The challenge presented by Brian Roberts’ invitation to reflect on what I have done as a researcher, to consider what has motivated me, and to discuss what I have learned throughout my career as a researcher has been enjoyable. As a busy professional, I too often find myself mired in the detailed work of the day, whether it be the class to teach, the paper to mark, the reference letter to write, the second violin part to learn, or the specific research task of the moment. I am grateful to Brian for challenging me to look back and see my work in perspective.

In the most basic sense, my research has developed from my own curiosity to discover more about things with which I have been involved, and from my desire to share my findings with other interested people.

As an undergraduate, I was a member of Canada’s National Youth Orchestra, and I met and worked with players and faculty members from across Canada, and toured from B.C. to P.E.I. I completed my undergraduate degree and teacher-training in Winnipeg, and began teaching there, but I left my home province and moved to Toronto to do graduate study. I arrived at the University of Toronto, curious to know more about my country and its music education system. Preparations were being made for Canada’s centennial year, 1967, and there was considerable pride in our coming of age as a country. I was fortunate to have the opportunity to begin my research life as an assistant to Dr. Arnold Walter who was working on his Aspects of Music in Canada. Although honoured to be working with Dr. Walter, I was shocked to discover how little objective data was available on music and music education in Canada. I was very aware of the need for on-going research into music education, and my research efforts since then have been motivated by my desire to add to that body of research knowledge.

My master’s thesis grew directly out of my experience as a performer and...
teacher. I did a descriptive study of members of the Canadian National Youth Orchestra, tracing their early and advanced music education, their NYO training, and, where applicable, their professional musical activities. I used a combination of written questionnaires, personal correspondence, and personal interviews, supplemented by analysis of records in the NYO office. Since then, my curiosity about music education in Canada has continued, and I have undertaken other descriptive research, notably my work on music education in Canada under the auspices of the Canadian Conference of the Arts in the mid 1970s, and my recent research with Lee Bartel on the status of music education administration in Canada, under the auspices of the Canadian Music Education Research Centre (CMERC) at the University of Toronto.

Besides descriptive research on aspects of music education in Canada, I have done a good deal of investigation of Canadian music suitable for student performers. This research, too, grew directly out of my own experience as a teacher and performer. The initial impetus came in the early 1970s when Allen Clingman and other members of the CMEA board asked me to produce for CMEA a list of Canadian compositions for school use. In search of suitable repertoire, I visited the Canadian Music Centre where I was fortunate to meet CMC Executive Secretary Keith MacMillan. CMC at the time was eager to involve CMEA directly in the John Adaskin Project on Canadian music for student performers, originally begun by CMC in the early 1960s as the Graded Educational Music Plan. I was interested in carrying on my Canadian music research within an already existing framework, and after a good deal of consultation I agreed to take over as director of the John Adaskin Project, reorganized under the joint sponsorship of CMC and CMEA. Twenty years later, I am still directing this project, and much of my research effort has focused on Canadian music in education.

As a teacher-researcher myself, I have been motivated to undertake research that will be of use to practitioners. In my work on Canadian music, I have chosen to do descriptive research that will guide teachers in selecting repertoire. In my study of Canadian music education, I have investigated who we are and what we do as music educators and administrators, with the aim of
helping us to understand ourselves better and to use that knowledge to guide us as we plan.

I view research from an educational perspective. I am concerned not only with producing results that will be relevant to teachers, but also with learning from each research process in which I am involved, making improvements in research procedures and building on what I have already done.

This approach is perhaps best exemplified in my research on Canadian music for student performers. When I first became director of the John Adaskin Project, I undertook a very demanding project -- to select and evaluate Canadian music suitable for performance by student choirs, bands, orchestras, string orchestras, and chamber ensembles. I inherited a selection process from the CMC's Graded Educational Music Plan that involved consultation with experienced teachers in selecting suitable repertoire. Over the years, I have continued to consult with experts in the field, but my research procedures have become increasingly systematic as I have developed detailed guidelines for assessing the level of difficulty of music for student performers, and detailed frameworks for the content analysis of the technical challenges, musical characteristics, and pedagogical value of music for various performing media. In consultation with instrumental and choral specialists, I have developed checklists, rating scales, classroom testing forms, and detailed instructions for assessors. Particularly helpful was my doctoral work at the University of Illinois where my dissertation grew directly out of my work on the Adaskin Project, and in turn fed back into the Project as I published portions of my dissertation evaluations of Canadian string orchestra pieces in one of the Adaskin Project Guidelists.

In selecting a dissertation topic, I limited my consideration to a single performing medium -- string orchestra -- the medium that I knew best as a teacher and performer. I developed a clearly defined research problem and sub-problems that helped me proceed logically from one stage of the research to the next. I first identified and located unpublished Canadian compositions for string orchestra. Then I established guidelines for assessing the difficulty of string orchestra compositions. Next, I used those guidelines in assessing the level of difficulty of all the located unpublished Canadian string orchestra compositions.
Those pieces found to be too difficult for elementary or secondary school level performers were eliminated, leaving for further analysis a collection of pieces of a suitable degree of difficulty. Each of these pieces was then assessed in detail in terms of specific technical challenges, musical characteristics, and pedagogical value. And finally, those pieces assessed as having pedagogical value were classroom-tested by teachers across Canada.

What I developed was not only detailed procedures for assessing string orchestra music, but also a basic content analysis methodology that can be adapted for use with any performing medium or style of music. While the specifics vary from one performing medium to another, the basic research procedures remain constant. Rather than trying to focus on a variety of performing media as I did in my original study, I have learned from experience and have become more realistic in recent years, limiting myself to more systematic study of music for one performing medium at a time.

As a researcher I learned a great deal from my involvement in the Canadian Conference of the Arts National Inquiry into Arts and Education in Canada. I agreed to accept the position of section head for music on the national task force, with my primary research responsibility being to survey national organizations involved in music education in Canada. This seemed a natural outgrowth of my work with CMEA and my research on the NYO. The research procedures that I used were straight-forward, involving the analysis of written documentation, and the development and administration of written questionnaires, followed up by further correspondence and interviews. But I quickly became enmeshed in a much more ambitious research undertaking. The CCA Inquiry sought to investigate in all provinces all the arts at all levels of the educational system and in the community. Due to lack of money, the work was carried out for the most part by volunteers, most of whom were members of associations of arts educators with little if any research training or experience. There was insufficient time to carry out such a study, and in fact several provinces were unable even to bring together a group of volunteers to undertake the investigation. Due to a lack of consistent, systematic research procedures, the data that were obtained and that were published in provincial task force reports lacked reliability.
One of the main lessons I learned from my involvement in the CCA Inquiry was that one must be realistic about what can be accomplished with the available time, money, personnel, and other resources. I also learned that in collaborative research, communication is very important. The CCA Inquiry structure, with a national task force made up of section heads for each arts discipline, for various levels of the educational system, and for various aspects (e.g., gifted and talented, galleries and museums), plus provincial task forces, each incorporating a comparable three-part organization by arts discipline, education level, and aspects, could only function with excellent communication among all those involved in the investigation, but the constraints of money, time, and geographical distance, plus the inevitable political jealousies and conflicts of interest, combined to make such communication impossible.

When asked by CCA to provide a summary of my research on national organizations involved in music education, I was able to do so with some confidence, but I felt much less confident in reporting the results of the surveys on music education in the provinces, since neither Ontario nor Quebec could mount a provincial task force, and since there was a serious lack of consistency in the research procedures used from one provincial task force to another. In fact, a summary national report on the Inquiry appeared in 1979 in a draft version entitled, "The Face of the Future," but CCA never published a final report. While the CCA Inquiry was effective in involving many arts educators in asking questions about arts education in Canada, as a research endeavour it failed to provide reliable answers to those questions.

Perhaps the most important lessons I have learned as a researcher are to plan carefully, to focus on specific research questions, and to develop logical research procedures. Formulating clear research problems and sub-problems is not simply an academic exercise. Rather, these problems and sub-problems provide crucial guidance throughout the research process. For example, they lead directly to the development of the detailed framework for content analysis in descriptive studies of compositions or curriculum documents, and to the design of the questionnaire in a survey study. In addition, the problems and sub-problems guide the interpretation of research findings and the reporting of research results as one
presents answers to the questions originally posed.

While general questions may provide the initial motivation for research in a given area, a specific research problem and sub-problems must be developed to guide the research. For example, my study with Lee Bartel of the Canadian content of music curriculum documents grew initially out of my own curiosity about the effectiveness of my work on the Adaskin Project and the work of other individuals and organizations to promote increased use of Canadian music in education. I posed these questions: "Have efforts to promote Canadian content in music education been successful?" "Has John Adaskin's aim of 25% Canadian content in school music programs been achieved?" And, more broadly, "Is Canadian music in the school curriculum an illusion or reality?" But it was obvious that no single research study could possibly provide definitive answers to such questions. Of necessity, we had to narrow our focus when developing a specific research question for our CMERC study. We decided to focus on the Canadian content of published music curriculum documents published since 1980 by provincial ministries or departments of education. The research question that we developed was: "What priority is given to Canadian music in the published provincial music curriculum documents for Canadian schools?" Our sub-questions were even more specific:

(1) "What proportion of music and musical materials recommended for study and performance by published provincial curriculum documents in Canada is of Canadian origin?"
(2) "Are there differences in the priority given to Canadian music in Canadian school curricula related to region?"
(3) "Are there differences in priority related to music of Canadian origin with French texts versus music with English texts?"
(4) "Are there curricular differences in priority related to traditional folk music versus composed music of Canadian origin?"
(5) "What proportion of music and musical materials recommended for study and performance by published curriculum
documents in Canada is of Aboriginal Canadian origin or uses an Aboriginal language?"
(6) "What proportion of music curricula in Canada identifies a specific priority for Canadian music with a policy statement, and what effect does this appear to have on references?"

Besides developing clearly defined research questions, we also developed specific research procedures and a detailed classification system for analyzing curriculum documents. The questions, research procedures and content analysis system were circulated for comment and criticism to all CMERC Research Associates. As the principal researchers, Lee Bartel and I used the initial classification system in a pilot analysis of three documents. A doctoral student assistant also analyzed those documents. Based on the response from the CMERC Research Associates and our pilot study, we completed our classification system and developed detailed guidelines for assessors. Initial analysis of all documents was done by selected graduate and undergraduate students at the Faculty of Music, University of Toronto. Lee Bartel and I checked the analyses of all the documents to achieve reliable classification according to the established criteria.

In reporting the results of our analysis of the Canadian content of provincial music curriculum documents, we did not claim to have established a clear causal link between promotional efforts to increase Canadian content in education and the amount of Canadian content actually appearing in published curriculum documents, although we did point out that the proportion of Canadian content was highest in curriculum documents produced in Ontario and Quebec where the greatest promotional efforts on behalf of Canadian music have been made over the longest period of time. We reported that John Adaskin's target of 25% Canadian content was exceeded in the Ontario and Quebec curriculum documents, but we were cautious not to claim that the percentage of Canadian material recommended in curriculum documents would actually be reflected in the music program in any given classroom. It is obvious that one cannot safely assume that all teachers follow provincial music curriculum documents.

While most of my research has been based on content analysis, I have
also done survey research using written questionnaires, personal correspondence, and personal interviews. I have found that precise research questions and sub-questions provide essential guidance in developing written questionnaires and in structuring interviews, and I have found too that careful wording of questions is essential.

For example, in my study with Lee Bartel of the status of music education administration in boards of education in Canada, we worked with great care, developing a draft questionnaire designed specifically to obtain answers to our research questions. We circulated the draft questionnaire, along with the proposal outlining the research problem and sub-problems, to the CMERC research associates, and then revised the questionnaire before pilot-testing and translation into French. The French questionnaire was pilot-tested following further consultation with CMERC associate Raymond Ringuette of Laval. But in spite of our care, we encountered difficulties with one question: "Have teachers or administrators from your school board written and distributed among your schools any curriculum guidelines or resources for music instruction within the last 10 years?" This question was designed to provide data to enable use to answer our third research sub-question, "Do school boards create printed guidelines or resource materials for music instruction?" When administrators answered "yes" to this question on the questionnaire, we interpreted it to mean that the teachers and/or administrators had been involved in producing and distributing board music curriculum documents. We followed up our survey by writing to those administrators who had responded affirmatively to our question, requesting that they send us copies of those curriculum documents for our content-analysis study, currently in progress. When the responses to our request for curriculum documents began to reach us, we realized that our initial question had not been clear. The first point of confusion was that we had asked about two things -- the writing of curriculum documents and also the distribution of such documents. We had also not clearly specified that we were seeking information on board-produced documents, not documents produced by the provincial ministry of education. Many administrators who had answered "yes" to our question wrote back to say that they had distributed Ministry of Education documents, or that
their teachers had been involved in writing provincial documents, but that no documents had been written or distributed by the local board. Based on this correspondence with administrators, we could reinterpret our questionnaire data, and we revised that question when we mailed our follow-up questionnaire. The original question was expanded and divided into three parts:

(a) "Have provincial curriculum guidelines been distributed to your schools in the last 10 years?"
(b) "Have music program guidelines (in addition to provincial guidelines) been produced locally within your school board by teachers or administrators within the last 10 years?"
(c) "Have music instructional resources been produced for use by teachers in your schools by board personnel within the last 10 years? (e.g., a set of worksheets to be used in listening to specific pieces of music) Briefly describe materials locally produced."

When using questionnaires to obtain data, it is obviously important to have clearly worded questions, but there are other important aspects to consider as well, most notably the selection of subjects to be surveyed, and the rate of questionnaire response received. While in my NYO study I surveyed the whole population (i.e., all students who had been members of the NYO from its inception through the 1966 summer session), in our CMERC study of the status of music education administration in boards of education, we used a stratified random sample, drawing our sample systematically from the population of boards of education in all ten provinces. We established the following requirements for our sample:

(1) At least 20% of the boards of education in each province would be represented in the sample.
(2) At least 15 boards would be sampled in each province having 15 or more boards.
(3) All boards would be surveyed in any province with fewer
than 15 boards.

To select our sample from provinces with more than 15 boards, we listed and numbered all boards from that province except those under the jurisdiction of the Department of Indian Affairs or the Canadian Armed Forces, and we selected the appropriate number of boards using a table of random numbers.

We mailed our questionnaire to the person responsible for the administration of music programs in each selected board, or, if no such person had been identified, we sent the survey to the director of education or his/her designate. We did extensive follow-up, and as a result we obtained a questionnaire response rate of 91%. Because we selected our sample systematically and because we obtained a high rate of response, we felt confident in generalizing our findings to the whole population -- all boards of education in all ten provinces except those administered by the Department of Indian Affairs or the Armed Forces.

Because I have always had to balance my research with heavy teaching, administrative, and domestic responsibilities, I have found it essential to break my research work down into a succession of small, manageable tasks, with each task having its place in the larger whole. Without a clear idea of where I am going, and without a detailed road map for getting there, I would be unable to proceed in my research work. I have found that systematic research procedures are essential to use research assistants effectively, and to collaborate with research colleagues. One of the appeals of the content analysis methodology in studying music and curriculum documents, and of the use of questionnaires in survey research is that these approaches break the research process down into a series of manageable tasks on which a team of people can collaborate.

As a performer, I have always preferred ensemble playing to solo work, and as a researcher I prefer collaborative work. Over the years I have enjoyed working with many CMEA members who have helped me in evaluating Canadian music, helping to develop guidelines and frameworks for analysis, and helping with classroom testing of repertoire. I have also benefitted in my survey research from my collaboration with fellow researchers, notably Ken Bray on the Canadian
Conference of the Arts research, and Lee Bartel and Raymond Rinquette on recent CMERC studies. In addition, I have found involvement with student research assistants mutually beneficial. The students have gained valuable research experience and have earned some money, while I have had the benefit of many hours of work on the very time-consuming administrative and research tasks involved in collecting and analyzing data. As a music educator, it is a joy for me to see someone like Eleanor Stubley develop from an undergraduate research assistant working with me on the John Adaskin Project to a published author herself of two Adaskin Project guidelists, and to a university music educator working with her own students at McGill.

As systematic planning and collaboration have helped me to be productive as a researcher, so too has the use of an important research tool -- the computer. As with any tool, of course, the computer must be used carefully and thoughtfully to assist in accomplishing the task at hand.

For many years I have done word-processing and text-editing, writing and revising on the computer at all stages of my research, from the preparation of the first draft to the production of the final report. I have also produced computer-generated camera-ready copy and publishing it in Adaskin Project guidelists for teachers. CMEA has collaborated with the Canadian Music Centre in publishing the Adaskin Project guidelists, but due to budget constraints, desk-top production was the only viable option for publication. The careful, detailed work of formatting and proof-reading in preparation for publication is time-consuming but nevertheless worthwhile, since it has enabled me to make research results available to teachers.

More recently, in my collaboration with Lee Bartel on CMERC research projects, I have found the computer useful in recording and tabulating data, and in generating summary tables and charts that help provide an overview of research findings. One of the dangers of studies involving the collection of a great deal of detailed information, using content analysis or survey methodologies, is that the researcher can get bogged down in the details of individual cases. Sometimes one cannot see the forest for the trees, and at times one cannot even get any perspective on the individual tree because one is focusing so closely on
the individual branches, twigs, and leaves of that tree. In our Canadian content analysis study and in our survey of the administration of music programs, the SYSTAT program helped us in analyzing our research data.

The use of computer also facilitates on-going research. For example, we are able to up-date our CMERC data base of names and addresses of music administrators, and to add to our data base of information on the administration of music in boards of education across Canada. We can also continually up-date our data on the Canadian content of provincial music curriculum documents, and we can input data collected as we apply the same content analysis research procedures in our current study of music curriculum documents produced by local boards of education.

While the computer is useful in analyzing quantitative data and in presenting it clearly in chart and graph form, care must be taken when drawing conclusions from such data. For example, the data generated by our survey of music administrators in boards of education must be recognized for what they are -- summaries of the responses of individuals who may or may not have had accurate information available to them. Further in-depth study would be needed to check the accuracy of all the questionnaire responses.

I have learned to be cautious about claiming to have done more than I have actually done, or of claiming to know more than I actually know as a result of my research efforts. For example, in drawing conclusions about the administration of music program in boards of education across Canada, we reported the information that we had obtained from our questionnaires, but we made it clear that our data should not be used to make claims about what is happening in specific schools within any given board. We emphasized in our final report the need for further studies to compare what administrators report with what teachers actually do. Our descriptive studies of documents and our survey of board of education music administration need to be followed up by a good deal of other research, as for example detailed case studies of specific boards of education and of specific schools and classroom-within boards of education. While one cannot generalize from a specific case study, a range of qualitative research, describing specific educational situations, can help us to understand and appreciate the
complexities of music education in Canada. Overview studies like ours can provide quantitative data, but they need to be supplemented by qualitative data from case studies, and also by more detailed descriptive studies providing quantitative data on specific boards or schools or classrooms.

I consider it essential to view any particular research study as part of a larger body of research. I have tried to plan my research this way, building on my own previous work and on the work of others, sharing my results and my research procedures with others, so that as a community of researchers we can gradually expand our knowledge base. The CMERC research work that I have been doing with Lee Bartel, describing the administration of music programs in Canadian schools and doing content analysis of music curriculum documents, has generated results that are interesting in themselves, but more importantly, these studies provide a baseline for future research by graduate students and experienced researchers.

I believe strongly in developing closer communication between teachers and researchers. Research can help teachers improve practice in the classroom, and in turn teachers can help researchers identify problems and suggest possible solutions. I have tried to make my research on Canadian music accessible to teachers by publishing guidelists containing analyses of the repertoire that I have identified as suitable for student performers, by publishing articles in music education journals, and by presenting workshops for teachers. I have also reported my descriptive research findings in articles in music education journals and in conference presentations. While I value academic rigour and demand it of my students, I try to avoid the excessive jargon and obscure presentation of research results that alienate the practitioner and make meaningful communication between researcher and practitioner impossible. A special advantage of the type of collaborative research that I have undertaken through the Adaskin Project is that I have could involve practitioners who normally are not involved in research. While the typical classroom teacher has neither the time nor the inclination to do detailed content analysis of many Canadian compositions, many teachers over the years have classroom-tested individual pieces and have helped in assessing guidelines for level of difficulty and detailed frameworks for content analysis.
The involvement of these practitioners has assisted me in my work, but it has also made these teachers more aware of the research process, helping to bridge the gap between researcher and practitioner.

As I reflect on my research work, I am aware of how the work of any one researcher must be seen in the context of what went before and what will continue in the future. My work grew out of initial encouragement from leaders like Arnold Walter, Keith MacMillan, and Allen Clingman. In turn, my research has influenced other researchers who have worked and continue to work in the fields of Canadian music and music education. As a music educator, I have been able to involve students as research assistants in my work, and I see my work over the years as a collaboration with those young researchers and also with my CMERC and CMEA colleagues.

In conclusion I want to thank Allen Clingman for his tireless service to music education in Canada as a teacher, researcher, and administrator. He has been a fine model for those like myself who have sought to balance these various responsibilities, and his generous encouragement and support have been greatly appreciated.
END-NOTES


8. A preliminary report on this study is forthcoming in a Festschrift in honour of John Beckwith. This is an on-going CMERC research project. We are continuing to analyze new provincial music curriculum documents as they are published.

10. We did not include in our study boards of education administered by the Department of Indian Affairs and by the Armed Forces, and we did not attempt to study private schools.