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ABSTRACT

This curriculum and instructional plan for Canadian schools is based on a study of the tradition of steelbands of Trinidad. The primary aim of the study was to move toward understanding how Trinidadian people view, experience, explain, and order specific elements of their musical world. The study proposed a curriculum and instructional plan for elementary school steelbands in Canada. The study focused on the following themes: (1) the evaluation of steelband; (2) construction and tuning methods; (3) stylistic analysis of steelband calypso; and (4) teaching rehearsal and arranging strategies. Some questions addressed: (1) What is the status of steelband programs in North America? (2) On what basis can a steelband program be rationalized for inclusion in the curriculum? (3) How does the Trinidadian model inform music educators about methods of learning and teaching Canadian teachers? (4) What do teachers need to know about arranging music for steelbands? (5) What should be taught about Trinidian music to Canadian children? Other topics broached were organization and sequence of the curriculum, logistical concerns for music educators, and how music educators might proceed in setting up an elementary steelband program in Canadian schools. This information was used as a starting point for the development of steelband programs in Canadian schools. The study and possible forms for an elementary steelband curriculum are outlined. Contains 77 references. (LAP)

Elementary School Steelband:
A Curriculum and Instructional Plan
for Canadian Schools

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Running Head: STEELBAND

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Introduction

During the summer of 1988, this writer had the good fortune of participating in the University of Manitoba's first Institute for Steelband Playing. The offering was designed to give music educators and musicians an opportunity to learn about various aspects of steelband as a unique Trinidadian art form. In keeping with authentic traditions, an expert steeldrum maker and tuner and his assistant were brought from Trinidad to construct a nineteen-piece steel ensemble on location at the university. It proved to be a very convenient and naturalistic setting for observing and recording the process firsthand. In addition, one hundred hours of instructional time was spent with world-reknown steelbandsman, Ray Holman. As lecturer at Fatima College in Trinidad and award-winning pannist and arranger, Holman was well-qualified to bring the Trinidadian tradition of music-making to western musicians on Canadian soil. Supplementary instruction was given by Dr. Colin Walley, an ethnomusicologist and music educator who recently studied the phenomena of steelband for a prolonged period in Trinidad and was responsible for establishing the summer institute (Walley, 1987b).

The institute was viewed as a veritable and economical setting from which to conduct an ethnomusicological study of the Trinidadian tradition of steelband (Morin,

1988b). Mirroring the phenomenological perspective, the primary aim of the study was to move towards understanding how Trinidadian people view, experience, explain and order specific elements of their musical world. Four strands of questions gave focus to the study and addressed the following themes: (a) the evolution of steelband; (b) construction and tuning methods; (c) stylistic analysis of steelband calypso; and (d) teaching, rehearsal and arranging strategies. It seemed reasonable to use this information base as a starting point for the development of steelband programs in Canadian schools.

The present study is a logical progression for an elementary music educator. It attempts to interface the descriptive model of the Trinidadian tradition of steelband resulting from personal immersion in an authentic simulated setting with curriculum and instruction in Canadian elementary music classrooms. The following questions are targeted and addressed:

What is the status of steelband programs in North America?

On what bases can a steelband program be rationalized for inclusion in the curriculum?

How does the Trinidadian model inform music educators about methods of learning and teaching Canadian teachers?

What do teachers need to know about arranging music for steelbands?

What should be taught about Trinidadian musics to Canadian children?

How could the curriculum be organized and sequenced?

What logistical concerns would music educators have and how might these be addressed?

How would music educators proceed in setting up an elementary steeldrum program in Canadian schools?

The Status of Educational Steelband Programs in North America

One of the most important factors to be taken into account when proposing new curriculum plans in any field of study is the current condition of the educational programs in question. Most curriculum designers would logically begin by collecting and analyzing previously gathered data about particular programs. In the case of steelbands, this task is difficult because programs are still within developmental stages in the North American educational community, where formal assessments and status reports are not yet available. Researchers do, however, have access to brief references that attempt to provide at least profiles of interest and growth in steelband as a North American music education phenomena. To illustrate this point, an excerpt from a mainstream percussion journal is given:

> In recent years, as enthusiasm for hearing and playing pans has been sweeping the country, steelbands and related groups have become an established part of music programs in a growing number of high schools and colleges. Even grade schools throughout the U.S. have begun to introduce steel drum activities. (Snider, 1986b, p. 33)

The establishment of educational steelband programs in Trinidad and Europe is well documented. To exemplify, England boasts over 175 school steelbands which are co-ordinated by the British School Board and supervised by a steelband specialist (Collins, 1988). The glimpses of North American numbers are much less dramatic but still somewhat surprising. In his survey of steeldrum programs in North American educational systems, O'Conner (1981d) described five American university-level steelband programs and one Canadian program all of which were organized between 1973 and 1980. Steelbands seem to have become components of both percussion and world music curricula for music students who study, rehearse and perform steeldrum on a regular basis. O'Conner hinted at the high quality and viability of these steelband programs. Seven elementary through to high school steelband programs were also listed and labelled as excellent.

More recently, ethnomusicologist Dr. Colin Walley (1987a, 1987b) attested to the growing activity in educational steelband in Canada. While conducting research in the Toronto, Ontario, area, he discovered several steelband programs that had been in existence since 1982 and was given directives about others in existence or within developmental stages in St. Catherines, Ontario, Calgary and Edmonton, Alberta, and Vancouver, British

Columbia. And as stated in the introductory remarks, during the summer of 1988 Dr. Walley planned and organized the first Canadian Institute for Steelband Playing directed primarily towards music educators at the University of Manitoba in Winnipeg. The information synthesized in Table I (page 9) is intended to be a source of contacts for music educators who might want to study steelband or inquire about school programs.

If music educators are perceptive to what is happening around them, it seems clear that there are a good number of other indicators which suggest that the steelband movement in North American society has progressed beyond novelty. Contemporary composers like David Bernstein are writing pieces that call for steeldrum. Steeldrum ensembles can be heard in recital halls, at folk festivals and during Carnival simulation events. This writer has heard steeldrums played on North American radio and has even viewed them being used in television commercials. And quite incidently, the researcher noted at least three instances when steeldrums were featured on television over the last few months, two children's programs and one adult arts program.

The general state of steelband in North American schooling emerges as a mosaic of ensemble-oriented

TABLE I

Directory of North American Steelband Programs Showing the Institution, Director and Location

Institution	Director	Location
Roberto Clemente High School	Tom Henry	Chicago, Illinois
Springstead High School	Dave Naumann	Spring Hill, Florida
Chappaqua High School	James Leyden	Westchester, New York
Performing Arts Learning Center	Clifford Alexis	St. Paul, Minnesota
Clinton Rosette Middle School	Al O'Conner	DeKalb, Illinois
Edmunds Elementary School	Jim Phillips	Des Moines, Iowa
Central High School	John Marone	Lancaster, New York
North York Schools	Glen Wood, Music Education Co-ordinator	North York, Ontario
Festival by the Sea	Walter Ball, Manager, former Director of Steelband Programs, Grades 1-9	St. Johns, New Brunswick
	Anne Jamison	Calgary, Alberta
All-City Grade School	Margo Snider	Akron, Ohio
University of Akron	Larry Snider	Akron, Ohio
Eastern Illinois University	Johnny Lane	Charleston, Illinois
American Conservatory of Music	Jeffrey Thomas	Chicago, Illinois
University of Regina	Jeff Bush	Regina, Saskatchewan
University of Illinois	Tom Siwe	Urbana, Illinois
Northern Illinois University	Al O'Conner	DeKalb, Illinois
University of Manitoba	Colin Walley	Winnipeg, Manitoba

activities. It is quite likely that there are small numbers of graduates at every level of schooling that can perform on steeldrums. It is possible that large numbers of students have had media or social exposure to the instruments. Specific information about curriculum and program logistics were found to be sparse in North American educational literature. The writer speculates the reason for this void is because steelband is still a very new music education occurrence. One might predict, however, that over time both school steeldrum activity and professional publications on the topic will multiply.

The Nature and Value of Steelband

A set of value premises are both necessary and essential for convincing key people that a particular curriculum is educationally worthwhile. The statements to come reflect the fundamental nature of the art of steeldrumming as perceived by scholars and educators who have experienced this Trinidadian mode of music making directly. These basic assumptions are believed to be justifiable and educationally sound. Readers can expect the foundational relationships between steelband and the broader aims of both education and aesthetic education to surface.

1. Steelband contributes to the multi-ethnic music education of students. A contemporary issue in North American education is cultural pluralism. In response to this issue, many music teachers are concerned that students acquire some artistic awareness, understanding, and tolerance for world musics as they are represented in both global and local expressions (Boyer-White, 1988; Shehan, 1988). The achievement of this goal implies some initiation into various cultural forms of music so that students may come to appreciate each unique musical logic, grammar and syntax. Steelband is one such unique art form that embodies and displays the musical ideas and feelings typical of the Caribbean people. Since

world music languages, like steelband, can only be meaningful to those who have learned them, a school program could contribute significantly to the overall aims of a multi-ethnic music education (Klocko, 1988).

2. Unity, participation and togetherness are primary operating principles underlying steelband. The foundation for growth of steelbands in the early 1900's rested upon a struggle for survival in the Trinidadian people's common goal to build an identity and new life amidst the social unrest which characterized the process from slavery and colonialism to democracy (Trotman, 1983). Sealey and Malm (1982) and Walley (1987b) pointed out that even today Caribbean steelband continues to be used as a way of showing that you belong to a certain group. Whether in preparation for Carnival or a school concert, steeldrumming requires collective efforts with a high level of dedication and involvement by all players. Steelband, like other educational activities requiring bonds among participants, contributes to the cohesive force that gives school membership its community spirit.

3. Steelband offers opportunities for engaging in aesthetic encounters. One of the prevailing purposes for designing curricula in arts education is to provide students with opportunities to experience the arts aesthetically. Whether or not this goal can be achieved

depends largely upon the extent to which teachers select art works that can generate an aesthetic response within their students as the perceivers. This writer would concur with many others that the steeldrum by nature is powerfully appealing to young people (O'Conner, 1981c; Snider, 1986a). Its sound qualities and playing practices are so unique and exciting that people of all ages gravitate to the instruments with much desire to listen, play and move (Peters, 1976; Bush, 1981; Landeck, 1961). Formal instruction in music must capitalize upon opportunities to make possible the improvement of aesthetic sensitivity in settings that encourage this kind of reaction within students.

4. Making music with steeldrums is natural and unsophisticated. Elementary music educators are constantly searching for modes of activity which are simple enough for children to participate in successfully and offer simultaneously a genuine musical experience. Most Trinidadian steelbandsmen perform at extremely high musical levels, but are musically illiterate and have not had any traditional training. They quite likely acquired their skills more informally by dropping into an outdoor rehearsal session and accepting an invitation to learn to play in ways that are not unlike the methods elementary music teachers currently use (Walley, 1987a, 1987b; O'Conner,

1981b). Beyond intrinsic motivation, there does not seem to be pre-requisite skills for steeldrummers of any age. The Caribbean message that music is for ordinary people seems quite clear and can be contrasted with a persisting North American view that music is for special people with highly developed skills (Sealey & Malm, 1982). This writer argues that the musical attitude and activities of the Caribbean people can be most appropriately applied in elementary schools where implementing natural modes of music making for all students is believed to be educationally desirable.

5. Steelband is a major socializing agent. Trotman (1983) explained that the steelband movement has been an often overlooked music and self-discipline training ground for many Trinidadian youths labelled as "unproductive school dropouts". The opportunity to hear an ensemble of fifty "unemployed and undisciplined" pan players who have mastered the European classics like their literary counterparts is indicative of an unexpected sustainment of energy and productive effort. Likewise, exemplars can be found to demonstrate that the steelband has acted as a channel for productivity and socialization in North American society as well. In an interview with Snider (1986a), the Narell brothers shared their steeldrum beginnings during a time of street gang warfare on the lower east side of

Manhattan where their father was employed as a social worker. Enormous success was experienced with the adoption of steelband as a program activity to occupy "problem kids" at the local youth center. Similarly, Walley (1988) offered a Canadian success scenario of how steelband is currently used by a music teacher in the inner-city knifing area of North York, Toronto, as a vehicle to create student interest in other musics. Steelband seems, then, to offer some appeal and potential for youth support and social growth.

From a foundational perspective, a school steelband program must grow out of the contributions it might make to the education of children. In the previous discussion an attempt was made to discern a grounding upon which a steelband curriculum could be built. The flow of discussion revolved around the topics of: (a) understanding world musics, (b) community spirit, (c) aesthetic power, (d) natural modes of music making, and (e) socialization.

The Trinidadian Model of Music Making and Learning

It is the aim of this section to highlight various features of the Trinidadian model of music making and learning. The major source of information was gleaned from the writer's personal experience in the art of steeldrumming at the summer institute (Morin, 1988a, 1988b). Related literature on the topic is not plentiful; however, some successful search results will be integrated into the discussion and shared with readers.

Rote Learning

The oral transmission of music is a common practice in Trinidad. This characteristic is a direct reflection of the typical village tradition where all people are aware of how aspects of everyday life, including music, are organized. Trinidadian people simply do not find it necessary to read and write music as a way of teaching and learning and therefore musical ideas are communicated to others largely by rote.

Steelband leaders emphasize imitation and repetition in their rote teaching strategies and therefore the players develop extraordinary abilities to concentrate and memorize musical works (Bartholomew, 1980). Ray Holman and his assistant section leaders demonstrated these techniques immensely in rehearsals. Two-bar phrases were played and imitated by students until

learned. Eventually these phrases were linked and came to function in longer musical sequences. The chaining of these sequences into sections and entire forms characterized the steadfast process. Associationist learning theorists such as Skinner and Gagne would support that learning to play a musical instrument involves the formation of these automated connections. This writer predicts that, over time, exposure to this kind of auditory development would result in a rich storehouse of specialized musical patterns in the mind of the musicians that could be recalled at will.

Generally speaking, Holman showed some tendencies towards introducing more new phrases at the beginning of rehearsals. As sessions progressed, there seemed to be less emphasis on new material and more emphasis on linking and chaining. Numerous repetition of patterns helped players develop a kind of musical automation. It was interesting to find, however, that Holman would sporadically switch pieces during rehearsals. Questioning him about this strategy revealed Holman's belief in the importance of keeping his players thinking and concentrating at all times.

The writer attempted to identify a fixed procedural pattern that might characterize Holman's teaching strategies. To the contrary, it was found that the procedures

for day-to-day rehearsals were always a bit of a surprise. Some rehearsals were difficult as he extended player's limits for learning several new phrases. The next day, he might allow for more consolidation and introduce only one or two new fragments. Sometimes the final hours of rehearsals were reserved for run-throughs of pieces and sometimes he would employ a complete reverse strategy and begin teaching an entirely different piece. The only procedural statement that could be made with any degree of certitude was that Holman worked in a very flexible and intuitive manner.

The writer made note of several instances during summer rehearsals when participants complained of inabilities to make progress or even decreases in their perceived steeldrumming skills. It would seem that Canadian music educators should be cautious about theories of inhibition as they relate to learning a new instrument (Sage, 1977; Hodges, 1980). It is known that if students practice the same skill too often or if too many new skills are taught simultaneously, inhibition builds up until motor responses begin to diminish. Strategies to decrease the potential for inhibition would need to be worked out for steeldrum teaching.

Rehearsals and instructional sessions were largely aural experiences except for the fact that like some

Trinidadian pannists, institute participants were allowed to have the letter names of the notes written on the tonal spaces of the pans. Holman gave additional cues by tapping the rhythm of the part on the outside of the drum and singing the part. He had once indicated that he played pan for years without musical training and even now as a music literate rarely relies on his theoretical skills for performing or arranging. Notation was never used by Ray Holman or the section leaders during rehearsals or performances. It was noted that Holman used some sort of shorthand to record at least the skeleton of his arrangements. He did on occasion pull a scrap of paper from his back pocket on which he had jotted what looked like some letter names of notes written in a melodic contour fashion and chord progressions. The writer did not record one theoretical reference to music during rehearsals. Even the overall form of the piece was left for the ear to hear and the mind to record.

Steeldrumming depends, in part, on a large number of refined and coordinated movements. Motor learning through modelling the movement patterns of the teacher often provided the basis for developing playing techniques and learning parts. It is this aspect of steeldrumming that can be considered to involve some integration of visual learning. In the early stages of learning motor patterns,

the student has to watch for and think intensely about correct movements. After much practice, however, further initiations become more fluent and require less conscious direction. The more reflexive these patterns can be made in steeldrumming, the more the conscious mind can be directed to other tasks of the musical performance. Bush (1981) shared his observations during a trip to Trinidad for Panorama:

> The arrangement is taught to the band by the arranger in small segments, not usually more than 20 bars in an evening. He either sings the part for each individual section or uses a blackboard with the letter names of the notes written down. After the notes and rhythms are taught, the emphasis shifts to phrasing, dynamics, and balance. Consequently, the process of working up a tune for Panorama is a long and tedious one. (p. 57)

Since Western musicians rely quite heavily on visual acquisition of musical information it was not surprising for the writer to find that many participants in the summer institute wanted to write the music down. Shehan (1987) cautioned that the extent of visual stimulation in our society may contribute significantly to musical memory and that the exclusion of notation might be detri-

mental to musical learning from the Western perspective. While aural training seems vital in developing steel-drumming skills, musical memory might be enhanced by pairing auditory and visual clues. American steeldrum teacher Tom Miller (1986) offered these comments:

> But for non-music majors or younger students, teaching them from the start by rote will probably be the best method. Although you may eventually want this group to read music, teaching by rote at first will give them an orientation to pans sooner. Even for ensembles that read, occasional teaching by rote can do nothing but good. It can help students with ear training and in giving them a better understanding of the art of steelband as it is practiced in Trinidad. (p. 50)

In addition to notation, steelband participants did search for other memory-enhancing devices. The writer observed many students audio-recording rehearsals as a way of preserving what had been learned. Informal discussions with participants brought forth other ways of remembering pieces. Some said they tried to retain and review mentally the visual patterns of the movements around the pan. Others tried to create a visual image of the melodic contour of patterns. In addition, mnemonic

devices such as rhythm syllables were worked out by some players as an aid to memorizing and learning parts. Bartholomew (1980) used a simplified notation system and rhythm syllables in his work with British school steelbands.

Although it is not within the scope of this paper to do a comprehensive comparative analysis of contemporary North American and Trinidadian approaches to music education, it should be noted that there are some rather clear similarities. Characteristic rote strategies are practiced by those music educators adhering to Dalcroze, Orff or Suzuki techniques (McDonald & Simons, 1989; Grier-Taylor, 1986; Choksy & others, 1986). To exemplify, the spiral of activity between the ear, eye, body and mind typical of Dalcroze concentration exercises is remarkably like the experience of learning a steeldrum part. Parallels can be drawn between Suzuki's and the Trinidadian emphasis on repeated hearings as a crucial aspect of musical learning. The integration of movement and music is as apparent in steeldrumming as it is in an Orff music lesson. Perhaps these examples point to some element of universalism in musical learning.

Mastery and Rotation of Instruments

At the beginning of the Summer Institute for Steelband Playing, participants were given some time to

explore the various steel instruments in an informal and individual way. By the end of the first week, however, each participant had to decide which instrument they would spend the next four weeks playing and learning.

There seems to be some concern by steelband teachers that instruction on one instrument be mastered so that it provides a better service to the student in the future. Holman (1988b) was very firm on the idea that students be assigned a particular steeldrum until skills are proficient enough to warrant introduction to a new instrument. O'Conner (1981c) shared this notion:

> I have found that this familiarity is easier to achieve if a player stays on a specific set of instruments until he has really mastered them. It is at this point that moving to other sets should take place. For some reason I can't explain, the transfer from one set of drums to another is very fast after an initial set has been learned, rather than trying to digest the note pattern of two or three different sets of drums at the same time. It also seems to allow the player to grasp the proper function of each individual part and its relation to the whole more quickly and effectively. (p. 60)

What O'Conner just described sounds very much like the

Bruner concept of specific transfer of training. This simply refers to the player's ability to use specific playing skills in similar situations encountered later.

Miller (1986) reviewed the values of the fixed-instrument approach to instruction. These included: (a) mastery learning of the note pattern of a particular pan occurs; (b) players become more comfortable, more quickly; (c) rehearsals are smoother; and (d) parts can be prepared more efficiently. Of particular interest to elementary music educators, Miller attested the one-on-one approach as best suited to ensembles of young students.

There are steelband leaders who do rotate instruments from the outset of their programs. Players would be introduced to a new instrument and part each time a different piece was being prepared. Miller (1986) said the advantages of rotating assignments are: (a) exposure to all instruments over time; (b) more versatile and adaptable players; (c) a more wholistic appreciation for the ensemble; and (d) familiarity with the note patterns of all pans. Miller did add, however, that alternating pans was very time consuming and more appropriate for college level players.

Steelband teachers might also consider assessing the musical skills of their students and suggest pairing

these players with instruments where the potential for success seems highest (Miller, 1986; Morin, 1988a). Lead and double tenor players require the abilities of complex rhythmic play, melodic improvisation and agile movement around a smaller area. Double seconds will need to be able to play both melodies and chord patterns. Moving with ease from one barrel to another while keeping consistent rhythmic patterns is needed by cello players. Good mobility over a larger playing area and a good sense of time are necessary for bass pannists.

Sequencing Ensemble Playing

The first step in ensemble playing at the summer institute involved working in sections. Holman would sometimes take instructional time to teach the parts respectively to the section leaders who seemed to gain command over the parts rather quickly and were left to continue helping participants. At other times he would rotate among the sections and introduce the new phrase himself. Time was always provided for individuals to play and imitate these phrases until they were learned. The writer found that during this individual practice time, it was necessary to block out all other sounds and simply focus on the sound of one's own pan. Although there were short durations of time taken up by waiting for instructional direction, generally music making was

high during this stage. Since elementary music educators would not regularly enjoy the assistance of section leaders, alternate techniques would need to be employed.

The second step was to begin layering sectional parts of the same phrase. The higher pitched sections worked together until some sense of musical unity was established. Then this same procedure was employed separately with the low pitched drums. When Holman was satisfied, he moved on to the third step, which was a full band rehearsal of that particular phrase. The fourth and final step was to link the target phrase to previously learned phrases with the entire ensemble. Performance problems that emerged and persisted were dealt with by going back to previous steps and simply re-working.

It is the judgment of the writer, however, that the Trinidadian way of utilizing instructional time for performance problems would be difficult in an elementary music classroom setting. For example, it was not unusual for Ray Holman to rehearse a particular section at great lengths while the rest of the ensemble was left idle. This is possible in adult settings with instructional time amounting to five or six hours daily. The elementary music educator, on the other hand, faces time limitations of two or three half-hour sessions weekly. To compound this problem, elementary school-aged children simply

cannot cope with long periods of time off a musical task. The management of instructional time for the purpose of reducing small group work at the expense of the larger group seems unavoidable in Canadian music programs.

It might be appropriate at this time to point out that for the most part Holman's teaching style was very non-technical and player-centered. Rather than diagnosing the source of the musical shortcomings within the ensemble and prescribing a means for improvement, as is the Western practice for music teaching, Holman would just stop the band and ask players to repeat. His comments were usually uncritical and nondirectional. It appeared as though Holman relied on the developing sensitivity of the players to discover and correct the problems through further repeated experiences. This writer was amazed at how little instructional talk was given by Holman and the numerous instances of musical success that resulted from this strategy.

The writer felt that some valuable learning could have occurred by creating some smaller ensemble activity before progressing to the large band. As a participant there was always some feeling that other members of your section were playing a very supportive role. It seemed important to be assured of one's own ability to play the assigned part independently within a single player-on-a-part situation. O'Conner (1981c) substantiated this idea:

> Only in an ensemble of this type [small fixed-instrument group] can the players really learn the proper styles of playing and the many subtle rhythmic inflections that can completely change the character of any particular song. If a person or institution is fortunate enough to be able to purchase enough instruments to make a large band (anything over 10 to 12 players), he should not ignore the simultaneous sectioning of several small unit ensembles in addition to the larger ensemble. It is in these smaller groups that the players will really learn the instruments thus making the potential for the larger ensemble even greater than originally envisioned. (p. 60)

Playing Techniques

As mentioned earlier, it was very difficult to locate Trinidadian publications about methods of teaching steelband. There is one Caribbean band leader, however, who has attempted to write a series of tutorials for young students. Tony Prospect (1978a-h) of the Old Oak Casablanca Steelband has provided beginning players with practical and technical courses of study for eight different pans. A review of these manuals gave the writer some initial insights into the kind of technical exercises

that might be appropriate for steeldrum players. Since a personal choice was made to play a lead tenor pan, the focus was on playing techniques for that instrument. It should also be noted at this point that because of the non-standardization of note patterns on steeldrums, publications like these are somewhat limited.

All of the Prospect tutorials began with a theoretical overview of the origin and construction of steeldrums in general. They all contained the same cursory introduction to the rudiments of music. Unique information regarding the range, note patterns, musical characteristics and construction details were given in each booklet.

Prospect (1978a) explained that the most important playing technique for a tenor steeldrummer to master is the ability to prolong or sustain a note by means of a roll. The way he described the performance of a roll sounded very similar to the writer's experience of executing a tremelo on various tone-bar or drum instruments.

> Hold both sticks with the Thumb and first finger at the point of balance, with both hands facing downwards to the pan, the left hand a little forward. Now, let the sticks gently fall on the notes, first with the left, then the right, the action is left, right, left, right, left, etc. . . controlling them with an

> easy movement of the wrist. Do not raise your sticks more than six inches from the note, remember that the playing action should come only from your wrists. (p. 18)

Exercises required students to play rolls on many different pitches for a whole note duration.

The next series of exercises in the Prospect manuals were built around the scale of C major. The scale was practiced using a repeated rhythm pattern employing half and quarter notes. Playing the scale in melodic octaves, melodic thirds and harmonic thirds were suggested in that sequence. Pieces involving rests and the observation of phrases were given but without technical explanations.

A theoretical explanation of sharps, flats, naturals and key signatures preceded a discussion of minor scales. The pattern was then to introduce each major key along with its relative minor. Technical exercises included learning to play scales, broken chords and inversions, and simple melodies in the target key. The keys were introduced in the following order: C+, A-, F+, D-, G+, E-, B^{b}+, G-, D+, B-, A+, $F^{\#}$-, C-, E^{b}+, A^{b}+, and F-.

Towards the end of the manual, the major scales were presented ascending and then descending through to their relative minors, ascending in melodic form. Then they descended and modulated to a new key which was the sub-

dominant of the tonic key. The tutorial concluded with eleven pieces that tenor pan players could spend their time learning.

After reviewing the manuals of a Trinidadian teacher who obviously had some musical training, there was some expectation that Ray Holman would approach the practical preparation of pan players much like Prospect and perhaps not unlike Canadian teachers would prepare students of piano or violin. Further preconceptions were strengthened after reviewing a British textbook for school steelband which employed a kind of traditional approach to developing playing techniques (Bartholomew, 1980). It was expected that theoretical musical concepts might be interspersed to a certain extent with specific technical exercises based on the roll, scales, chords, melodies and modulations.

To the astonishment of the investigator, Ray Holman spoke very little of specific playing techniques. During an interview he stated that it was possible, but very untypical of Trinidadian teachers to develop technical exercises for students (Holman, 1988b). In his introductory remarks to the institute participants, he did mention briefly a number of skills that would need to be developed (Holman, 1988a). First, he suggested that players squeeze rubber balls to strengthen their wrists

for "rolling" or sustaining notes. This skill, he said, is executed from wrist and not the shoulder or the elbow. Secondly, players would need to learn how to distribute their hands in the pans, but he did not elaborate on what this meant. Third, players were to aim for a sweet, clear, melodious sound with no distortion. He directed participants to search for the exact amount of striking force necessary to draw the best sounds possible from the instrument. And last of all, Holman said players would have to develop a way of communicating with the instrument so that playing would become a very natural activity. Holman verbalized very little about "how to" play throughout the duration of the institute.

From initial observations, it became quite clear that the mallet techniques used by steeldrummers were quite different than those techniques used by other percussionists. Because the writer had never played with such short sticks before, it was decided that the first skill to acquire would be the correct holding position of the sticks. From focused observations, it was noted that the sticks were held loosely in the first joints of the index fingers with support from the other fingers curved underneath. The thumb almost served as an extension of the beater and the two formed a straight line.

Specific playing techniques were developed out of

necessity in attempts to perform accurately in particular musical contexts. For example, during the first rehearsal, Holman introduced the first phrase of "Somewhere Over a Rainbow", which required players to prolong notes through the roll. He refrained from coming around with technical explanations about executing rolls. He very simply demonstrated a particular musical effect achieved only through performing rolls precisely. Each time the phrase was practiced, different ways of matching Holman's musical effects were tried. Eventually, technical aspects about the roll such as wrist relaxation and alternating the hands with even amounts of energy and time were discovered.

The writer soon came to realize what Holman was referring to by learning to distribute one's hands in the pan. Playing particular melodic fragments required players to carefully choreograph the movement of the hands around, inside and across the tones of the instrument in a coordinated fashion. Again, the teacher did not request students to mirror his movement patterns, but rather challenged each individual to find movement patterns that worked comfortably for them. Some students did try to model the teacher's patterns, but many were able to find these patterns for themselves or alternate ways of coming to the same result.

In retrospect, as soon as one could hold the sticks properly, it is very difficult to say more than that technique was developed largely through critical listening, personal trial-and-error and simply striving to imitate the Trinidadian style of playing that was so capable of producing beautiful musical sounds. Each time a new musical phrase was introduced, new techniques were required to achieve an accurate recreation of the sound. In this way, a repertoire of various striking actions resulted. Eventually this writer felt a gradual control over the muscular energy required to move the wrist and arm in ways to produce the desired tone qualities; and hence, improved technical ability.

The steeldrum as a means of musical expression for this writer felt quite unlikely for the first few rehearsals of the summer institute. First, the linear succession of notes on the piano or the very predictable tonal spaces of the fret bars of a guitar were just not there. It felt extremely strange to move towards the left for a higher note or jump completely across the pan to play a semitone. There was a need to overcome past practices of alternating the hands on each new pitch like one does on a xylophone. It seemed impossible to find out how the instructor was counting and to grasp the rhythmic style and phrasing. Only remembering the melody

of each fragment seemed to be easy. These first days were extremely intense and an admission must be made about being completely exhausted after the five to six hours of daily rehearsal time.

Towards the end of the first week, however, there were instances of some command over the instrument being achieved. A few passing compliments from the instructor and Trinidadian musicians helped to confirm this new emerging feeling of comfort. New phrases were learned quicker, technical skill was developing, the search for note patterns was more reflexive, and finally a feel for the rhythmic phrasing was established. There were still moments of struggle, but these were less frequent and the overall rehearsals were not quite so tiresome. This remained the pattern for continual growth as the weeks of rehearsals progressed to a finish and would likely parallel children's stages of technical development in a school steelband program.

Synthesis Statements

It is important for elementary music educators contemplating steelband programs to come to some realization and understanding of how Trinidadian methods result in musical learning. From the discussion presented, it is possible to extract for readers some basic principles embodied in the Trinidadian model that apply to any level

of schooling.

1. Rote learning seems to be crucial in the process of building steeldrumming skills.
2. Imitation, repetition and chaining are used excessively to expand the musical memory, increase the ability to concentrate and construct a unique bank of musical images.
3. The steeldrumming reflex is largely established through modelling and visual-motor patterning.
4. Mastery learning and fixed methods of assigning instruments are critical procedures to be employed with novice players.
5. The concept of specific transfer of training is applicable when rotating instruments among experienced players.
6. The sequencing of individualized, small group and large group instruction is important to developing a quality steelband ensemble.
7. Sectional work generally preceeds the layering of high and low pitched drums in separate groupings.
8. Critical listening and trial-and-error are the processes through which musical images are recreated and the related skills developed.
9. Intense concentration and intrinsic motivation are prerequisite for the gradual entry into the Trini-

dadian way of music making.

The Trinidadian music educator works in a sharply different mode from his or her North American counterparts. The following statements reflect the Trinidadian style of teaching.

1. The focus of instruction is clearly on making music and skill development.
2. The responsibility for musical development is largely transferred from teacher to learner.
3. There is a de-emphasis on teacher talk.
4. Technical-theoretical explanations are avoided.
5. Discovery and problem-solving strategies are consistently employed in the development of technical skills.
6. Learning encounters are set up for skills to flourish in particular musical contexts.
7. A low profile style is used to encourage the development of the player's musical sensitivity.
8. Instructional procedures are intuitive and flexible.

While describing the Trinidadian model, attempts were made to identify inherent strengths and weaknesses. It seems reasonable to address the shortcomings by offering a set of further suggestions for elementary steelband programs to be implemented in Canadian settings.

1. Careful scheduling of practices and the introduction

of new skills and materials might decrease the effects of inhibition on learning.

2. The aural training of learners might be enhanced if supplemented with memory-aids such as notation, tape recording, or mnemonics.
3. Instructional decisions regarding initial instrument assignments should be made in light of both the musical skills and expressed interests of students.
4. The independence of players might be augmented if small ensemble work was provided before the larger band works as an entire unit.
5. There is a need to plan for instructing sections without the benefit of adult section leaders. Training peer leaders and the use of taped or visual tutorial devices might offer avenues for exploration.
6. Age appropriate strategies for remediating the musical problems of individuals or smaller sections within the whole elementary steelband class need to be worked through. Involving the large group in remediation or keeping musical trouble-shooting quick and succinct are possibilities.
7. The technical aspects of steeldrumming might also be approached using traditional Western methods.
8. Trinidadian steeldrumming is quite product-oriented

and emphasizes the psychomotor learning domain. It is important to keep in mind that the cognitive and affective dimensions of musical learning are essential parts of elementary music programs and need to be given substantial attention.

The purpose of this section has been to build a descriptive model of music making and learning. The discussion revolved around the themes of rote learning, mastery and rotation of instruments, sequencing of ensemble skills and playing techniques. The information presented was reduced to sets of synthesis statements that will serve as operational directives for those educators intending to apply this ethnic model.

The Music Teacher as Arranger

Since music for steelband is not typically notated and few steeldrummers read music, players have traditionally depended on the skills of an arranger to orchestrate melodic and harmonic lines and rote teach these in small parts to them. Given these authentic Trinidadian practices, it is not reasonable to expect that Canadian teachers would have available to them for purchase a wealth of "ready-made" published arrangements for use with school steelbands. It is necessary, then, for the elementary music educator to become aware of how steelband arrangers work and attempt to emulate their skills while orchestrating for their own school ensembles. This section serves to provide readers with related background information about arranging for steelbands.

The first question that comes to mind about arranging for steelband is what pool of musics would be best suited for these instruments. In addition to the traditional calypso and classical styles, the following list was compiled from a number of authoritative sources: pop, jazz, reggae, bluegrass, Irish, African mbira, Latin American, ballads, road marches, and fusion (Peters, 1976; Gibson, 1986b; Snider, 1986b; Miller, 1986; Morin, 1988a; Holman, 1988c).

Some guidelines have been suggested by others to

help with the very difficult selection process from a multitude of potentially workable melodies. Bush (1981) said that tunes arranged for steelbands should have a great deal of public appeal. Those with a lyrical dimension should be singable as well as comfortable to listen to. Selections that afford ample opportunity for virtuosic display by various sections of the band provide for additional excitement. Holman (1988c) suggested avoiding pieces with a great deal of sustainment required.

Holman (1988c) and O'Conner (1981b) recommended processes for writing or selecting a calypso for a steelband arrangement. The crucial part of the selection is judging a piece that leaves room for the arranger to work within. Some calypsonians write with specific purposes of leaving space for additional chords, extra lines for the harmony parts and opportunities for expansion. These are more appropriate than calypsos which are already very musically structured. Holman pointed out that the melody must be beautiful but at the same time simple. The calypsos he composed for the institute band demonstrated these critera.

Arranging techniques based on transcriptions of classical pieces might be the simplest way for an inexperienced arranger to begin (Miller, 1986). Arrangements evolving from chamber works can easily be written by

matching parts with the corresponding steeldrum range. A piano reduction can be used as well by assigning the treble line to the double tenor and double second, and giving the bass as written to the guitar and cello. The arrangement can be extended by reinforcing the bass line an octave below with a bass pan and adding a lead pan an octave above the melody. According to Miller, many classical pieces are not difficult to adapt for the steelband.

The basic arrangement for a calypso was synthesized from Holman (1988c), Miller (1986), Gibson (1986b) and Bartholomew (1980). The key is chosen according to the sound desired by the arranger who usually begins with a melody line, one strum pattern, and a bass line. This might even be all that is desired by teachers of very young pan players. Next, a harmony line at an interval of a third or sixth below the melody can be added. Also, the bass and melody lines can be octave doubled to establish a fuller dynamic range. And finally, different strum patterns can be added to the middle range. The more competent the players become, the more complex the arrangements can be written. Table 2 gives the reader an overview of how different sections of the steelband can be used in an arrangement. These functions were highly characteristic of Holman's orchestrations and, hence,

TABLE 2

Basic Functions of Sections in Arranging for Steelbands

SECTION	FUNCTION
Lead Tenor	Melody; harmony line a 3rd or 6th below lead
Double Tenor	Melody in unison or an octave below lead; harmony line a 3rd or 6th below lead melody; strum pattern
Double Second	Melody an octave below lead; strum patterns (3rds, 7ths, color tones)
Guitar and Cello	Strum pattern (roots and 5ths); double bass line an octave above
Bass	Bass line (roots and 5ths); doubles all notes in octaves where range allows

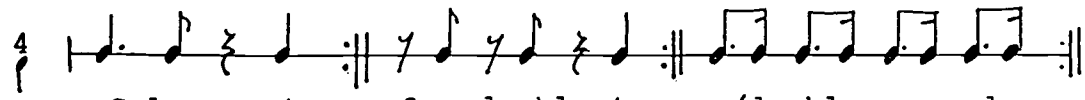
experienced by this writer at the summer institute.

The middle voices are very important in steelband music and serve to define the harmony. Because the strumming patterns are such a crucial part of the calypso arrangement, more information is warranted. A strum pattern is a repetitive rhythm on two notes of the harmony in each instrument (Miller, 1986). Chords can be filled out completely by assigning two other tones to another strumming instrument. Gibson (1986b) cautioned, however, that divisi parts are most effective in the mid-to-upper ranges. A calypso strum rhythm pattern is usually shared by the double tenors and seconds, while another pattern

is shared by the guitar and cello players. The chord changes of the guitar and cello part are often written to occur on the last eighth or sixteenth note of the measure to create more forward motion and anticipation.

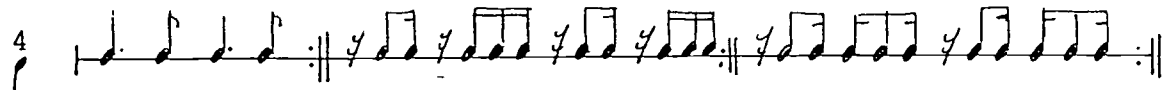
Gibson (1986b) simplified his notation system by indicating the strumming pattern in brackets above the staff at the beginning of a section. The pitches to be played and changed were indicated on the staff using quarter and half notes. Some common strumming patterns are given in the examples below.

Example 1

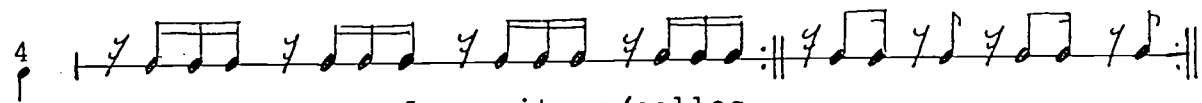


Calypso strums for double tenors/double seconds.

Example 2



or



Calypso strums for guitars/cellos.

It is a common practice for calypsos to be in a theme and variations form. Gibson (1986b) identified some of the devices used by more sophisticated Trinidadian arrangers:

> Modulations, episodic passages, countermelodies, thematic fragmentation, augmentation and diminution, shifting the melody from section to

> section, full dynamic contrast, and changing textures are some of the many techniques Trinidadian arrangers learned from transcribing classical works. As calypso arranging became a more serious art, arrangers began using techniques to give more body and development to their calypso arrangements. (p. 45)

From these words it becomes obvious that once the theme of a calypso has been arranged, the variations will need to be composed. In most cases, arrangers would treat each as an independent musical entity. Since the art of variation writing is a complex and creative task, it will not be addressed in this paper.

The traditional styles of music associated with steelbands are calypso and classical, though many other styles were identified as quite workable for arrangements. The primary criteria for selecting a melody for arrangement were audience pleasure and potential for musical expansion. Suggestions for transcribing a piece for steelband were given. Basic arranging for a calypso theme was outlined to include melody, harmony, bass lines and strum patterns. Devices used for composing variations were briefly discerned.

Outlining Curriculum Content for School Steelbands

It has often been said that throughout history the arts record the unique cultural heritage of peoples and reflect the historical periods from which they emerge. Contemporary programs in elementary music education commonly include a study of past and present developments in music and provide the grounding for future musical development. This study usually takes the form of experiences in musical style; sets of learning activities which capture various ethnic idioms invented at particular times in history. The numerous references to the study of style within the mainstream curriculum and instruction literature in elementary music education attests to its validity as a teaching focus (Hackett & Lindeman, 1988; Beer & Hoffman, 1982; Hardie & Mason, 1983).

Generally speaking, musical style can be organized around two strands of study. First, the idea that musical styles are characterized according to historical periods and cultures must be established. This embodies both the recognition that styles are governed by the varieties of musical function and purpose in particular societies and the realization that unique organizations of the music elements result in different styles. Secondly, musical styles must be studied from the performance perspective. Most simply put, students need to

learn that different cultures at different times perform music in distinct ways. Through the re-creation of music styles, students' musical repertoire will be broadened by adding the unique performance practices of other people. Music educators can also expect children to broaden their range of aesthetic awareness by being exposed to differing sets of aesthetic principles, by hearing and feeling those idioms preferred and sensing the underlying organizations of different peoples' aesthetic expressions.

It has been proposed, then, that the study of musical style serves to develop the child's appreciation of and performance skills within different cultural and historical music forms. A steelband program must contribute to this general music curriculum goal and logically interface with this more wholistic framework.

A Modular Approach

Steelband instruction in Trinidad is very seasonal with most of the learning activity occurring in the preparatory weeks prior to the steelband competitions held in conjunction with the people's Carnival celebrations. Generally speaking, steelband musicians do not play the year round, but rather immerse themselves in pan for three to five hours daily for about six weeks and then lay their drums aside until the next year's panorama festivals (LeGendre, 1976; Bush, 1981; Morin, 1988a). It

is interesting that the authentic Trinidadian treatment of steelband education should fit so naturally into the modular approach used by many Canadian music educators as an effective way to organize curriculum content.

For the purpose of developing learning modules, an attempt has been made to identify two fundamental principles and concept chains which appear most significant and appropriate for the study of Trinidadian steelband as a unique form and style of music. A complete module could be developed around each fundamental principle. Each concept can provide the basic orientation for a particular learning encounter and can be further analyzed for the kinds of activities needed to support the learning of that concept. The concepts and carrier activities can become the basis for the formulation of day-to-day instructional objectives and lesson plans.

Although it is not within the scope of this paper to plan detailed lessons for each grade level, it is possible to provide the skeleton for such a task. For each stylistic principle, concept chains have been ordered from simple to complex and are accompanied by a sequence of suggested activities and resources for teachers. These activities are ordered by level of difficulty and are intended to help primary, intermediate and upper elementary children develop musical meanings and skills

in Trinidadian ways. It is hoped that the suggestions will also serve as instructional design catalysts for elementary music educators planning their own modules.

Style Module One

THERE ARE STYLES OF MUSIC WHICH MAY BE CHARACTERIZED ACCORDING TO HISTORICAL PERIODS AND CULTURES

Concept Chain	Suggested Activities
1. Steelband and calypso are recognized as the traditional musics of Trinidad.	a) Build a repertoire of folk songs, singing games and folk dances from the Caribbean (i.e. bongo, limbo, calypso, mento).
Teacher Resources: Caraibe (1984); Conner (1958); Conolly, Cameron & Singham (1981); Elder (1973, 1986); Gayadeen (1983); Krugman & Ludwig (1964); Landeck (1961); Lewin (1974, 1975); Ottley (1979); Perry & Krugman (1964); Quevedo (1983); Sealey & Malm (1982); Worosz (1972).	b) Interpret Trinidadian folk tales, legends and customs through music drama, dance drama or puppetry (i.e. kalenda, parang, wake, diablesse, anansi, fete). Accompany with authentic sounds.
	c) Listen to authentic recordings of steelband and calypso
	d) Invite a local musician from the Caribbean community to the classroom.
*Authentic recordings of steelband and calypso can be found in record stores or libraries.	e) View film or video about Trinidadian people and their music.
	f) Create a scrapbook or collage on Trinidadian music.
	g) Prepare a research project on geography, life and music in Trinidad.

Concept Chain	Suggested Activities
2. The steeldrum has a remarkable and interesting historical development. Teacher Resources: Bartholomew (1980); Gibson (1986a); Goddard (1985); Jones (1982); O'Conner (1981a); Peters (1976); Prospect (1986); Sealey & Malm (1982); Simmonds (1959); Thomas (1983); Trinidad & Tobago Tourist Board (1984). *Current addresses: Trinidad Tourist Board #122-124 Frederick Street Port of Spain, Trinidad. Phone: 623-1932/4. Tobago Tourist Board Division of Tourism Tobago House of Assembly Level 3, N.I.B. Mall Lower Scarborough, Tobago Phone: 639-2125/3566.	a) Teach children African style drumming in ensembles consisting of low, medium and high pitched drums. Use them to accompany a simulation of the early Carnival celebration called Camboulet. b) Create a tamboo bamboo band by beating bamboo sticks of various sizes. c) Set up a learning center where children can experiment filling bottles with water and playing them with spoons. d) Make a classroom collection of metal sound sources for a primitive rhythmic steelpan band. Experiment with different timbre combinations in a variety of polyrhythmic contexts. e) Write news reports, stories, songs or poems about Winston "Spree" Simon, the accredited inventor of the first melodic steelpan, Ellie Mannette, the "Father of the Steeldrum", or other famous people or bands in steelband history. f) Have small groups of students prepare a presentation describing/illustrating the important stages in the evolution of the Trinidadian steelband.
3. The evolving art of steeldrum making and tuning has depended upon the aesthetic principles accepted by the Trinidadian people at particular times and the country's resources.	a) Show students a video of how steeldrums are constructed and tuned. b) Invite a local steeldrum tuner to your classroom to demonstrate the process. c) Have students sequence a set of visuals which represent the different stages in the process of making a steeldrum from start to finish.

Concept Chain	Suggested Activities
Teacher Resources: Bartholomew (1980); Bush (1981); The Chrome Pit (1988); McCarthy (1988); Moberg (1987); Peters (1976); Prospect (1978 a-h); Snider (1986a-b); Trotman (1983).	d) Study the physical parameters of sound as applied to the steeldrum (i.e. tempering, frequencies and pitch, chroming). e) Make a classroom collection of some of the tools typically used by Trinidadian tuners. f) Study the relationship between the people's need for a particular kind of carnival music and the resulting "steel" sound. g) Have children bring to class large metal containers such as old cookie tins, coffee cans, paint tins, or metal pails. Experience various aspects of the construction process (i.e. sinking, grooving, knocking, tapping, tempering, finishing). h) Have students experiment and discover how notes are made sharper or flatter. Assign groups the task of tuning a set of tins to a particular given scale pattern. i) Have students research the economical shifts which occurred in Trinidad and influenced the people's instrument making. j) Cut large paper circles 23 inches in diameter to represent the surface of a steeldrum. Using the measurements, angles and diagrams given in resource books, make accurate full-sized illustrations of the tunings of different drums. k) Take a field trip to an auto wrecking site to collect used auto parts that could be used to make up the "iron-rhythm" section of a steelband.

Concept Chain	Suggested Activities
	l) Have students construct a class set of playing sticks used for various sizes of steeldrums from dowel, elastic, rubber stripping and sponge rubber balls. m) Encourage students to experiment and search for innovative and improved ways to make music with steelpans.
4. Steelband and calypso serve unique functions and purposes in Trinidadian society. Teacher Resources: Gift (1985); Hill (1983); LeGendre (1976); Liverpool (1985, 1986, 1987); Quevedo (1983); Sealey & Malm (1982); Trinidad & Tobago Tourist Board (1984, 1987); Trotman (1983); Warner-Lewis (1986); Williams (1987).	a) Listen to or sing some typical folk songs of the Caribbean. Make a list of the messages that calypsonians share with the people. Find out if any of these melodies have been played by a steelband. b) Write a calypso. c) Prepare small group presentations about famous calypsonians. d) Find out why music is a very important part of life in the Caribbean. e) Have children dramatize songs/instrumental activities of contrasting functions. Help children to match the drama of each to its intended function (i.e. recreation, religion, work, historical record, communication, socialization, unity, togetherness, discipline, etc.). f) Invite a local Caribbean musician to come to class and express how participation in group music activities has enriched his/her personal life.

Concept Chain	Suggested Activities
5. Steelband calypso can be defined in terms of its specific selection, combination and characteristic usage of the constituent elements of music.	a) Explain to students why a musical style sounds the way it does. b) Through active listening, introduce the most prominent features of steelband calypso (i.e. move on pulse, play on accents, accompany with syncopated ostinato, sing theme, etc.). c) Perform typical calypso rhythm patterns and use authentic sounds to create a polyrhythmic effect. d) Sing or play calypso melodies in major, natural minor and modal scales. Map the melodic contour and note the scale degrees upon which the melodies start and finish. e) Use brackets to mark the range of each steelband section on a diagram of a piano keyboard. f) Play the chord roots of calypsos with simpler harmonic progressions. g) Create dance movements for each section of a typical calypso song form and then variate appropriately for a steelband rendition of the same tune (i.e. AABB/AABBA^{1}A^{1}B^{1}B^{1}AB). h) Brainstorm for words that describe the expressive qualities of the steelband (i.e. timbre, tempo, dynamics). i) Make a list of unpitched percussion sounds used to provide metallic color and a list of those used for textural variety. j) Investigate Trinidadian ways of remembering music.
Teacher Resources: A comprehensive stylistic analysis was completed in Morin (1988b). The following resources contain brief and sporadic references which help to discern the use of music elements in calypso: Bush (1981); Conolly, Cameron & Singham (1981); Elder (1985); Gibson (1986b); Landeck (1961); Liverpool (1986); Miller (1986); O'Conner (1981b); Peters (1976); Quevedo (1983); Sealey & Malm (1982); Warner-Lewis (1986). Practical materials are found in: Krugman & Ludwig (1964); Perry & Krugman (1964); Worosz (1972).	

Concept Chain	Suggested Activities
	k) Analyze the characteristic use of musical elements in calypsos (i.e. durations of sound/melodic intervals/meters used most frequently). l) Choose a favorite calypso, play it for the class and provide a musical argument which will support personal preference.
6. Steelband calypso can be compared and contrasted with other styles. Teacher Resources: Basal music series, curriculum and instruction and audio-visual materials in ethnic musics would provide specific teaching examples for comparing calypso with any other musical style. Suggestions for listening: "Calenda Dance" from the Suite "Florida" by British composer, Frederick Delius; "Catina Rag" from the movie "Star Wars" (tenor pan doubled with saxophone); "Eleysiam" by American composer, David Bernstein (contemporary piece for percussion ensemble, tenor pan, vibraphone and dancers); Andy Narell's albums (American pannist plays in combination with electric guitar, acoustic or electric piano, flute, synthesized sounds).	a) Design costumes or masks for both Canadian and Trinidadian folk characters and parade the school. b) Make an information chart which compares the prominent musical features of Canadian and Caribbean folk music. c) Listen to how steeldrums are used in various stylistic settings. d) List the function of music in Canadian society and compare with Caribbean functions. e) Search out Canadian topical songs or work songs. How are these like or different from a calypso? f) Compare how music is used in various churches in the class. Discuss what characteristics some of these practices have in common with Trinidadian Shango practices. g) Find out more about how the struggle experienced by the early steelbandsmen was similar to that of jazzmen (i.e. Louis Armstrong).

Style Module Two

MUSICAL STYLE MAY BE IDENTIFIED
AS MODE OF PERFORMANCE

Concept Chain	Suggested Activities
1. Trinidadian people perform music in a unique way. Teacher Resources: Bartholomew (1980); Bush (1981); LeGendre (1976); Prospect (1978a-h, 1986); Royke (1986); Sealey & Malm (1982); Trinidad & Tobago Tourist Board (1984, 1987); Williams (1987).	a) Show film, video and pictures of Trinidadian Carnival. b) Plan for a Mini Kiddies Carnival in your school, complete with a king and queen costume contest, king and queen calypso contest, children's masquerade party, face-painting, jump-up, parades, Mini-Panorama Steelband Competition, etc. c) Explain the steps which steelbands take to prepare for Panorama. Have the class experience this same kind of process. d) Divide the class into small ensembles. Help the children organize test pieces, judging criteria and adjudicators for a School Steelband Festival.
2. Steelband arrangers may prefer a particular performance style to fulfill a specific intent. Teacher Resources: Bartholomew (1980); Gibson (1986b); Miller (1986); O'Conner (1981b); Sealey & Malm (1982); Snider (1986a).	a) Explain the difference between a composer and an arranger. b) Research the steps arrangers take while at work. c) Find simplified, nontraditional ways of notating music for steeldrums. d) Small groups arrange the unpitched percussion section of a known piece. e) Small groups use ostinato patterns to accompany a calypso in a pentatonic mode.

f) Give individuals the opportunity to arrange a melody line, strum pattern and bass line for simple well-known Trinidadian folk songs. Discuss the unique, personal performance style that each child has created.
g) Have a calypso writing contest and arrange the most popular for steelband.
h) Experiment combining pans with other classroom instruments not commonly associated with them (i.e. Orff instrumentarium, recorder consort, handbells, vocal-choral ensembles).

The Logistics of Starting an Elementary School Steelband in Canada

The purpose of this section is to give readers an overview of a number of logistical considerations around the idea of starting an elementary school steelband and making the implementation of a steelband curriculum a definite possibility. Prior to participation in a steelband experience, it would seem unlikely that many music educators would feel confident enough with their own skills and knowledge to even contemplate launching such a new program in their schools. It is very encouraging to note that this prediction is quite wrong in the case of several Canadian music teachers in North York, Toronto, who have demonstrated their abilities to start programs without experience or expertise. According to Walley (1987a), these steelband pioneers were simply innovative, interested teachers with a broad musical base and a genuine willingness to grow and learn themselves. Because of their personal beliefs in the value of steelband in education and their motivation to respond to the cultural and social needs of their students, they simply sought the advice and expertise of local steelband musicians and introduced programs successfully on their own initiative and energy. Beyond a prerequisite teacher desire, however, there are a number of other logistical needs which

are embodied in the following points.

1. Financial Resources. The inauguration of any new educational instrument program costs money. Music teachers will initially have to make decisions about the most fruitful avenues for funding. Resources will initially be required for a small set of steeldrums, tuning, and materials for both constructing playing sticks and instrumental care. It is this writer's best estimate that a minimum of $2,000.00 would be necessary to start a steeldrum program.

2. Local Resource Person. It would probably be advantageous for music teachers to seek a "sponsor" from within the local Caribbean community, a person who might be willing to share their expertise and give direction when necessary. Contacting the leader of a local steelband, a Canadian-Caribbean association, or folk arts council would probably be the most probable sources for help and support.

3. Space. Some provisions will need to be made for steelband classes and perhaps storage. Because elementary music classes tend to be short, it would be ideal if instruments could be left set up at all times. The set-up and break-down of steeldrums would be very difficult and might even be dangerous for youngsters. In addition, valuable class time would be lost trying to

accomplish this task every meeting.

Should a music educator decide to run the steeldrum modules in early fall or late spring, outdoor space would be most appropriate. An open garage or storage shed might be available or a "tent" could be erected with plastic or canvas. An isolated room or the school basement might best suffice for indoor play. These instruments are quite loud and would disturb classes in session nearby. Of course, the overall nature of the ensemble has to be considered. It is conceivable that a small grouping without a bass instrument would not create high noise levels and might easily be housed in the music classroom. The greater the number and range of instruments, particularly in the case of the lower voices, are going to determine the kind of space needed.

4. Purchasing Steeldrums. The size of the initial ensemble can be suited to any budget. Each instrument costs about $500.00, so that will give readers some idea of how many drums could be purchased with monies available. Miller (1986) suggests buying a high tenor, double second and triple cello or guitar with a small budget and adding a double tenor, another high tenor and a tenor bass if the budget is higher. Bartholomew (1980) and Holman (1988a) included two high tenors, a double second, guitar and bass in their recommendations for a starter

set for beginners. For older students, O'Conner (1981c) feels an initial purchase should include four or five drum parts plus one percussion part. Gradually, additional sets could be purchased as budget priorities allow.

In addition to steeldrums, stands will have to be secured. It is advisable to inquire about whether or not stands are included in a purchase price. Young children would also need adult stands cut down to adapt to their lower playing heights. A small conventional drum set and a variety of unpitched percussion instruments will also be required from the onset. Since pan players traditionally make their own playing sticks, a good supply of dowelling, wide elastic bands, rubber used to cover baseball bat handles, and sponge rubber balls should always be on hand.

It would be the writer's advice to obtain the very best musical instruments possible. Also, those interested in playing all year round might investigate new construction methods for pans with more of an indoor sound. Steeldrums are available in the Caribbean, Great Britain and North America. Some useful contacts are listed below.

Caribbean

Caribbean Steelpan Manufacturers
Diego Martin Main Rd.
Diego Martin, Trinidad, West Indies
Phone: 637-2683

Music and Equipment Ltd.
P.O. Box 659
36 Dune Street
Port-of-Spain, Trinidad, West Indies
Phone: 624-5834

Great Britain

The Steel Band Organization of Great Britain
(Secretary, Terry Noel)
10 Gainsborough Gardens
Greenford, Middlesex

The ILEA Music Center
(Gerald Forsythe, Steel Band Advisor)
Sutherland Street
London SW1 4LH

Victor Phillip, Steel Band Advisor
Broadheath School
Broad Street
Coventry CV6 5BN

Anthony Ogg
The Education Department
The Commonwealth Institute
Kensington High Street
London W8 6NQ

North America

Companies that market steeldrums commercially:

Carroll Sound
New York, NY

Rhythm Band Inc.
Fort Worth, TX

Caribbean panmakers residing in the U.S.:

George Richards
Orlando, FL

Clifford Alexis*
St. Paul, MN

*Mr. Alexis would be considered a world-class drummaker and tuner and resides closest to Canada.

5. Tuning, Blending and Care of Instruments. It is important that all steeldrums purchased be checked by an experienced tuner and blended. One overriding problem for Canadians is that few tuners are available. It is possible that the school will have to incur the cost of bringing in a skilled person on occasion, so yearly budgets should account for this expense. Special care should be taken in the everyday handling of instruments to protect the tunings and prevent possible rusting. Students should be encouraged to move carefully around the instruments so that they are not knocked over. Always wax the surface of drums and lie them face down for storage or transportation. Steeldrums should not be played with sticks in need of rubber repair. They should be played appropriately at all times, moved about with extreme care, and protected from the weather elements.

6. Instructional Preparation. It has already been mentioned that Canadians don't have instantaneous access to arrangements for school steelband. Elementary teachers will need to take some time to do some transcribing or select melodies and begin to arrange parts to suit the instruments. Some exploration time should be given to students to develop some preference for a particular pan, to learn how to hold the sticks, develop some basic striking and rolling skills, and gain some familiarity with

the various note patterns. After this introductory stage, music teachers can begin to assess the players' abilities, make more permanent instrument assignments and adjust the arrangement accordingly. Finally strategies for teaching the parts to the children can be planned.

This section has provided readers without expertise in steelband some points to consider when starting an elementary school program. Financial and spatial implications were given, along with consumer information. The need for local support, the problems of tuning and care of instruments, and instructional preparations were also discussed.

Summation

The purpose of this study was to propose a curriculum and instructional plan for elementary school steelbands in Canada. Foundational aspects were addressed by presenting a picture of the current state of educational steelband in North America and reflecting upon the nature and value of steelband as an educational experience for children. A theoretical treatment of the Trinidadian model of music making and learning was presented and synthesized. Information to assist music educators with arranging for school steelbands seemed necessary and was included. Two stylistic music modules were proposed as a way of framing the curriculum content for school steelbands. Logistical and operational matters were covered in broad, rather than detailed ways. It is hoped that the ideas presented to readers will serve as a generative source for thinking about the way Trinidadian steelband can become a viable component of the elementary music program.

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