planned to construct charts/pieces by combining and building. She planned a multi-skill approach, including group composing activities, performance and instrumental skills in her objectives, heightening the students’ understanding of writing and performing compositions by viewing notated composition

as a cohesive mechanism in which “rhythms and harmonies gelled” and the resulting compositions as needing to be notated in such as way “so others could perform them”. She also planned to discuss the emotional responses to the compositions. However, minimalism was thought to be difficult to integrate into the current school ‘topic’.

The actual approach and strategies adopted by Teacher No. 5 to facilitate composing activities from the Phase Shifting project remained similar to those of her preliminary plans. She illustrated her ability to involve students at all levels in the composition process and performance of the product - “composing…is accessible to all” – by adopting flexible teaching strategies selected according to the level of the students which indicated a student-centred, empowering approach to composing activities.

Over 12 and 15 lessons, Teacher No. 5 facilitated playing and composing activities with the students. She taught one master lesson for all of the Class 5s during which they composed a piece together and as a class, sang the music they had written, using letter names. This approach to class composition during which all students had input into the composition process, combined ‘composition by committee’ with specific skill learning which took place through aural work and a reinforcement of notation knowledge.

After the class composing, students worked in twos and fours on their own pieces, enjoying “working their pieces out and making them ‘works of art’”. The teacher worked with a number of groups at any one session and found that the students liked being “in charge of their own work” and were empowered by this. Material from the album was used as a model for the student composers. Adopting a prescriptive task design, she set students working within pitch templates of 2 or 3 notes within a range of middle c to g on paper, middle c sounding an octave higher on xylophones. The music consultant let the students lead and choose with regard to the instruments they were to utilise, some choosing unpitched percussion sounds, others tuned percussion. They wrote rhythms and

melodies, composing from sound to symbol (improvisation or 'empirical composition') and symbol to sound, according to their audiating capacity.

Despite the pressures and problems of the school teaching environment, Teacher No. 5 was prepared to spend a long time on the Phase Shifting project material within the flexible music programme. She named notation as a cohesive force between a group of performers who must all play what is written accurately and within the same pulse and tempo, and saw it as a way for students to join a number of musical elements within one piece, hearing and thus understanding one of the roles of notation. She felt that students who worked from symbol to sound had the ability to audiate, while those who didn't have this ability could work from sound to symbol and then play what they have written. These views were reflected in her flexible approach when introducing new composition ideas through the different notation systems adopted in students' compositions 5.4, 5.5 and 5.6, written in the teacher's and a student's hand, and in the 'recycling' of material from one piece to another with transformation.

Figure 6.1 Composition 5.4

She drew on the students' imaginative ideas and suggestions by instigating class discussion and input of ideas from students on how to extend and expand the material through composition, a student-centred approach. During one of these discussions a student "volunteered the idea of 'Phase Shifting' (without minimalist terminology), without having any pulse background" after considering ways of expanding the material of the model before the concept was formally introduced in a minimalist context. This creative thinking on the part of the student was an empowering experience in which the

student could view him or her self as a 'real' composer. Despite a few students giving their works titles, Teacher No. 5 maintained that titles were not a major factor in the students' compositional process. Pitch sets smaller and more consecutive in structure than that of the project model were employed producing a sound world different from the tertian harmonies of *Wind Chimes*. By recycling and building on material from one piece to another by addition of another musical parameter in two pieces, the teacher facilitated the learning and reinforcement of basic concepts and theoretical skills. She also showed students how to think about music in the composing environment, in this case through repetition and transformation of material from one musical context to another.

Phase shifting requires a minimum of two performers. Seven pieces were performed by twenty students in groups of two or four, on various instruments and recorded a number of times, each take providing an opportunity for discussion, self-appraisal, evaluation and correction of mistakes. I transcribed four phase shifting scores from the recordings. Cell repetition of three or four times was employed by all the compositions and all finished abruptly at the end of the phrase shifting process. Performance tempi of the compositions ranged from crotchet equals c100 to crotchet equals c.140, with those played on untuned percussion instruments or within two-note pitch sets (requiring less movement) achieving the fastest tempi. All of the pieces lasted for less than one minute. Three compositions achieved, to varying degrees, the effect of 'vertical time'.

Most pieces were given two or three recording takes, with often a few performance inaccuracies remaining in the final take. The teacher found that "most [students] experienced difficulties performing them (largely because they found coping with the pitch as well a bit too much)". Percussion instruments were written for, and played in, all pieces, 5.1, 5.4, 5.5 and 5.6 on 'Orff' xylophones, 5.3 on what sounded like metallophones with a deadening of the sound's ringing quality. Compositions 5.2 and 5.7

were played on untuned percussion, the first sounding like sticks on drums, the latter woodblocks.

Within the two or three recording takes, I noticed, usually, an improvement in performance accuracy. Although Teacher No. 5 did not engage in composing activities with the students, she took part in some of the minimalist performances (5.3, 5.5), could often be heard counting a bar in to established pulse and tempo and heard counting to steady pulse tempo during some recorded takes, for example, piece 5.6 take 2. The performances demonstrated the range of performing levels within one class. Playing the lower part of composition 5.3 inaccurately in a taped performance and acknowledging her mistakes, Teacher No.5 placed herself on an equal footing with the students as a performer and gave the students the opportunity to see that even the teacher sometimes makes mistakes and learns from them, at the same time engaging with the material with the students. By their very nature, the recording takes were a form of self-appraisal and self-improvement, with students and teacher being made aware of aspects of performance which could be improved. The teacher and the students responded positively to their Phase Shifting minimalist experience and the teacher expressed an interest in using the material in future teaching.

Throughout her teaching, the music consultant focused on accommodating different levels of student musical ability. By placing students for composing and performing activities for phase shifting in groups, with more musically able students tackling the phase shifting lower part, all students were able to achieve a reasonable level of performance. The minimalist student compositions and recordings sent in for the study by Teacher No. 5 illustrated how students of differing abilities were able to achieve some degree of accuracy, success and satisfaction with the project material. Her use of different notational approaches ranging from strip score to A4 score, chosen to accommodate the level of each student's music reading for performance, was reflected in

her high ranking of performance and theory skills, especially notation, in the school curriculum.

Teacher No. 5 adopted the role of instructor and enabler at different times. As instructor, students of differing abilities worked with different styles of notation. As enabler, the students worked with class composition by committee to produce a class composition and construct a 'successful' composition by 'recycling' musical material from one student composition into another composition which looked similar on paper but aurally, and performatively, produced a very different result.

Despite not having previously used music of other cultures in her teaching, Teacher No. 5 chose to work with material in the African Rhythms project combining music performance and movement. She outlined improvising, composing and creative writing plans and potential for the material but due to having only two lessons of teaching time, did not explore composing activities. The teacher commented that "the project had a lot more potential than I exploited". Prior to working with the minimalist project material, the students had collaboratively combined movement and music, drama and music, and creative writing and music. With the African Rhythms project, students were invited to make up the movements from the music, thus drawing on their imaginative ideas. In performance, the music consultant found that movement distracted the students and their concentration on rhythm reading and performing suffered.

Teacher No. 5 responded positively to the project material, planning to use it again in the future. She felt *The Pulse Music Album* projects could be used as a sequential package, describing them as "great ideas – [a] solid hinge for teachers and students alike". She wrote positively of having been able to introduce students to practical composing skills drawn from music of the twentieth century thereby expressing an interest in engaging them with the art that is most relevant, that of our time.

Her philosophy of reaching for excellence and stretching was reflected in a willingness to engage students and the classroom teacher with the project material over a long period of time in order to achieve satisfaction for students and teachers with the outcomes.

6.2 Teacher No. 12 – a male music teacher in a primary school in Hong Kong (see profile and associated compositions in Appendix 6 and CD for Appendix 6)

Education, experience, preference; teaching environment; teaching perspective

Education: music degree and post-graduate education qualifications;

Experience: experienced teacher. Although no personal preference for music of other cultures was noted, he had taught aspects of music of Asian countries and African countries through improvising/composing activities, singing and performing, singling out specific musical aspects and construction procedures. The school was situated in Hong Kong, the student body multi-racial, middle-class and transitory and the music of China had been previously singled out as one of the Asian musical styles with which he had engaged his students, thereby drawing aspects of the cultural context into his teaching.

Preference: involved in a number of music activities including writing and arranging music. Preferences for twentieth century art music were reflected in previous work with serial composition procedures which students found easy use but difficult to perform. Preferences for popular music styles, pop, rock, jazz and musicals were reflected in previous teaching of pop and rock music through instrumental arrangements with emphasis on chord progressions;

Teaching environment: school's interest in music was strong and the teacher made special mention of the generous amount of time allocated for music making, performances for parents and the school, "thriving" school ensembles and the range of music and other arts activities available after school hours. Some resources, however,

were inadequate including a music room which was too small and insufficient tuned percussion instruments. The music curriculum of the school, written by the teacher, which ranked performing/singing and composing activities higher than theoretical activities, drew on ideas from several United Kingdom curriculae, the Hong Kong school system music curriculum and music courses such as Silver Burdett. He used whichever pitch and rhythmic terminology worked with the students and undertook continuous assessment of student process and product.

Teaching perspective: his music teaching philosophy drew on the ideas of Aristotle, W.H.Hadow, E. Gamper plus several United Kingdom curriculum papers and embraced the musically intrinsic values of music for the pleasure of it - "…to enoble and purify the soul of man by steeping it in pure and noble pleasure" (citing W.H.Hadow), and the basic and educational need for music for its own sake "music of some kind is a basic need of young people", "Few people are unaffected by music… An educational system which leaves uncultivated these primeval urges abnegates responsibility for a vital area of personality" (both citing Curriculum Paper 16: Music in Scottish Schools). Several educational, social and moral values were expressed - "develop[ing] a sensitive response to sound in general and in particular to music", skill and concept knowledge whilst engaged in musical activity, "develop[ing] the capacity to express ideas and feelings symbolically through the medium of sound" and making music together with "personal satisfaction and self-confidence derived from striving after the higher possible [musical] standards". Therapeutic aims included "develop[ing] insight through music into areas of experience some of which cannot be easily verbalised". Community considerations came from "develop[ing] an awareness of musical traditions and developments in a variety of cultures and societies".

6.2.1 Analyses of two compositions of students associated with teacher No. 12 written in response to the Phase Shifting project (Appendix 6 – 12.1,12.2, CD for Appendix 6 Tracks 8 and 9)

Text, rhythm and context: By incorporating a text of 'lap sap' (Cantonese for 'rubbish') words from the through-school topic, pollution, in composition 12.1, the different rhythms of these words, chanted by a large group of female and male students with unbroken voices, created a multi-layered, dense almost 'static' minimalist texture. This was quite different from, and represented an expansion beyond, *Chitter Chatter* from the Phase Shifting project where one rhythm permeated the composition.

By adopting the through-school topic of pollution, the chanted vocal composition 12.1 gained a context relevant to the school society through integration, and to the society beyond the school. This represented a substantial contextual expansion from the didactic approach taken in the album project.

Pitch: Composition 12.2 for recorders extended the tertian pitch sets offered in the project by employing phase shifting of two three-note chords (with a shared pitch) in the final rotation, which combined, finally, into a five-note chord. The resulting thick chordal counterpoint is a very different texture from, and an innovative expansion of, the linear contrapuntal writing of the project exercises.

Time: Because compositions 12.1 and 12.2 were rehearsed thoroughly over a long period of time, the speed and accuracy of the performances, plus the extended length of the compositions resulted in a recognisably minimalist experience of 'vertical time', an expansion beyond the shorter compositions in the project. The chanted composition, 12.1, builds into a cyclic, repeated sound world and the recorders of 12.2 create a recurring wave of sound.

Construction and structure: Both compositions 12.1 and 12.2 were constructed by combining a number of cells and their required number of phase shifted rotations, one after the other to shape a longer, more substantial composition, resulting in an expansion of the phase shifting structure presented in the project. Both pieces were longer than two minutes when performed, the vocal composition lasting three minutes in performance.

In the chanted 'Pollution' composition 12.1, the rhythms of the three changing cells differed according to the rhythm of the 'lap sap' text. The rotation of the first cell, 'chocolate wrappings' was rotated right to left. This is probably accidental as it is the reverse rotation order of that given in the project material, the reverse of that written out in the teacher's score and the reverse of the left to right rotation of the three following cells.

The recorder piece, 12.2, recycled one of the rhythmic cells of the 'Pollution' text but varied the pitches each time the phase shifting process was completed, thus transforming the material. In itself, this represents a development of the material of composition 12.1.

Instrumentation: By employing an electronic drum machine to play a syncopated 'pop-style' ostinato in compositions 12.1 and 12.2, the teacher provided an inter-musical relationship between the familiarity of pop music and the unfamiliarity of minimal music and moved well beyond the acoustic instrumentation suggested in the project.

6.2.2 The approach and strategies of Teacher No. 12 in facilitating student composing activities with the Phase Shifting project

Teacher No. 12 originally planned to work on the Phase Shifting, Phase Shifting Melodies, Add and Subtract, Harmonic Prisms, Music Weaving and Canon projects with 6 and 9 year old students. African Rhythms and The Gamelan were to be tackled with 9 year olds if time permitted, although he admitted that the tuned metallophones and xylophones required for the latter were unavailable in the school. This was to be

undertaken through “the usual activities of performing, singing, playing and moving, and will also be listening and creating [and be] exposed to the skills and concepts of the Class 5 and 6 music curriculum”, integrating the forthcoming through-school topics. These plans did not eventuate as his own enthusiasm for the outcomes from working with the Phase Shifting project, and the enthusiasm of the musically adept 9 year old Class 5 students saw this one topic lasting for 25 lessons. Phase Shifting Melodies was also planned for class teaching, with worksheets designed, but instead these ideas were tried with a private piano student at the piano through composition activities over a term. The teacher saw the two projects as being closely related and addressed responses to both on one questionnaire. Two class phase shifting and seven phase shifting melodies compositions were sent in to the study.

Although Teacher No. 12 had a prior knowledge of minimal music, it was a new style for the students. He took a student-centred approach to introducing minimalist material into his teaching, allowing the enthusiasm of the students’ responses to the material and the music knowledge they were gaining, to lead the pace and exploration, thereby trusting in the students’ creative decision-making. The class had “previously used rhythmic and melodic ostinati to build up extended pieces of music, [used] small units to teach concepts of pitch and rhythm”, and been working with “chords”. The harmonic material of phase shifting and the techniques of ostinati and working with small compositional cells provided familiarity and ‘common ground’ for the exploration of minimalism. Objectives focused around skill and theory-based learning through composition and the teacher noted they were achieved.

Over 25 lessons the class explored minimalism through an understanding of the arithmetical processes of phasing and through listening, movement, composing and performing activities. Teacher No. 12 adopted a series of steps to build, with the students, two expanded phase shifting pieces while engaging with the Phase Shifting project. Through worksheets designed especially for work on the Phase Shifting project,

this strategy offered students a 'prescription' composition task design, combining use of 'models' (drawn firstly from the album and secondly written by the teacher) followed by a 'template' within which the students were to compose with notation. An explanation of the rotation process of phase shifting was given and "small motor movement of body sounds, phase shifting walking and running using footsteps" brought phase shifting into movement activities. Finally, through class composition, short student compositions were combined into longer works and a concert placed these in the context of the school society.

Students were first introduced to the process of phase shifting through an exercise from the album and a rhythmic template to encourage composing activity. The second model composition including text, was written by the teacher, teacher as composer, and the related template was more complex than the first. The third template added pitch to the phase shifting process, but retained the same rhythmic cells. Through writing his own phase shifting composition as a model for the students' works the teacher gained experience and insight into the material, into potential problems for students using minimalist compositional procedures and also gave the students an opportunity to view him as a composer.

At times, the teacher and students engaged in 'instant composition', quickly writing short rhythmic cells which "took few minutes for us to write. The beauty about minimal music is that the process of composition is quick and effective". Over the series of lessons, working through 'empirical composition' (sound to symbol), and for an increasing number, through notation, the students constructed and performed short phase shifting pieces. "The children enjoyed seeing their sounds translated into symbols, and because this increased their skills in the use of symbols, they were keen to write down ideas and then play them". Excerpts from 'Lightning' from *Liquid Days,* 'Knee Game I' from *Einstein on the Beach* and one or two *Dance Pieces* by Glass were played "after children have done their own music – to illustrate the idea as composed by 'real' musicians".

Class composition took place when the teacher and students worked with rhythmic cells with the same metre. The first piece, 12.1, was written for chanted voices, but without specified pitches, concentrating the students' composing on words and their rhythms. The teacher was aware of two constraints on, or challenges for, the project. First, the students were restricted to one musical style/compositional technique while working on the project material, as they had been when working with serialism, and second, the teacher needed to weave minimalism into the school's compulsory topics. The project material was 'integrated', along with other school subject areas, into the subject of Pollution and the second module on the worksheet listed rhythms of 'lap sap' words. Three rhythmic cells each written by individual students, two females and a male, were chosen and the teacher and students combined the short pieces into one three-minute work, constructing a phase shifting chanted composition, 12.1. This is similar to the procedure adopted by Doig (1941) with her composing students, whereby a show of hands indicated a vote selecting a student's vocally improvised phrase, that is, 'composition by committee'. Despite instructions to the contrary in the worksheet, the rotation of the phase shifting was from right to left. The resulting structure of the 'Pollution' chanted composition 12.1, was the phase shifting of each rhythmic cell four times, with four repetitions each and placed one after the other, the first cell being repeated again at the end. With drum machine as time-keeper and rhythmic counterpoint, the piece was rehearsed and performed for the school.

For the students, writing and building longer works was an empowering process – "The children discovered they could write very quickly and compose effective, extended pieces of music. This was a definite incentive to their music learning". They "were always full of basic melodic and rhythmic unit ideas and were keen to contribute ideas for organisation of material i.e. form, expression, instrumentation etc.". The teacher took the opportunity to "illustrate the main Western structures of binary, ternary, rondo, as well as patterns of numbers, timbre and dynamics which create a structure".

The third page of the worksheets moved the composition focus to phase shifting cells with rhythm *and* pitch. Students were given a template of 4/4 metre and an instruction to choose four notes they could play on the recorder easily. By the end of the page the students were writing with a four-note pitch set, recycling and transforming one rhythmic cell from the 'Pollution' vocal piece. Working together, the teacher and students then built up the structure of a longer composition, 12.2. One cell was phase shifted three times, with four repetitions of each cell and then repeated four times using different notes of the pitch set. The 'coup de grâce' was the last appearance and phase shift of the cell where all notes of the four-note pitch set were used, plus an octave transposition of the tonic, creating a five-note phase shifted chord.

In the accurate performance by over 90 recorder players, plus electronic drum machine, the effect of composition 12.2 is truly minimalist. Both 12.1 and 12.2 were performed at the school 'Pollution' assembly, thereby situating the students' compositions outside the classroom and empowering the students through public approval of their creative work.

Teacher No. 12's interest in popular music was reflected in the choice of a Clavinova rhythm machine to provide a steady, repeated, syncopated, pop beat under the two class phase shifting compositions. Writing for spoken voices gave the students an opportunity to explore and think about instrumentation and timbre and by asking them to choose notes easily played on the recorder, the students were to think about the range and idiomatic aspects of their instrument. By drawing the minimalist composing activities into the whole-school topic of pollution, the teacher integrated the students' work with other school subject areas, one of the points raised in his teaching philosophy. The school topic also gave the students a creative focus and they "often gave their pieces titles without being asked to".

Because teacher and students chose to spend a long period of time on the phase shifting material, they achieved several positive musical outcomes. Sequential steps alternating models and templates were worked through by the student composers as individuals before the construction of larger compositions through class composition. A fast tempo and even, accurate playing were achieved because of the long time spent rehearsing the students' compositions. The length of time spent preparing the performance of the compositions finds a parallel in the long time period professional performers have spent preparing minimalist pieces for public performance or recording – for example, *Drumming* by Steve Reich "took almost a year of weekly rehearsals" (Reich 1974 cover note). The two compositions 12.1 and 12.2 moved well beyond the models given in the album in relation to structure and, because of the speed at which the students were able to perform, resulted in the effect of 'vertical time' associated with many minimalist compositions, certainly for the listener and possibly for the performers. The teacher noted that the project and the rhythm machine "fostered an awareness of steady pulse, and [that] after a while the children didn't need the rhythm box in the background".

Despite a difficult teaching environment where teaching venues and resources were not ideal, teacher and students were well satisfied with the creative outcomes of the phase shifting project and responded positively. This would also be because of the time spent on the project, time which also allowed the "time consuming" task of using a cassette recorder to record and play back student performances of their works because it was "immensely rewarding and the children really appreciate hearing their own compositions".

Teacher No. 12 adopted a sequence of learning steps. He was very student-centred, worked as a teacher-composer and placed himself in two-way learning situations with the student composers. Once the sequence of steps was understood by the students, and the teacher allowed plenty of time for this to occur, the teacher and students worked together in a two-way process building the short student compositional ideas into larger pieces. In

doing so the teacher drew on his role and experience as a composer-teacher. During class and individual composition, the students' decision-making was valued thereby empowering the students and placing them into the role of composer. This focus on the student and his or her composing was reflected in the teacher's emphasis on a teaching philosophy which combined intrinsic musical values with others concerned with social, moral and personal development of the students.

The teacher empowered the students in a number of ways. He spent time ensuring that the students understood the phrase shifting process, then by setting them the task of composing they were able to gain personal satisfaction with their own compositions. Exploring the minimalist material before working with the students, through writing the short phase shifting piece in the worksheet, gave students the chance to view the teacher as a composer model. The two-way working and learning process involved in class composition between teacher and students gave students the opportunity to see themselves as composers too. By situating the students' compositions outside the classroom at a school concert, the teacher moved the compositional outcomes into the school society beyond that of the classroom society, inviting reaction and response from the audience. This reflected part of his teaching philosophy which noted music's ability to make links with, and provide a contribution to, the community. This gave students an opportunity for development of self-esteem through peer and teacher approval of their compositions. These wide-ranging philosophies and educational aims were reflected in his decision, and willingness, to work with material from one project over a long period of time because of his own, and the students', enthusiasm for how the material was shaping.

Teacher No. 12 and the students responded very positively to the project material. He felt that working with the project became "the resource focus of the term" and was "perhaps one of my most successful courses". He expressed a strong interest in working with the material in the future.

6.2.3 Analyses of seven compositions of students associated with Teacher No. 12 written in response to the Phase Shifting Melodies project (Appendix 6 – 12.3 – 12.9)

Structure: All of the compositions ended abruptly when the process was completed, moving beyond the more 'traditional' ending of the model, *Lazy, Lazy Boat*. Only composition 12.8 added a tonic c in the left hand last bar to shape a more 'traditional' ending.

Construction: Five pieces combined 3 bar + 4 bar phrases, one combined 3 bar + 2 bar phrases, developing the 5 bar + 4 bar phrasing of the model.

Aesthetic: When played on the piano, the phase shifting melodic compositions 12.3 to 12.9 revealed well-constructed pieces in a gentle, aurally satisfying style. They capture a 'wave' motion, not dissimilar to that of Hugh Shrapnel's *Lullaby* which served as the model for *Lazy, Lazy Boat* from the project.

Pitch: Six of the pieces were written idiomatically for preliminary piano level, within the pitch set c,d,e,f,g, with c as the tonic, that is within the movement of the five fingers of the right hand with no thumb turn under, and this pitch template is written out for 12.6 and 12.9. Composition 12.8 uses a four-note pitch set, cefg. All have a c tonic and the aural result is 'static' harmony. These smaller pitch sets represent a development of that employed in the project model composition, *Lazy, Lazy Boat.*

In composition 12.7, the right hand melody employed two-part chords with a single note bass line. This represents an development of the single line texture of the project model.

Time: The 4/4 metre of composition 12.7 represents a development of the 3/4 and 6/8 metres presented in the project compositions. Compositions 12.3, 12.4, 12.5, 12.6, 12.7

and 12.9 simplify the difference between left hand/right hand rhythmic material in comparison to the project compositions.

6.2.4 The approach and strategies of teacher No. 12 to facilitate student composing activities with the Phase Shifting Melodies project

Worksheets designed for class teaching, drawing on ideas in the Phase Shifting Melodies project were tried with a private piano student at the piano through composition activities over a term when it became apparent that the Class 5 students were remaining with Phase Shifting material for two terms. The worksheet integrated another through-school topic, Hallowe'en, and outlined the process of phase shifting melodies. *A Hallowe'en Lullaby* written by the teacher, was the model composition, written in a style similar to *Lazy, Lazy Boat* from the album, on which it is modeled. A template for writing a texted, pitch-based phase shifting melodic piece was presented.

The compositions submitted for this study were written for piano and not drawn directly from the worksheet's template with repeats of the first three not fully written out, but those of the last four completed fully. The pieces were written in the teacher's hand, with 12.8 also sketched in the student's hand. Taken as a group, the works show a gradual progression in level of compositional difficulty, with metric, pitch, textural and constructional developments and harmonic, structural and aesthetic expansion beyond the teacher's model composition and those of the project.

6.3 Teacher No. 91 – female primary music teacher in a Sydney private boys' school (see profile and associated compositions in Appendix 6)

Education, experience, preference; teaching environment; teaching perspective

Education: music qualifications and diplomas in music performance and teaching;

Experience: experienced teacher who had previously engaged students with music of India, Japan, the Australian Aborigines and Greece through performing activities, iconography and musicology. Previous work with twentieth century art music was

through a secondary source, *Upbeat* (Leask and Thomas 1983) a primary music resource series focused on specific concept identification – pulse, dynamic;

Preference: several personal music activities including writing and arranging music. Musical listening preferences favoured art music up to the present, jazz over other forms of popular music and music of other cultures;

Teaching environment: school population drawn from the upper middle class, with both parents working. The school supported music, encouraged a number of music groups and was well-resourced but no venue was available for work with music and movement. School music curriculum designed by the teacher with singing, movement, aural training, notation skills and instrument playing ranked above improvisation and composition;

Teaching perspective: her teaching approach, “do it first, define it, eclectic”, placed practical activities before analysis and contextual discussion, using solfa with moveable doh, rote learning of staff note names, Hungarian time names plus English time names. Evaluation was generally summative and included individual performance skills testing and class tests.

6.3.1 Analyses of four compositions of students associated with teacher No. 91 written in response to the Phase Shifting project (see Appendix 6 - 91.1 – 91.4)

Time: Composition 91.2 incorporated two triplets, a development beyond the crotchet to quaver ratio used in the model and in 91.1, 91.3 and 91.4.

Dynamics: Compositions 91.1 and 91.3 *The Clunk Machine*, employed changing dynamics, a development of the single dynamic shape of the model.

6.3.2 The approach and strategies adopted by teacher No. 91 to facilitate student composing activities with the Phase Shifting project

Teacher No. 91's objectives for her work with two classes of students in the 9 year old age group on material from the Phase Shifting project focused around improvisation - "to encourage students to improvise via using minimal techniques with voice, recorder, percussion". Because she had previously engaged her students in improvisation and composition prior to working with the minimalist project material, she noted that "the material will not be totally strange to the boys". By her own admission, she did not follow the objectives through sufficiently to achieve them during the two to three lessons.

Her teaching approach began with performance and score reading through performance. From each of her age 9 and age 12 classes she felt it would be best "to pick the eight best students and perform it in four parts in pairs with their own music to point to. Placing herself in the role of instructor, Teacher No. 91 guided her students through a performance of *Chitter Chat* from the Phase Shifting project, a six-layered piece for untuned percussion or chanted voices from the album. In the piece all permutations of the 4/4 rhythmic cell are phase shifted at the same time, and this construction was simplified and performed with two and then three layers of vocal chanting and recorded, allowing opportunities to score read the independent parts and the complete piece. The teacher conducted. Over the three recording takes the performance becomes progressively clearer and stronger. By reducing the number of layers in the piece, the teacher 'modularised' the music and adapted it to the level of the class. However 'the class' consisted of the eight best musicians rather than every member and she, therefore, selected students for the task rather than adjusting the task for the students' level. She noted that the performances were enjoyed by the students and herself but commented on them being "prescriptive", rather than creative.

The students then undertook composing activities in which the project material was used as a model. In the lesson undertaken before I was invited into the classroom to observe

and participate, the students had been given a homework composition task of composing one bar of rhythm. This engaged the students in a form of instant composition away from the class environment, a task the boys either notated or memorised for the teacher or class to notate. In the class I attended, some of the boys' short composition exercises were phase shifted and performed from notation. The compositions, 91.1, 91.2, 91.3 and 91.4 were all performed on untuned percussion, clapping or chopsticks played on desk-tops, from notation. They were all pastiches of the first phase shifting exercise in the project, *In Step - Out of Step,* adopting the quadruple metre and one cell structure of this model. Several students suggested changing dynamics for their pieces.

Once the compositions were performed (and heard), a number of students were stimulated to attach colourful titles – 91.3 *The Clunk Machine,* 91.4 *Mexican Chili, Marching Practice, Brass Band Mountain, In the Mood*. The compositions were not recorded but I transcribed some of them in the classroom.

The teacher tended to adopt the role of instructor setting composing tasks through a series of steps but not taking an active role in the composition process. She planned to move from performance of pieces in the project to composition and then to improvisation, a strategy reflected in her teaching approach, "do it first, define it…", but did not achieve her objectives for two reasons. Firstly, two to three lessons were insufficient to undertake a strategy comprised of performance, composition and improvisation within a minimalist style, let alone explore resulting improvisational and compositional ideas and directions. Secondly, phase shifting is one of the most mechanical and precise of the minimalist processes and, as such, presents a challenge for improvisers. Many teachers and researchers have outlined strategies for teaching composition which move from improvising to composing activities and by placing improvisation after composition, Teacher No. 91 was setting herself a doubly difficult task. This, plus lack of 'development' time, and her limited experience with contemporary music concepts through a secondary source, were reasons why the students' compositions, in general,

remained as pastiches and did not move beyond the ideas of the model with students in the 9 year old age group.

6.4 Teacher No. 107 – female specialist music teacher in a New Zealand primary school (see profile and associated compositions in Appendix 6 and CD for Appendix 6).

Education, experience, preference; teaching environment; teaching perspective

Education: performance diploma, teaching training qualifications, but no general music degree indicating no formal training in composition;

Experience: music specialist experienced in teaching music of other cultures, including Maori and Polynesian chants and songs, and short excerpts of Indian, African, Balinese music for listening, movement, studying different rhythms, instrumental groupings. Objectives were to expose the students to these musics giving them the opportunity to analyse and make comparisons. Experience in teaching with twentieth century art music styles was small, with short music extracts being used for objectives similar to those employed with music of other cultures;

Preference: personal music activity preferences were wide-ranging and included writing and arranging music. Both popular and art music was represented in her musical preferences - Western classical music up to the present day and musicals;

Teaching environment: parents of the larger part of the school population were in professional occupations and were predominantly European. Because a large proportion of the school population was “shifting”, and the roll had increased rapidly in the last two years, noticeable in the number of children new to the senior part of the school, the music programme had been affected. The school’s interest in music was strong and staff were structured in order to provide for a music specialist, herself, “very unusual in a New Zealand state school”. Music teaching resources and venue were good and music and movement activities out of school hours were offered;

Teaching perspective: her philosophy of teaching ranked enjoyment and involvement very high, "with a desire to aim at high standards in whatever sort of music making is going on". Music education aims were linked with those of the national primary curriculum of New Zealand – "to have children create, recreate and appreciate music at a level appropriate to their age" – and stated that her role was to provide students with the skills and understandings, through melody reading, singing, listening appreciatively, creating music and learning instruments, in order to do this. Her personal ranking of music activities for the 9 year old age group placed singing, movement and aural training highest then instrument playing and listening. Her teaching method balanced singing, movement and instrumental playing activities at all levels and for the 9 year old age group included creating group and individual pieces in structured and unstructured situations, singing a wide variety of songs and movement work for aural perception. Tonic sol- fa, French time names and, for chord knowledge, chime bars were employed. Evaluation was summative "through practical performance and written tests".

6.4.1 Analyses of four compositions of students associated with teacher No. 107 written in response to the Harmonic Prisms project (Appendix 6 107.1 – 107. 4, CD for Appendix 6 Tracks 10-13)

Structure and time: The improvisatory four-note gamelan piece, 107.1, *Copying the gamelan*, adopted an unpulsed, exploratory style which expanded the pulsed, tightly organised structure of the project model, *The Wind* and of the gamelan pieces.

Pitch: Piece 107.2 retained the pitches introduced in *The Wind*, but adapted them to parallel triads of C major, A minor and F# major, an unusual tonal relationship. The piece simplified the concepts introduced in the model, reducing the number of repetitions of each cell, the number of chords and changing rhythm patterns, resulting in a composition able to be performed by three students.

Piece 107.4 explored cells with major and minor seconds, creating a string of high, crystalline dissonances played on glockenspiels with varying repetition of the cells and with an uneven pulse. This represented a development beyond the consonant tertian harmonies of the model.

6.4.2 The approach and strategies of teacher No. 107 in facilitating student composing activities with the Harmonic Prisms project

Teacher No. 107 chose to introduce a mixed Standard 3 and Standard 4 class, with a total of 36 students of mixed ability, to three projects from the album of minimalist projects, Harmonic Prisms, Phase Shifting and Add and Subtract and thought they would fit into the music curriculum. The "type of music building" inherent in the minimalist projects was felt to be quite different from anything the class had tried before, but the pitch and rhythmic notation concepts provided common ground.

The first project worked with was Harmonic Prisms over six lessons. One objective focused on the construction and structure of minimal music and specifically of *The Wind* from the project "to discover that pulse and repetition are the building blocks of this music, [and] to understand the way *The Wind* is composed". The structure of the material was unfamiliar. A second objective was to perform *The Wind* and the third was 'to write children's own pieces in this fashion". She placed a focus on controlled dynamic changes. Through analysis, *The Wind* was to be a model for performance and composition activities and the teacher wrote that these objectives were achieved.

Teacher No. 107 played the recording of gamelan music at the beginning of the lesson for students to listen and "…try to answer the question 'What are the main features of this music?' After a while I got the children to try to copy the music on a metallophone and then see what they had done and they came up with repetition of rhythm and notes". Her approach was entirely without notation, as it used the recording as the basis for aural analysis and as a model for the students to draw sound ideas for their gamelan-style improvisation, 107.1, *Copying the gamelan*, on metallophones within a four-note pitch

set template. This was recorded and the students listened to the recording, evaluating what they heard and had done, noting repetition of rhythm and pitch.

The students analysed the structure of *The Wind* "to understand the structure of the music in order to create our own prisms". The teacher then introduced a 'modular' way of handling potential performance problems - the students played from notation by "physically separat[ing] the different chords represented by different children with chime bars", a child pointing to each group in turn for eight bars. They discussed and criticised their performance, made suggestions with regard to dynamics, tempo and balance, and thought that the name, *The Wind*, did not suit the piece. Teacher No. 107 used both the recording and the performance as ways of approaching aural analysis, rather than visual analysis, which suited the age group of the students and integrated aural skills into the exploration of the new minimalist style.

Over one lesson, and by composing in groups, the students created their own compositions using *The Wind* and the ideas behind the project Harmonic Prisms as models. They worked empirically from sound to symbol and "just 'messed about' until they found a chord progression they liked – …jotted the notes down, then they added rhythms….". As in a gamelan, a gong and chime bars were used to control dynamic changes, one of her objectives for the project. The teacher felt that naming their compositions, as some children did, "helped the 'listening', as children enjoy others' compositions better. But some children, having thought up a title [for their compositions], could not then stick to the rules of the game and wanted to do their own thing". The teacher thought they should stay within the 'rules' for the purpose of this research study, despite the introductory words to *The Pulse Music Album* inviting teachers to "…use the projects in any way you wish…". The four compositions submitted in response to the Harmonic Prisms project were not given titles. Teacher No. 107 felt that the composing activities reinforced students' understanding of the nature of the project material.

The students performed their compositions, playing by ear and memory, with written note names as a memory aid. The students kept their own pulse, finding a slow pulse easier to maintain, however, they kept getting "absorbed" into each other's rhythmic patterns [and] group independence or individual rhythmic independence was hard to establish". The student pieces were recorded for their own pleasure in hearing their work, an empowering strategy, and also to enable self-appraisal and student criticism, "rather than have the teacher do it".

The students enjoyed working with the project material and were pleased with their finished compositional products. The teacher was positive about working with the project material, but was amazed at how difficult it was for the students to perform *The Wind.*

6.4.3 Analyses of three compositions of students associated with teacher No. 107 written in response to the Phase Shifting project (Appendix 6 107.5 and 107.7, CD for Appendix 6 Tracks 14 -16)

Text and context: In composition 107.6, *The Zoo,* the repeated text of the project composition, *Chitter Chat,* was replaced by zoo sounds. While not strictly musical composition, the new text, with recycled rhythms from the model, transformed the precise, repeated phrases of the original into a wild, imprecise sound world. This changed the context of the piece to the familiar environment of the zoo and invoked the sounds of the students' society into their music making.

Time, structure and construction: *Tired Old Train,* 107.7 circumvented the problem of fast tempi and changing rhythm patterns by employing one phase shift of the rhythmic unit, rather than all three possibilities at a slow tempo, an expansion beyond the project models.

6.4.4 The approach and strategies of teacher No. 107 in facilitating student composing activities with the Phase Shifting project

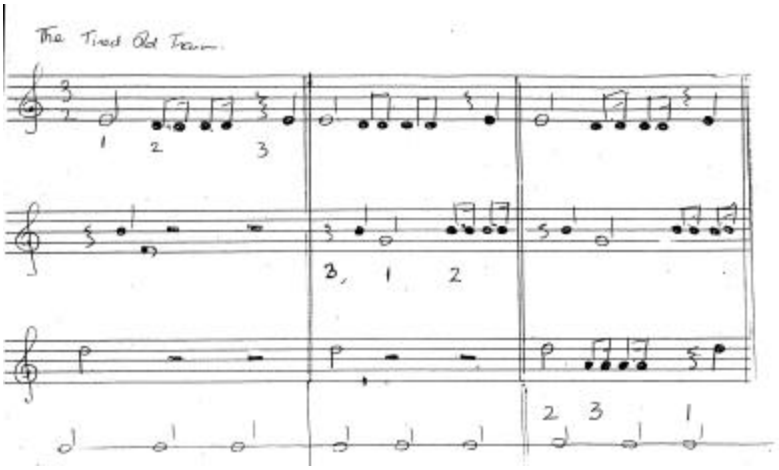
Teacher No. 107 noted that the material of the second project introduced to the class, Phase Shifting, was unfamiliar, although with some similarities to rhythmic rounds. Her objectives followed a sequence of steps similar to that adopted with the Harmonic Prisms project – understand the method of composition, play a piece from the project, use the piece as a model to create a class piece "in this idiom" over six lessons. Again, she invented a 'modular' way of addressing potential performance difficulties – "we used flash cards with one beat on each and children changed places to show how the beats change. …Also 'stand up sit down' techniques while performing *Chitter Chat'"*. From this performance, "the children suggested it would be good to do a zoo piece and a mechanical piece such as a clock shop".

The recording of phase shifting material submitted for the study began with a performance of *In Step Out of Step* from the project, followed by composition 107. 5, a pastiche of *In Step Out of Step* played on untuned percussion instruments. *Chitter Chat* from the project was recorded four times with different instrumentation - voices and untuned percussion - and differing numbers of layers. From this exploration of the project piece came *The Zoo*, 107.6, which took the students about fifteen minutes to write. In it the text of *Chitter Chat* is substituted by the sounds of animals associated with a zoo, but in doing so considerably changed the sound and context of the original, drawing the new technique of minimalist phase shifting into the familiarity of the children's own society.

Teacher No. 107's experiences preparing the students to perform *I think its going to rain* from the project revealed problems for this age group playing rapidly changing minimalist rhythm patterns. "It was too hard and they kept putting each other off the beat". However this experience led them to decide to write a slow piece "that sounded good". Through class discussion of form and structure in relation to the phase shifting

process, problems encountered performing pieces from the project and decisions about the composing process, the concept of phase shifting outlined in the project was adapted to the requirements of the age group in *The Tired Old Train*, 107.7. At the same time there was expansion of context, structure, rhythm, pitch set, tempo, instrumentation and imagination to produce an apt aural image of the title, which the students gave before they composed the piece.

Figure 6.2 Composition 107.7 *The Tired Old Train*



This seemed "to make them focus well on what they were creating. [Also] rather better listening was achieved when names were involved, than when a piece was just created according to set structure and no other reason". The students improvised from sound to symbol, empirical composition and from symbol to sound drawing on the programmatic aspect of the title for ideas. "When we did *The Tired Old Train* we made up a rhythmic pattern that sounded sluggish, and wrote it in the correct form in the correct bars, then the children experimented with sounds they liked (using set notes) and we added these. For the 'fill in' notes, we thought what would sound most like a train".

Teacher No. 107 took an active part in the composing process, teacher as composer, with the students through class composition with everyone taking an active role in the decision-making and used the plural "we" when documenting the experience. This

indicated a two-way learning environment in which she was learning with the students during class composition, taking part in composition by committee. The composing process took around 25 minutes. Instruments chosen were recorders and a snare drum, and these added strongly to the image of a tired old train. The piece was recorded although balance of instruments was named as a problem when trying to listen back and appraise the piece and the performance.

Teacher No. 107 was very interested in the ideas students had to offer, their work processes, their programmatic titles as a task design to guide the directions compositions might take and suggested they write for recorder, an instrument on which they had facility. She observed that during composing activities students "always understand things better when they have had a go themselves, [and found] they always listen well to each other's compositions". Because of the length of time she was prepared to spend on the project material, the students became adept at maintaining a steady pulse.

6.4.5 Analyses of five compositions of students associated with teacher No. 107 written in response to the Add and Subtract project (Appendix 6 107.8 – 107.12, CD for Appendix 6 Tracks 17-21)

Pitch: Piece 107.10 developed the 'harmonic' concept introduced in *Drum Talk* by using two pitches for one of the 'hocketed' lines.

Construction: Piece 107.8 commenced with, and therefore recycled, the same patterns as *Drum Talk*, the model composition from the project, then changed to original material.

6.4.6 The approach and strategies of teacher No. 107 in facilitating student composing activities with the Add and Subtract project

Work with the third project, Add and Subtract, over three lessons, drew on the same objectives based around a sequence of steps from performance of a piece from the project, *Drum Talk*, followed by class composition involving the 'add and subtract' construction process, followed by small group composition. This strategy had been

adopted for her work with the two earlier projects. However, the objectives were only partially completed due to a shortage of time.

To facilitate the students' performance of *Drum Talk* from the album, the teacher again 'modularised' the minimalist process of additive construction by inventing a game - "Children holding single (or double) beat rhythm cards, stand in a row in front of the class. Start with two children stepping forward as the class claps the rhythm. One child then calls out names to add or subtract a child from the line. The class keeps the rhythm going ". These verbal signals as an aid to learning the process and rhythms were similar to the mnemonics learnt by students of Indian tabla, before commencing playing the drum patterns. The class also tried a different timbral version of the piece playing "office equipment" pens and pencils as "kitchen " percussion instruments. While not truly composition, this creative activity provided a bridge between performance and composition, moving beyond the instrumentation of the original piece.

After discussion of the structural process of 'add and subtract', the students began composing, working from symbol to sound with a template of rhythmic values chosen by themselves - "we listed possible patterns. They came up with four semi-quavers, two quavers, one crotchet, two quavers and a dotted quaver plus semiquaver crotchet rest. Then in groups, they worked on creating bars they liked". With this template of rhythms "children constructed their own pieces and chose their own sounds". The teacher felt that the students were "demonstrating an understanding of this technique".

Five compositions were recorded and submitted to the study. Composition 107.8 was the third time during the fifteen lessons with the three projects that Teacher No. 107 had 'recycled' material from a previously existing composition to a new composition and transformed it through variation of a musical parameter. Commencing with the patterns as *Drum Talk* then adding new material represented an intermediary stage in which the model was used as a launching pad for original ideas. In performance, the varying tempi

of 107.9, 107.10, 107.11 and 107.12, plus uneven repetition of the cells made transcription difficult, but the compositions all showed an understanding of the process, not always with the precision of the model.

Because the project was given insufficient time, a number of negative points emerged. The compositions were written over one lesson but "when we recorded, we were running out of time, so decided to reduce the number of repetitions, which ruined the effect!". No titles were given to pieces as they "were working against the clock" and did not really finish the project. "The children were not able to work without an external beat keeper. They found changing from bar to bar very difficult". This is a very different result from the students' ability to hold a steady pulse when playing previous minimalist compositions. There was no time for self-appraisal. While they used the cassette player to record the students' compositions, "it would have been very useful had we had time to ponder what we learned and re-do our pieces" as had occurred with the other projects. Most importantly, "the children didn't enjoy this project as much as the other projects, as the method of construction seemed rather mechanical and again they found the changes from bar to bar hard to do smoothly". The teacher knew that "pressure of time spoilt this project" for her. However, on reflection through the triangulation of responding again in the last questionnaire to her work with the three projects felt she "enjoyed Add and Subtract best, and I think we were beginning to appreciate this whole new concept of music construction by then".

Teacher No. 107 "ended up having to 'make room' for the projects" because some of the concepts which she thought the students would be able to handle easily, they found difficult (repeating a bar six times and then moving smoothly to the next, for example), and often needed simplifying. She worked with the three projects in fifteen lessons over eight non-consecutive weeks but at the end felt she should have spent more time developing one project rather than tackling three. Students heard examples of minimalism, then discussed characteristics of the style, in particular aspects of form and

structure in relation to phase shifting – "how it is done, how it can be used". The performance activities, both successful and unsuccessful, served to highlight some problems for students of this age group working with minimal music, such as the difficulty of playing fast tempi and rapidly changing rhythm patterns.

She noted that the "projects are well explained and set out", with attractive examples which appealed to children but requested more ideas on how to use the material, simple examples for young children and "also examples that sound good slow". Her response to the three projects varied from positive to mixed in direct relation to the amount of time spent on the project. The projects Harmonic Prisms and Phase Shifting were worked with over six lessons and received a positive response from students and teacher, while Add and Subtract received three lessons and Teacher No. 107 wrote that "pressure of time spoilt this project". She expressed an interest in using the minimalist project material again, "as I always do much better with things a second time round", trying the same three projects again "allowing a lot more time for the development of each". Twelve compositions were submitted for the study.

As noted with Teacher No. 12, Teacher No. 107 adopted a student-centred approach, continuously drawing on the students' ideas and placed herself in two-way learning situations with the student composers finding ways to make the minimalist project material work for them. Her philosophy of aiming at high standards of music making was reflected in a willingness to work with the project material over a long period of time and move beyond the perceived 'rules' of minimalism to achieve student and teacher satisfaction with the outcomes.

She had a strong underlying sense of developmentally guided learning evidenced in four ways. The first was in the alternating steps of performance/analysis leading to composition undertaken with material from Harmonic Prisms and the Phase Shifting projects. The second was the way she led the students to explore the more complex (and

therefore difficult to perform) pieces in the project and found “the children enjoyed the thicker texture and the extra ideas for their own pieces. ‘More like a piece’ was one comment”. The teacher and students expanded the concepts offered in the Phase Shifting project despite the teacher noting a number of times that the students seemed to feel inhibited by the rules of the process. The third was her strategy of ‘modularising’ the performance of pieces, breaking the potential playing problems down into units, often through games, where were within the capabilities of the age group. The fourth way was her strategy of recycling and transforming material from one composition to another, a strategy adopted by both Teachers No. 5 and 12. This indicated a flexible way of thinking within the classroom composing environment and also emphasised ‘common ground’ between one composing stage and the next through transformation of material into a new piece which sounds (and is) very different from the original.

6.5 Summary of 9 year old age group

The compositions submitted by Teachers No. 12 and No. 107 showed expansion and pastiche development of material presented in the projects and commonalities and differences were noted (Appendix Table 6.1 Commonalities and differences between the two teachers whose compositions expanded and developed material presented in the projects (referred to as expanders)). Those submitted by Teachers 5 and 91 showed pastiche development but not expansion material presented in the projects and commonalities and differences were noted (Appendix Table 6.2 Commonalities and differences between the two teachers whose compositions developed material presented in the projects (referred to as developers)). Between the two groups of teachers commonalities were noted (Table 6.1 Commonalities between the two expanders and the two developers) and differences were noted (Table 6.2 Differences between the two expanders and the two developers).

Table 6.1 Commonalities between the two expanders the two developers

Education, preferences and experience:
• all were musically qualified; • all were experienced teachers; • all were music specialists (not classroom teachers) in primary schools; • both expanders and one developer noted a preference for twentieth century art music; • all noted composing and arranging as personal activities; • within each group, one teacher noted previous experience with student composing activities and one not; • both expanders and one developer had previously included music of non-Western cultures in their teaching.
Teaching environment:
• all worked in schools whose student populations drew largely from medium to high socio-economic groups; • one expander and both developers worked in private schools; • both expanders and one developer worked in schools with a strong interest in music; • all worked with students for whom music was not an elected subject; • all worked with students of mixed musical ability most of whom had undertaken a music programme at the school in previous years; • one expander and both developers expressed concerns about venues and/or resources.
Teaching perspective:
• both expanders and one developer addressed issues of empowerment and an holistic approach to music in the music philosophy; • both expanders and one developer ranked singing/performing activities highest and one developer ranked composing/improvising activities highest; • two expanders and one developer raised issues of empowerment and holistic approach to music in their music philosophy, while one developer did not address the issue.
Approaches and strategies:
• all predicted that the project material would fit into their current music programme; • all engaged their students with the first project, Phase Shifting; • all noted common ground with previously held knowledge; • all adopted a strategy sequence of performance and composition based on a model piece;

- both expanders and one developer worked with the material over a long period of time, that is, 15-25 lessons;
- all adopted a prescriptive task design – model;
- both expanders and one developer encouraged students to compose in groups and as a class encouraging students to interact with, and learn from, each other;
- both expanders and one developer recycled material;
- all noted that students performed from notation with one teacher acknowledging use of ear and memory as well;
- all valued recording performances of student compositions for evaluation and self-evaluation purposes;
- all adopted a student-centred approach.

Outcomes:

- all submitted compositions which developed several musical parameters in relation to the project models;
- both developers and one expander submitted compositions which were pastiches of the project model(s);
- both expanders and one developer were positive about the album contents;
- all teachers were positive about their engagement with project material;
- students of all teachers were positive about their engagement with the project material, those of one developer having some reservations;
- all expressed interest in using the material in the future.

Table 6.2 Differences between the two expanders and the two developers

Education, preferences and experience:

- while both expanders had previously introduced, to some extent, twentieth century music into their teaching, the developers registered little or no experience.

Approaches and strategies:

- the expanders named skills and concepts learning through composition as one of their objectives while one developer aimed to empower students through composing and the other to improvise;
- the expanders adopted a practical approach to teaching music composition while the developers focused on aspects of music (notation, improvisation) rather than composition;
- the expanders played prerecorded excerpts of minimal music and/or gamelan music to their students while the developers did not;
- the expanders contextualised composing activities by making them relevant to contemporary society while the developers did not;
- the expanders discussed aspects of structure and construction, while the developers did not;

- one expander worked with the material through composing prior to introducing it to students while neither developer (nor one expander) did so;
- the expanders composed with their students while the developers did not;
- the expanders worked through composition by committee while the developers did not;
- the expanders adopted the programmatic aspect of a title to stimulate and lead phase shifting composing activities while the developers' students made individual decisions with regard to titles;
- the expanders noted that students composed from sound to symbol while the developers noted that students worked both from symbol to sound and sound to symbol;
- one expander integrated the project material with the school topic;
- one expander improvised while neither developer undertook this activity;
- the expanders offered students instruments suited to the instrumental experience of the age group for playing and composing while the developers offered their students untuned and tuned percussion;
- the expanders used an internal 'musical' beat to control the pulse while the developers did not;
- the expanders submitted one or more vigorous, accurate performances of student compositions while one developer submitted performances with inaccuracies and the other submitted no recorded performances;
- the expanders recorded student work to evaluate composition and performance while the developers evaluated performance only;
- the expanders were enablers working as teachers as composers and both adopted a two-way learning approach. The developers adopted the role of instructor.

Outcomes:

- two compositions submitted by each expander expanded musical parameters, predominantly structure, beyond those presented in the project models while the compositions submitted by the developers developed musical parameters, predominantly pitch;
- the expanders (teachers and students) were positive about their engagement with the project material while only the developer teachers were positive with the students registering a mixed response.

Individual histories, different paths

Despite some similarities between the expanders and developers in teaching environments, project choice and task design, the expanders, working in different countries, adopted two-way learning approaches in which they composed with their students, working as teacher as composer and through composition by committee at

different times in their engagement with the Phase Shifting project. They both adopted a holistic approach focused on student, and their own, satisfaction, working over a long period of time to manipulate the project material until a class composition resulted in which all could take part and which sounded satisfying, making composing an empowering activity for both teachers and students. The developers placed an emphasis on skills and activities which deflected their focus and time away from expansion of concepts in the student compositions. One focused on student notation and then reading that notation in performance over a long period of time, while the other aimed to engage her students in improvisation within the Phase Shifting project, a difficult task and with insufficient time allocated.

In Chapter Seven interpretative reports drawn from the teachers' profiles and the associated student compositions of teachers working with students in the twelve year age group of the study are discussed.