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# **Indigenous and Imported Primary School Textbooks in Belize:**

## **A Comparative Study**

© By Martha J. Coates

A Thesis submitted to the Faculty of Education in partial fulfillment of the requirements  
for the degree of  
Master of Arts

Faculty of Education, University of Ottawa

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## **Abstract**

### **Indigenous and Imported Primary School Textbooks in Belize** **A Comparative Study**

**By Martha J. Coates**

The effects of the international knowledge system, the largely political internal mechanisms influencing textbook policy, and the justification of indigenously published textbooks impact on the amount of indigenous content found in textbooks. These issues do not stand alone, isolated from other conflicts and compromises over power and control. The pedagogical decision of imported or indigenous textbooks is framed by the social, historical and political climate.

This study examined the differences in indigenous content between imported and indigenously published 'BRC textbooks' used in Belize. BRC language textbooks presented more Belizean culture than Nelson's New West Indian readers. BRC mathematics textbooks presented more practice exercises and fewer new concepts per lesson than CPM textbooks. The BRC textbooks are both a statement of a particular ideological perspective in a political debate over legitimate knowledge, as well as the material expression of a different educational approach and content from that of the MOE. Notably, the BRC struggle is symbolic of the debate over education as a system of reproduction or contestation of legitimate school knowledge.

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# **CHAPTER ONE: Introduction**

## **Textbooks in Developing Countries**

### **1.1 Introduction**

In Western industrialized countries like the United States, evidence suggests that there is not a strong association between school inputs, such as educational materials and teacher training, and academic achievement (Jencks et al, 1972). However, evidence from developing countries indicates that school inputs are a predictor of academic achievement (World Bank, 1989). While the data is scarce on which inputs can raise student achievement, there is a growing body of data indicating that the availability of textbooks is one of the more consistent indicators of improved achievement (Heyneman et al, 1978). As a result of the importance of textbooks, many international agencies have included textbook provision as part of their project (one out of three World Bank education projects had a textbook component between 1979 and 1983). Although much progress has been made in textbook provision, the school knowledge contained within these textbooks has received little attention.

The assumed neutrality of textbook knowledge has tended to conceal its political nature, that of legitimating the ruling elite's agenda. For instance, the traditions that dominate the selection process of textbooks in many developing countries have assisted in the reproduction of inequalities. At the same time, these traditions serve to legitimate both the institution (MOE) that selected the textbooks and those who selected them. One of the problems in education then is the way in which traditions of domination persist and reproduce themselves without being consciously recognized by the people involved. The

ideological content of textbooks is consequently important. Moreover, it focusses the debate on the broad theoretical question: Is education a system of reproduction or contestation of legitimate school knowledge?

On an international level, a dominate/subordinate relation also exists between Western industrialized and developing countries respectively. Western industrialized countries refers largely to North America, Western Europe and Australia. Here, the International Knowledge System provides a super-structure for the direction and flow of knowledge from developed to developing countries. Likewise, many of the textbooks used in developing countries are imported from Western countries. In several cases, imported Western textbooks are used even though the cultural content may not correspond to the country's ethno-cultural composition.

Although textbooks are only one of the many educational materials that penetrate the classroom, in many developing nations textbooks constitute the sole base of school knowledge and are used to set parameters of instruction (Altbach, 1988). Consequently, the importance of culturally relevant textbooks becomes apparent. The implication is that if the content is relevant and academically appropriate, students will relate more easily to the material and thus spend more time examining it. Culturally relevant textbooks refers to educational materials that represent the lives and experiences of the students reading them. Moreover, if it is the case that the content of textbooks reflects a people's idea of reality, we can hypothesize that one of the academic differences in what texts teach is due to the relevance of the content to the students who read the texts. Indigenization of content is assumed to better reflect the history, influences and customs of a country. Given the current emphasis in education for self-reliance, encouraging the development of textbook

publishing institutions aimed at promoting indigenous ideas supports the very notion of self-reliance.

In order to address issues of benefits and educational suitability of textbooks used in developing countries, it is necessary to compare imported and indigenous textbooks from different perspectives. The focus of this study is consequently a case study which compares the pedagogical and cultural benefits of indigenously produced textbooks with imported textbooks in relation to the quality of education in one particular country: Belize. The support and development of an indigenous publishing infrastructure in Belize depends on the interrelationships that exist among the publishing industry, the educational system, aid agencies, and the Ministry of Education. In the context of developing countries, international aid agencies often play an important role in the realization of indigenous publishing organizations because of the high costs and special skill requirement. One programme aimed at supporting the development of an indigenous textbook publishing infrastructure in Belize is the Belize Roman Catholic (BRC) publishing project, sponsored by the Canadian Organization for Development through Education (CODE).

A field study was conducted in order to investigate and compare the benefits of Nelson New West Indian Infant II, and Year 1 and 2 readers, Caribbean Primary Math Year 3, with the corresponding BRC language and mathematics textbooks. During this field study, a content analysis of both imported and BRC textbooks was conducted, their users were interviewed, and any documents pertaining to textbooks in Belize were analyzed. The field study was based on the research questions.

## **1.2 Research Questions**

The general research question for the study is:

As reflected by the introduction and use of primary school textbooks, is education a system of reproduction or contestation of legitimate school knowledge in Belize?

The research question is guided by the following sub-questions:

- i. What are the pedagogical differences between indigenously published textbooks and imported textbooks?
- ii. What are the indicators of cultural differences between indigenously published textbooks and imported textbooks?
- iii. What are the differences in perception of educators on the appropriateness of indigenous versus imported textbooks?

## **1.3 The Organization of the Paper**

The remainder of this paper is organized in the following way. Chapter two presents the theoretical framework by exploring the literature on the influences of the international knowledge system on educational choices in developing countries, as well as the political power of national educational systems in determining school knowledge. Chapter three discusses some of the educational and cultural reasons for indigenous textbook publishing, while also outlining the current challenges facing indigenous textbook publishing in developing countries. Research context and methodology are the subjects of chapter four, where the efforts of BRC Publishing and the research strategy and techniques used are discussed. Chapters five and six present and discuss the research findings from content analysis and interviews respectively. Chapter seven presents the conclusions based on the data.

*Figure 1: Belizean Flag*



## **CHAPTER TWO:**

### **Education as Reproduction & Contestation of Knowledge: International & National Systems**

#### **2.1 *International Knowledge System***

##### **2.1.1 Introduction**

There is a growing internationalization of publishing and knowledge distribution due in part to technological advances, and in part to the opening up of international borders.

The result is an international knowledge system (IKS) which

involves many interrelated elements - the individual researcher or scholar who produces the knowledge, the invisible college of peers who may assist in the creation or who provide commentary and evaluation, the mechanisms of publication such as journals, book publishers, and ...increasingly participants based on the new technologies, such as data bases and reprographic agencies (Altbach, p.169,1987).

The contributors, as well as the means and structures of knowledge dissemination, form the international knowledge system.

There exists an interdependent relation between educational institutions and the international knowledge system. Educational institutions depend on the international knowledge system as a source of knowledge. Likewise, the international knowledge system depends on educational institutions as major consumers of knowledge. This relation places those who generate and control knowledge dissemination in a position of power, particularly in a world based on information. The dependence of educational institutions on the international knowledge system has political and cultural implications beyond the production and consumption of knowledge. Likewise, developing countries are increasingly dependent on the IKS for the knowledge presented in their schools. Barker and Escarpit (1986) discuss the developing world's shortage of books. This "book hunger"

can be seen in the fact that 34 industrialized countries, with only 30 percent of the world's population, produce 81 percent of the world's book titles (Ibid, 1986). In addition to the present inequalities, it is necessary to consider the historical forces which have shaped and given rise to many contemporary issues in education, most notably colonialism.

### **2.1.2 Colonialism and Knowledge Dependency**

The colonial era had a marked impact on the source and direction of the production and distribution of knowledge. Historically, formal schooling in the colonies was instrumental in supporting colonial social structures. Western schools were effective institutions which provided for the needs of colonial investors, traders, and culture.

Western schools were used to develop indigenous elites which served as intermediaries between metropole merchants and [colonial] labor; they were used to incorporate indigenous peoples into the production of goods necessary for metropole markets; they were used to help change social structures to fit in with European concepts of work and interpersonal relationships... (Carnoy, p,16,1974).

Carnoy's view of colonial educational institutions is that the colonizers not only used the schooling process to provide colonized workers with the knowledge and skills needed to maintain order in the colonies, but also aimed to uproot and trivialize the culture of the colonized, replacing it with Western culture. While there are a few exceptions, this generally describes the nature of colonial relations (Ibid, Carnoy). Educational policies conceived by the colonizers were intended to maintain control over the political, economic and educational institutions of the colonies. The aim of colonial education, therefore, was not to orient the colonized to their own cultural roots, but rather to provide a social institution to maintain the domination of one country over another.

Once schools were established in the colonies, they often became pivotal social institutions in the establishment of dependency relations. How they established these

relations was through legitimizing colonial social and economic structures. Here, schools acted as power legitimizing agents through the use of knowledge from and about the metropole country. A hierarchy of power between the colonies and the metropole countries was consequently reinforced through the distribution of school knowledge. For the colonial school system was dependent on the colonizers as its source of school knowledge. As a result, becoming consumers of school knowledge also meant becoming dependent on the metropole countries. The source of the knowledge taught in colonial schools and the organization of the schools themselves were dominated and controlled by those who wished to preserve the dependent structure of colonialism.

Furthermore, those in power perpetuated the myth that schooling reduced social inequities, promoted individual development and social mobility, all of which were believed to contribute to national economic growth. Questioning these assumptions, Carnoy (1974) asks

Why were all these myths perpetuated? Why was this our knowledge of the schools? ...It is because knowledge itself is "colonized": colonized knowledge perpetuates the hierarchical structure of society. As long as people thought that schooling did the things that the authorities claimed it did, it was hoped that they would not try to change the schools (p.3,1974).

Not only was it hoped that the colonized would not change the schools, but they assumed that the colonized would be appreciative of improved education and social conditions. For the colonizers were so certain of the superiority of their culture and the education they offered. This education produced radically changed individuals inculcated with 'colonized' knowledge. The result of colonial schooling, therefore, was the formation of intellectual and political elites. Ironically, these newly formed 'colonized' elites, who entered into

political association with the colonizers, used the colonizers' knowledge to develop goals of independence that would eventually lead to the termination of the traditional colonial relationship. Nevertheless, relations of hegemony were maintained through 'internal' colonialism, where the hierarchy of power was transferred from the colonizers to the established post-colonial elites.

Even when colonial policies were thought to be progressive in promoting democracy and social equality, there was still a hierarchical structure maintained within colonies. For example, during the American colonial period in the Philippines, both the Americans and the Filipino ruling class supported the idea of education as a "human resource development" plan for a dependent agricultural colony (Foley, p.33, 1984). By supporting a Western-oriented and centralized national system of education in the Philippines, the Americans sought to promote their agenda of a literate and democratic colony. However, their policies tended to exacerbate the inequities of the continuing privileges accorded the Filipino elite (Ibid). For instance, the differences between rural and urban education guaranteed an agricultural class skilled to work the land and an 'elite' class skilled to govern the country. This example of American colonial policy in the Philippines serves to demonstrate that mass education of the colonized ultimately became an integral part of Western cultural imperialism and exploitation.

### **2.1.3 Post-Colonial Centre/Periphery Relations**

From the colonial era then, there emerged a distinct pattern of power and knowledge production. The source and direction of knowledge "... is dominated and controlled by the large, wealthy, and prestigious academic systems, publishers, and research enterprises in the industrialized nations"(Altbach, p.xv,1987). The striving for hegemony through the

accruing of new territories that marked the colonial era manifests itself today in the domain of knowledge production and distribution.

A few countries dominate the international flow of knowledge. Altbach (1984) discusses the sources and direction of knowledge, concluding that it emanates from industrialized countries and moves out towards developing countries. His analysis of the knowledge distribution system contributes to a realization firstly, that the industrialized countries are in a position of dominance in the knowledge dissemination system, and secondly, that textbooks and curricular materials are the most fundamental component of the knowledge dissemination system (Altbach, 1987, p.3). The production and dissemination of knowledge originating in industrialized countries means that developing countries are greatly influenced by foreign political and cultural ideas. These ideas are part of Western 'elite' culture. Since industrialized countries are in a position of dominance in the international knowledge system, their culture is often the standard of valid and legitimate knowledge. Specifically, Western culture forms the basic content of legitimate knowledge (Apple, 1991; Altbach, 1988; Carnoy, 1974).

However, exactly what counts as legitimate knowledge involves some very knotty epistemological issues - "What should be called legitimate knowledge?", for instance. As well as some political problems - "Who should decide?". As Apple (1991) argues, "what counts as legitimate knowledge is the result of complex power relations and struggles among identifiable class, race, gender/sex, and religious groups"(p.2). These groups must retain their legitimacy through the appearance of being modern, which often results in their reliance on elite Western culture as a vehicle to modernization. Modernization implies technology, industrialization, and awareness of predominant global political and social

thought: all involving the international system of knowledge (Ibid). Schools become an effective means of demonstrating modernization. Moreover, there is great pressure for school content to transmit the notion of modernity. Western culture is equated with modernity which legitimizes the agenda of educational planners and policy makers. Questioning legitimated school knowledge equals questioning the validity of modern knowledge.

It is important then to realize that school knowledge is not neutral. Not only is this knowledge a vehicle to modernization, but also a means of maintaining power relations. In most developing countries, unequal power relations structure educational decisions. The ensuing power struggles between the many stakeholders involved in the selection of official knowledge are the product of intense political, cultural, social and economic conflicts. If “education and power are terms of an indissoluble couplet”(Apple, p.2, 1991), then those who direct and control school knowledge also dominate the means and structures by which knowledge is made available. The inherent inequalities and contradictions of the politics of cultural authority form part of the external forces that most heavily affect the selective tradition of school knowledge.

Altbach (1987) discusses the hegemonic relations of developed and developing countries as being those that distinguish countries at the 'centre' or at the 'periphery' of the international knowledge system. The theory of countries at the 'centre' and the 'periphery' does not mean that those countries on the 'periphery' are unequivocally subordinated to 'centre' countries. Rather, the 'centre' countries exert direct and indirect influence on 'periphery' countries. In terms of education, decolonized or independent countries often model their educational systems after 'centre' countries. Consequently, the weight of the

colonial tradition continues to have a major influence on educational institutions (the consumers of knowledge) in developing countries.

#### **2.1.4 Cultural and Language Dimensions**

In addition to being consumers of knowledge, educational institutions constitute prominent cultural arenas in which select bodies of knowledge are produced and disseminated. Yet, it would be simple to attribute the inclusion of cultural content in curriculum to one group's domination of another. Instead, "the processes of cultural incorporation are dynamic, reflecting both continuities and contradictions of that dominant culture and the continual remaking and relegitimation of that culture's plausibility system" (Luke, p.24,1988). Bennett's (1986) work on popular culture also discusses the complex interactions of dominant and subordinate cultures. For instance, the integration of selective elements from the subordinate culture into the dominant culture associates the subordinate group "with the values and ideologies of the ruling groups in society"(1986, p.19). Here too, as with the international knowledge system, there is an interdependent relationship between dominant and subordinate groupings. Dominance is partly maintained through compromise and the process of "mentioning"

Likewise, in schools the interdependence of dominant and subordinate cultural relations influences both formal and informal school knowledge. The ensuing differentiation of knowledge distribution coupled with the social status hierarchy often result in social inequalities. The resultant inequalities manifest themselves in the stratification of students along lines of either class, gender, or ethnicity, in their attainment of knowledge and occupational positions (Apple, p.308,1984). The role curricula and textbooks play in the transmission and re-shaping of knowledge is powerful.

Language is another example of the colonial legacy. Once the concept of success through schooling was established, the medium through which school knowledge was transmitted became a tool for social selection outside of school. Language, being a fundamental part of society, was also a means of social stratification. In other words, schooling in the language of the colonizers became an effective allocator of social roles. For the use of the colonizers' language in the larger society separated those who were educated from those who were not. Both language and schooling provided upward social mobility. From this evolved a ruling elite which used Western languages. "Third World nations find it difficult to displace Western languages because the colonial medium permeates the modern social structure..." (Altbach, 234, 1984). As such, the colonial vernacular maintains predominance in places of education, business and government in contemporary society.

By inserting Western languages into the school structure, language provides a tool for the acculturation of developing countries to Western values and assumptions. Even more importantly, it also determines accessibility to knowledge, "since the medium through which material is communicated determines accessibility" (Altbach, p.234,1984). The language of scholarship is typically one of the Western languages. As Marshal McLuhan (1980) pointed out, the medium is the message. Language is a medium for transmitting ideas about and change in dominating Western cultures. Moreover, the persistence of Western languages as part of the school system in many developing countries is in part a function of the use of imported curriculae and textbooks written in these languages. Language, curriculae and textbooks, being part of Western culture and education, are

associated with notions of enlightenment and modernity. This association with modernity continues to legitimate the use of curriculae and textbooks written in Western languages.

### **2.1.5 Curriculum, Textbooks and the Social Construction of Knowledge**

Most developing countries have been immersed in the issue of providing access to school for children at the primary level. So much so that this emphasis on educational accessibility has obscured the fact that little attention has been paid to curriculum development and textbook content (World Bank, 1989). Lillis (1985) discusses valid school knowledge and the effect of 'colonial metropolitan influences' in post-independent Kenya on curriculum innovation. The decision makers showed little change in metropolitan values, thus perpetuating a neo-colonial education system. "This was especially true of curriculum as a vehicle for transferring a particular conception of knowledge" (Lillis, p.89,1985).

Apple (1991) reminds us that all knowledge chosen to be in the school curriculum cannot be reduced to represent relations of cultural domination or the knowledge of dominant groups (p.9). He argues in considerable detail about the complexities of cultural relations which uphold and transform cultural authority, as well as sustain mechanisms of control and incorporation of values and ideas in both the curriculum and textbooks from all groups. Again, it is not simply a North-South issue. The control of official cultural knowledge in curriculum is a complex process involving cultural politics both on a local and an international level.

The social construction of knowledge involves a struggle between cultural relativism and Western superior culture. In the first instance, cultural relativism involves "student experience ...as a viable form of knowledge, and ethnic, racial, gender, and other

relations play a significant role in the development and influence of mainstream intellectual culture”(Aronowitz & Giroux, p.213,1991). The generation of new understandings is relative to the culture of the individual or group. In the second instance, Western knowledge provides students with “...the language, knowledge, and values necessary to preserve the essential traditions of Western civilization”(p.213). The reproduction of Western knowledge upholds a tradition that transcends the indigenous context. The tensions created by these oppositional views of what knowledge is included in the schooling process are centred around critical reference points: cultural relativism is inevitably linked to the contemporary cultural context; and Western culture is inevitably linked to context-free universal truths (p.216). The challenge is to combine the conservative appeal to preserve the past with the innovative work of pedagogy.

In other words, the issue of learning based on specific and/or Western culture is not merely epistemological or political, but also essentially pedagogical. It is pedagogical in that the current influence of Western values and assumptions in determining valid content, teaching strategies and approaches also influences assumptions about modes of thought. From one human culture to another, the modes of conceptualisation of people are assumed to be similar. Yet, research shows that there are differences in modes of thought, which can be cause for inappropriate content in curricula (Ingle and Turner, 1979, as cited in Lillis, 1982). The thought patterns of traditional cultures may vary greatly to those of scientifically-oriented cultures for instance. Multiple meanings may be derived from one textbook, for example, according to cultural background and varying thought processes. The supremacy of Western tradition and established modes of thought negates

the idea that learning always involves social relations which mediate the construction and validation of knowledge according to cultural frameworks of understanding.

The question of educational transferability also challenges Western cultural superiority. For instance, the relevance of materials for teaching Mathematics has been examined by Howson (1973, cited in Lillis, 1982). He contends that Mathematics is not internationally transferable, as many believe. Rather he proposes three levels of transfer materials: 1. level of acceptance, where the material is used in its original form; 2. level of adaptation, where the material has been adapted to fit classroom use in the importing country; 3. level of assimilation, where the material is directly used by a select group as opposed to widespread use in classrooms (Howson, 1973, cited in Lillis, 1982). Howson states that only the most successful transfers occur at the third level. Successful wide-scale transfer of knowledge is, therefore, limited. While the intellectual life of developing countries is to greater and lesser degrees dependent on the transfer of knowledge from 'centre' countries, the social construction of cultural understandings of that knowledge, be they local, national or global, mediate their impact on students.

#### **2.1.6 Corporate Dimension of Knowledge Production and Dissemination**

In addition to the political realities, economic realities structure knowledge production and dissemination. Much of the texts published are controlled by the major text-publishing conglomerates, such as Oxford University Press and Macmillan (Apple, 1991; Altbach, 1984). The form and content of their textbooks are in accordance with the Western concept of a textbook. Specifically, this means that these multinational firms decide the cultural and knowledge content of textbooks. Knowledge, therefore, is related not only to the educational system, but also to the book publishing industry. Moreover,

the economic control of communication and publishing by the multinational firms is based on the relation between Western superior culture and the mass production of textbooks.

#### **2.1.7 Multinational Publishing Organizations**

The influence of multinational firms, such as Thomas Nelson and Sons, remains in some countries a part of their colonial heritage. Altbach and Gopinathan (1988) contend that their influence has impaired the development of a publishing infrastructure. “Their [the multinational firms] entrenched position in the import and export of books, in their very considerable expertise in publishing, and frequently in their market share has given the multinationals a considerable advantage” (p.50,1988). By providing developing countries with textbooks at better prices and of better quality than indigenous publishers, multinationals have thwarted attempts to produce locally written books. Also, multinationals have long known that textbooks offer an attractive and stable source of profit.

In the United States, multinationals rely on textbook publishing as their “bread and butter”. For textbooks offer a mass market with a steady turnover rate. Here, the sales rate for textbooks lasts for a five to seven-year cycle (Keith, p.44, 1991). In developing countries, although the duration of a textbook’s cycle varies, it is often longer than five years and may be as long as twenty (as in the case of Ladybird language textbooks in Belize, interview,1993). This provides multinationals with a source of long-term profit. In the Caribbean, multinationals like Ginn and Company, Ltd. and Thomas Nelson and Sons have been producing textbooks for many of the English-speaking Caribbean countries for decades. The large size of the press run for elementary and secondary textbooks produced

by these multinationals gives them an economic advantage: it allows them to sell their textbooks at very competitive prices (Pearce, 1983).

This also points to a major difference between multinational and indigenous publishing firms. The multinational conglomerates increasingly base their decisions to produce and publish textbooks upon economic rather than educational considerations (Keith, p.46,1991). The market analyses conducted regarding projected demand and buying market trends by multinationals are salient factors in determining which textbooks get published. It also allows these publishers to minimize the risk of publishing unsaleable textbooks.

In addition, these firms possess expertise in accessing markets and in effectively distributing textbooks. While the education system acts as the intermediary between the publisher and the consumer (the student) for all textbook publishing organizations, the legacy of multinational publishing organizations as being the gatekeepers of Western knowledge is a distinct advantage. In the face of such competition, indigenous publishing organizations often find it difficult to contend.

There are many obvious challenges to indigenous textbook publishing organizations. Most particularly is the very size of the competition. However, there are many examples of successful textbook publishing ventures, such as in Lesotho (Aime & Overton, 1989) and in Grenada (Jules, 1991). Still, multinational textbook publishing firms have technical, financial and business resources that small scale indigenous textbook publishing organizations simply do not and cannot afford.

In a difficult economic climate, policy makers must assess the possible benefits that indigenous textbook organizations may afford, such as the creation of local jobs, the

development of publishing capabilities, and the tighter control of textbook content against the possible cost-effectiveness of purchasing textbooks from a multinational. In many developing countries, there exists a scarcity of reading materials not only because of an economic crisis, but also because current policies on textbook development are not always the most cost-effective. If a country decides to foster indigenous publishing, government protection from multinationals is usually necessary. It may take many forms, such as taxes on textbook imports, no tax on paper, subsidization, etc. However, government protectionist measures can be very costly. Again, the economic costs of indigenously published textbooks must be weighed against the educational and cultural benefits. Similarly, an analysis of the educational benefits is necessary when considering the use of imported textbooks produced by large multinational firms.

#### **2.1.8 The Advantages and Disadvantages of Copyright**

The production and publishing of textbooks also involves copyright. International copyright laws are extremely complex. "Copyright involves every aspect of the knowledge business, from the rewards that are available to an individual author and the control exercised over intellectual work to international relations among large corporations and nations with regard to the distribution of knowledge"(Altbach, p.85,1987). Those who possess knowledge also control how they wish to share it. Since control of the international distribution of knowledge remains largely in the hands of industrialized countries, copyright in essence is a legal mechanism for controlling that knowledge. Due to the fact that developing countries are dependent on industrialized countries for much of the knowledge they use, there is an inherent inequality in the concept of copyright. This inequality is an underlying contradiction in the international copyright system. The very existence of

international copyright and its influence on the intellectual situation in many developing countries is evidence of continued unequal relations.

This inequality is reflected in the structure of the international copyright system which hinders the development of trade in local textbooks. During a seminar sponsored by the Economic Development Institute of the World Bank in 1986 which examined textbook provision, it was noted that, amongst other things, international copyright provisions "...are viewed by many people in developing nations as symbols of existing international inequalities and as impediments to their acquisition of knowledge"(Altbach & Gopinathan, p.38,1988). How copyright acts as an "impediment to their acquisition of knowledge" is by regulating an important channel of knowledge dissemination. The dilemma here is about the "have's", those who wish to protect their intellectual property and the "have not's", who rely on external sources of knowledge. Those who produce educational materials, such as textbooks, use international copyright as a system of control over decisions governing what textbooks can be translated and what materials will be made available. This structure also makes modifications of relevant textbooks difficult due to differences in access to capital between developed and developing countries.

Despite the inherent contradictions and inequalities of international copyright, it is a necessary element in avoiding total anarchy in knowledge creation and distribution. Gradually over the years, there have been some positive changes in the international copyright system concerning educational materials (Altbach, 1988 cited in Farrel & Heynemen). Most textbooks published in developing countries, for example, contain foreign material. As such, the specific regulations governing compulsory licensing for educational materials have been changed to permit easier access and, in some cases,

reduced costs for using imported materials (Altbach, 1989). For textbook publishers in the developing world, then, they must weigh the advantages and disadvantages of using imported and/or indigenously produced materials to fulfill educational aims against the legal and commercial mandates to which they must adhere according to international copyright law.

Copyright then, is a microcosm of the international knowledge system in that it relates to the control and distribution of knowledge. Copyright is also related to commercial relations among countries. It is due to copyright laws and economic realities that Western multinational and indigenous publishing firms do not have the same access to knowledge and technology. As a result, many developing countries find it challenging to develop their own publishing infrastructure in the face of an unequal knowledge system.

#### **2.1.9 Foreign Aid & Textbook Production**

Western aid agencies have done remarkable work in many domains, including education. Although developing countries have made progress in providing space for their students in school, the gap in spending per student has widened between the world's richest and poorest countries. In 1960, OECD countries (Organization for Economic Co-operation and Development) spent fourteen times more per students than the world's poorest countries. By 1980, the gap had expanded to fifty times more (Heyneman, p.19,1983). The economic crisis occurring between 1970 and 1980 saw a decline in available funds allocated to education and other domains (Coombs, 1985).

The fiscal pressures of the 1970's inevitably affected the type of assistance and availability of funds from development agencies. The type of assistance went from that of providing temporary assistance and social welfare, which was viewed as a bottomless pit, to

long-term objectives aimed at improving the lives of those in need (Coombs, p.288,1985).

This approach to development encouraged officials in developing countries to be cognizant of and become involved in solving the intrinsic economic, political and educational problems of their particular country. In terms of education, the new emphasis on long-term, community-based development meant that MOE officials were expected to work in partnership with individual communities, an area in which most officials had no training (Coombs, 1985).

The obvious challenges of this approach have nonetheless had a positive effect in the 1980's and 1990's. There has been a sharper focus in seeking more effective and cooperative solutions to development and training. In the domain of publishing, aid programmes from the World Bank are attempting to collaborate with indigenous textbook publishers (in the Philippines, Lesotho, & Mexico to name just a few). One Canadian NGO, CODE, proposes aid programmes focusing on book market desire. CODE also provides training in publishing books for local use. These are successful examples of cooperation and collaboration.

#### **2.1.10 Summary of International Knowledge System**

The effects of colonialism and the post-colonial era of skewed North-South relations have had a major impact on various national education systems. In both contemporary and historic contexts, the direction and flow of knowledge goes from 'centre' to 'periphery' countries. Moreover, the interactions of political, social, economic and cultural factors have led to the incorporation of many developing countries into the existing international knowledge system. The presence of multinational publishing firms, as well as the complexities of the international copyright system, have also created

challenges that impede the establishment of viable textbook publishing industries in developing countries. The ensuing dependency on Western textbooks has led to an unequal distribution of knowledge: from North to South. Since in most developing countries school knowledge originates in Western countries, the 'official' knowledge in the schooling process is an example of continued Western cultural imperialism.

## **2.2 National Educational Systems**

### **2.2.1 Different Perspectives on Schooling**

What is school's role? The differing perspectives on schooling create conflicts and contradictions within this institution. Depending on the theoretical orientation of those in positions of power in the national education hierarchy, the educational outcomes, including selection of curriculum and textbooks, will vary accordingly.

### **2.2.2 Structural Functionalism and the Transmission of Knowledge**

Structural functionalism views school's role as one of maintaining social equilibrium. Education provides an opportunity for individuals to learn knowledge and skills valued by society. According to functionalists, such as Clark (1962), rising technical requirements, which are a result of the process of modernization, necessitate an increase in formal education in order to provide training for more highly skilled persons (p.9,cited in Karabel & Halsey, 1977). The increasing technical requirements serve to expand and differentiate the education system according to the demand for skills and the abilities of those individuals who satisfy the demand. However, functionalist analysis concentrates solely on the motivated actions of individuals where "education is a means of motivating individuals to behave in ways appropriate to maintain the society in a state of equilibrium" (p.3). In essence, functionalists see the utilitarian *needs* of society as the determinant of the behaviour and the rewards of the individual, and as a result, the determinant of the national education system (Collins, p.1007, 1971,italics mine). Since abilities are distributed unequally among the population, and since individuals have differing abilities to fill positions in society, social stratification occurs as a result. Furthermore, the structure of demand for skilled labour means that there be inequality in

the wealth and prestige of these positions. Congruent with functionalist theory then, is the traditional socialist critique of inequality of educational opportunity between classes.

Education's function therefore, is one of maintaining social equilibrium by providing a structure for a fit between opportunity and required knowledge and skills.

### 2.2.3 Human Capital Theory

Human capital theory, which is congruous to functionalism, emphasizes the need to develop human resources for purposes of economic growth (Karabel & Halsey, 1977). Notions of efficient use of human resources and equality of opportunity are germane to human capital theory. Beginning with Schultz (1960), human capital theorists have based their research on the "pro-capitalist ideological sentiment that resides in its insistence that the worker is a *holder of capital* (as embodied in his skills and knowledge) and that he has the *capacity to invest* (in himself)" (Karabel & Halsey, p.13, 1977, italics theirs).

Investment in human capital, a key concept of human capital theory, is expected to provide for the type of labour force required for rapid economic growth. Furthermore, in a meritocratic democracy, it is assumed that those that work hard to gain knowledge and skill will advance socially and contribute to industrial growth (Apple, p.42, 1982). Here, the role of the school is to distribute knowledge to students who, as a result, can reap the benefits of greater individual mobility offered by schooling and provide the skills needed for economic growth. The massive expenditures in education are consequently justified by the projected rates of return from those who receive extended schooling.

Functionalism and human capital theory have consonant views of the purpose of schooling and the knowledge produced therein.

#### **2.2.4 'Reproduction' Theory**

A critique of functionalist and human capital theories is that both are unsatisfactory explanations of the basic processes of social organization. From a "reproductionist" perspective, both functionalism and human capital theory tend to conceal the fact that the educational system helps to reproduce the structure of class relations and therefore serves the interests of those who benefit from an inequitable social system. Bourdieu and Passeron (1977) in "Reproduction: in Education, Society and Culture" discuss the educational system's essential function of inculcation and its ideological function of concealing the relationship between school and the social classes. "It is precisely [education's] peculiar ability to autonomize its functioning and secure recognition of its legitimacy by accrediting the representation of its neutrality that gives the educational system its peculiar ability to mask the contribution it makes towards reproducing the class distribution of cultural capital (p.199). In other words, the educational system bestows appropriate knowledge and skill (its essential function) according to social class origin (an external function), and in so doing, uses its own structure to justify itself. By being both an autonomous system and dependent on the structure of class relations, the educational system is ideally suited to legitimate the structural bases of inequality.

Likewise, the 'reproductive' element of education challenges the functionalist notion that "education is a means of motivating individuals to behave in ways appropriate to maintain society in a state of equilibrium"(Karabel & Halsey,p.3,1977). Apple (1982) discusses the fundamental problem of the education system as a system of domination and exploitation that reproduces itself without those involved being consciously aware of

this process (p.13). For this essential 'reproductive' element of education is in fact a source of conflict. This aspect of education also challenges the human capitalist notion that those who work hard will advance socially and contribute to economic growth. The inevitable differentiation in the education system due in part to technology has not led to the educational equality that human capitalists maintain would happen.

The nexus linking school and society provides the underlying framework of conflict theorists' views on the role of education in reinforcing inequality. Moreover, the attempt to explain the structural basis of educational inequality is common to all conflict theorists, such as Collins (1971), Bowles and Gintis (1977), Karabel (1972), and Carnoy (1974). These and other conflict theorists examine the groups' interests at stake in the determination of the ideals that govern a school system. "The process of imposing a given definition is inherently one of potential conflict." (Karabel & Halsey, p.32, 1977).

Collins (1971) considers that "power is the crucial variable" (p.1003) in the conflict inherent in education. Collins draws from Weber the concept of "status" groups, between which conflict occurs. Weber's status groups are "the basic units of society [which] are associational groups sharing common cultures (or "subcultures")." (Collins, p.125, 1977). It is among these "status" groups that there is a continuous struggle for power and wealth. And educational systems are the organizational mechanism through which these struggles occur. Educational expansion, then, is a result not of technological advances, but rather different "status" groups vying for power in an attempt either to reinforce their position or demand greater opportunity to education. The significance of this perspective is the importance it accords the educational system as an agent in the unequal socialization of students.

Similarly, Bowles and Gintis (1972) put forth a paradigm of hegemony that offers further insights into the differential socialization of school children by status groups. They propose an institutional triad consisting of family, school and work to explain the structural basis of educational inequality in capitalist societies. In capitalist societies, Bowles and Gintis (1988) affirm that the economy is not democratic since decision-makers are unaccountable to those who effect their actions (p.236). "Lacking a democratic economy, and assuming dominant groups are sufficiently powerful to ensure the stabilizing function of education, schooling in capitalist society will necessarily remain antithetical to social equality and personal development." (p.236). For it is in the workplace that decision-makers (the controllers of wealth) determine the kind of economy that exists, and hence the type of social structure necessary to uphold it.

The relationship of the education system to other institutions of polity and economics is described by Gramsci as a "structure-superstructure complex"(cited in Apple,p.17,1982). Here, the interdependence of the different "structural" institutions, school included, create a social order and "perform vital functions in the recreation of the conditions necessary for ideological hegemony to be maintained"(Apple, p.17,1982). It is through the struggle to maintain hegemony that economic and "cultural capital" (Bourdieu & Passeron,1977) are legitimated. In the reproduction of class relations in society, the importance of the accumulation and control of economic and cultural capital is linked to the kinds of knowledge considered most legitimate. Knowledge then, as part of the schooling process, can be accumulated and becomes a sort of commodified intellectual asset. Moreover, the economic effect of accumulated knowledge translates into power.

### **2.2.5 UNESCO and IBRD: a brief look at their approach to education**

The structural functionalists, the human capitalist and the reproductionists view education as either a function of society or as a value system. UNESCO and IBRD have not so much disputed these perspectives, but rather integrated and expanded their horizons in several ways with their integrated model of economic development. Generally, the model links education and economics by having the education system respond to skills required in the economy. It is assumed that this will lead to growth (Lourie, 1985). In Central America, this has led countries to invest in education in order to receive the support of AID and IBRD (Ibid, p.56). School's role as an economic instrument in this model is similar to the human capitalist's view. How it differs in the source of decisions over what type of schooling is required. The ruling elite is not the only body in control. There exists a variety of 'deciders' according to the country. Within the scope of international aid agencies, any development project seeking aid and containing educational transformations is expected to demonstrate its commitment to improving the local economy. In this way, economic and educational objectives are intimately linked.

How this structure of decision-making differs from the other theories is the allowance it makes for a broader vision of education. Not only do the ruling elite control economic and educational development, but also those in the field who seek international aid. According to Lourtie (1985), there are three dimensions to education : as a system of values, as a function and as a structure (p. 21). This is generally UNESCO and IBRD's approach to development, which allows for a more encompassing vision of education to evolve (Lourtie, 1985).

### **2.2.6 National Political Elites & Knowledge Dissemination in Schools**

In line with the reproductionist perspective of education, national political elites in each country constitute the dominant group of decision-makers who influence national political, social and economic processes (Lillis, 1986). The political elite is at the apex of the political hierarchy and plays a vital role in the knowledge dissemination process. In the realm of education, it is this dominant group which determines what counts as 'official' knowledge. Lillis points out that curricular reform, including textbooks, needs to be sanctioned by what he calls the 'politico-administrative elite' (Lillis, 1986, p.64). The new assumptions, values and teaching methods communicated through, for example, indigenous textbooks need to correspond to the political elite's view of education. Any change consequently in teaching materials (i.e., textbooks) ultimately depends for successful and simple implementation on the political elite.

In Carnoy's (1974) analysis of traditional colonialism, the colonizers overtly stated that the benefits of education would enable "backward nations to enter the modern world" (p.82). The intended purpose was to transform the traditional social structure in order to meet the colonizers' economic needs and gain political power (p.82). In the same way, the political elite which have replaced the colonizers in post-colonial countries retains its legitimacy through the appearance of being modern, which often results in it relying on Western culture as a vehicle to modernization. Since Western culture pervades the curricula and textbook content in most developing countries, the influence of western values and assumptions is apparent (Lillis, 1986; Altbach, 1984). Moreover, there is great pressure to have textbook content transmit the notion of modernity. Western textbooks symbolize modernity. Challenging the relevance of content found in Western textbooks equals

challenging the validity of modern knowledge, and hence the privileged position of political elites.

### **2.2.7 National Examinations**

National examinations are one mechanism used to establish and maintain academic standards. These exams are modelled after the exigencies of a global system of knowledge dissemination. In fact, the system of national examinations is a significant pre-occupation with educators at all levels of education in most developing countries. In order for students to pass these examinations, teachers, parents and students must concentrate their efforts on preparing to write them. Furthermore, it is essential to have a proper 'fit' between school content and the content of national examinations. Their general intent, as one Director of Education stated, "is to maintain standards of excellence"(interview, Belmopan, 1993), referring to academic requirements. Overtly then, the purpose of examinations is an academic one, which is consistent with the international knowledge system. National examinations act therefore as a measuring stick against which some national schooling systems are compared.

On a local level, the number of students who are successful in writing examinations forms a measuring stick for the amount of success accorded particular teachers, schools and, in aggregate terms, national education systems. Multiple interpretations of the data will inevitably result. If too many students pass the exam, it may be perceived as either being too easy or the education system commended for being so effective and efficient. Conversely, if most students fail the exam, it may be perceived as inappropriate or the students as ill-prepared, or even the education system may be blamed for its inadequacy at educating students. Whatever the judgment on these exams, they also serve a social

function in that the successful completion of the examinations allows access to further schooling and socially valued professions within a given society. National examinations consequently remain one of the icons that has the power to transmit academic advantages into social advantages. The power of this structure as a mechanism for controlling not only schooling outcomes, but also for determining the content and form of school knowledge is daunting, and remains in many cases as part of the colonial and predominant post-colonial heritage of conventional schooling.

This heritage continues to play a role in developing countries' attempts at localizing national examinations. In some instances, these attempts are negated by the source of the structure of national examinations: the former colonizers. One example occurred in the English-speaking Caribbean countries. During the 1980's, the content of the national examinations was found to be inappropriate (Malone, 1989). "If a student used correct Caribbean examples that the British examiners were unfamiliar with, then frequently these examples were marked wrong" (Malone, p.186, 1989). As these countries obtained their independence from Britain, they gradually took over the content and marking of the national examination process. Yet, regardless of these efforts to indigenize them, the national examinations are still modelled after the British "General Certificate of Education, Ordinary Level (O Level)". As a result, the enduring structure of national examinations creates major challenges to local attempts at ownership of the content and form of school knowledge. Moreover, it is difficult to envisage any radical changes to this structure as current educational changes in the West are more towards standardization.

### 2.2.8 Educational Contestation and Transformation

Although functionalism and human capital theory on the one hand, and theories about 'reproduction' on the other, present strikingly different views about national societies and the role of education, both perspectives view students "as passive internalizers of pre-given social messages" (Apple, p.14, 1982). These theories have offered little insight into what actually goes on in schools or as Karabel and Halsey (1977) call it the "black box of education" (p.16). Apple, however, presents a more dynamic interpretation of social equilibrium and the schooling process. He discusses the inherent contradictions in any dominant institution, maintaining that while schools are institutions where knowledge is reproduced, they also represent an institution where knowledge is *produced* (p.22, italics mine). This implies that students use knowledge in different and contradictory ways to obtain their own understandings. While school knowledge may be a result of conflicts between status groups or a dominant group's attempts to maintain hegemonic control, it is also mediated and transformed by students according to their own 'selective tradition'.

Schooling and decisions over *whose* knowledge and culture is included in school curriculum and texts, is not such a smooth process. The top-down view of the reproductionist perspective oversimplifies the issue, where the dominant group has unchallenged power and 'reproduces' itself unequivocally. It is important to recognize the complexity of the relationship between the dominant and subordinate groups. "The processes of cultural incorporation are dynamic, reflecting both the continuities and contradictions of that dominant culture and the continual remaking and relegitimation of that culture's plausibility system" (Luke, 1988, p.24). This points to the limitations of the

reproductionist theoretical framework in explaining unequal educational opportunities because of elitist politics.

The theoretical framework of social reproduction tends to overlook successful attempts of less powerful groups to express their needs despite an elitist colonial heritage. For instance, in the wake of political upheaval following independence in many developing countries, the politics over who controls the schooling process are often controversial. "The interpretation of the colonial experience, of national liberation movements, and of the role of religious and ethnic movements are among the issues which create debate and conflict" (Altbach, p.244,1991). The political struggles over whose view of education and history will dominate are often intense.

An example of educational transformation in the Caribbean is Grenada. In 1979, the Grenada Revolution and the political party that initiated it, the New Jewel Movement, provided a new social context during which 20 educational texts were produced (Jules, p.265, 1991). These texts are symbolic of an emerging power and an evolution of the authority relations, where a new political elite advances. The politics of textbook content may be rooted in colonialism, but the contemporary imperative of cultural and political pluralism is voicing itself, at least in Grenada. Examples such as in Grenada challenge reproductionist views on the reproduction of social inequalities by demonstrating that educational resistance and transformation can occur despite the ruling elite.

While Grenada serves as an exception to reproductionist views of educational change, it is important not to be overly romantic about political and cultural transformation. It is an arduous task. For instance, recent gains of minorities for inclusion as part of school curricula in North America may be short lived as the move to

standardize brings us back to the common culture of the Western tradition. Likewise, in developing countries moves toward independence from a colonial power (an external political elite) are nonetheless blocked by another form of political elite from within the country. In developing and developed nations alike, the interdependent relationship between the state and schools serves to establish, maintain and transform values and assumptions of the political elite (Bowles & Gintis, 1988; Apple, 1988).

### **2.2.9 The Role of Curriculum & Textbooks in Legitimizing & Contesting Western Knowledge**

Reproduction theorists, such as Carnoy (1974) have documented the development of educational systems of ex-colonies which "...remain largely intact after independence" (p.17). This continued relationship is reinforced through the international knowledge system, which produces much of the curricula and textbooks used in post-independent colonies. The interdependence of this relationship is further reinforced by the links between national exams, curriculum and textbooks. Although there are many different and contradictory interpretations of what students need to know in order to succeed, educators are faced with pressure to produce superior results on examinations. Since students do better on exams when they study what is going to be tested, educators, if they are to improve exam results, are obliged to 'teach to the exam'. Whether this is good or bad is not the point here. Rather the apparent importance of the links between exams and curriculum tends to obscure the importance of the source for much of their content and form: the international knowledge system.

The political nature of the struggle to control curriculum content has long been established. The official curriculum articulates the values and beliefs of the political elite.

In turn, textbooks articulate official curriculum. While some developing countries produce and publish their own textbooks, many developing countries import textbooks. The selected bodies of knowledge contained in these textbooks are often based on metropolitan assumptions about the developing country. Nigeria provides an example where the cultural content of the English textbooks used were “fraught with contradictions primarily because many authors of the texts were cultural outsiders” (Okonkwo, p.219.1988). While there were some attempts to include illustrative examples of Nigerian life, it was presented comparatively as either modern or non-modern (p.219). The underlying message therefore, was not indigenous.

Likewise, Biraimah’s analysis of imported textbooks in Togo revealed that they do not always teach values conducive to the culture and society in which they are used (1982). In this study, textbooks portrayed women in roles which are completely alien to those that Togolese women are called upon to perform. Altbach (1988) also discusses the tendency of imported textbooks

to unwittingly transmit a series of messages about daily life, including sex role divisions of labor, the role of education in obtaining white collar employment, urban living, and general life styles, that encourage expectations that are often at odds with Third World realities and government policies (p.10).

The social construction of local and national cultural understandings in imported textbooks may be at odds with the cultural and social realities of the students reading the texts.

With textbooks forming an essential component in the educational system, the cultural appropriateness of imported textbooks becomes apparent.

While views that curricula are expected to respond to international requirements can become dogmatic policies of ministries of education, there are numerous attempts to

indigenize school knowledge with the expectation that it will respond to specific cultural and economic realities. For example, several World Bank (1989) projects in India, the Philippines, Lesotho, and the English-speaking Caribbean, to name just a few, have cultural components which focus on indigenous language and content. Yet, these are particularly sensitive issues. In the normal context of education within one country, there can be many discordant views over school knowledge. It is apparent that the basic cultural issue at stake is the historic struggle between those who want students to learn about their indigenous heritage and those who want students to learn 'modern' knowledge.

#### **2.2.10 Diverse Participants of National Education Systems**

National education systems in any country comprise a multitude of stake-holders in both the political and educational domains. I earlier discussed the influence of the political elite on the predominant ideology governing decisions, including educational decisions. When alternative attempts at incorporating the knowledge and perspectives of the less powerful occur, such as in the case of educational resistance and transformation, they are subject to political challenge. If the alternative attempts are successful, the result is the emergence and legitimation of a new dominant culture

The resultant educational policies depend on many influences, most notably the teachers who actually carry out the policies in the classroom. Teachers act as mediators between government educational policy and in-class learning. The amount of control they possess in deciding how to carry out these policies depends on the political context and cultural environment within which they operate. In some countries, "teachers can use their position of advantage in the classroom to spread their ideas, organize counter activities and

reach out to a larger audience” (Kwong, p.228, 1988). Teachers are consequently political actors through the selection of knowledge they teach and the selection of textbooks they use.

Student learning is undoubtedly affected by many factors. Like teachers, students bring to the classroom their own personal histories of language, race, class and gender. The process of legitimizing knowledge involves the students as well. Apple (1991) acknowledges the vital role of students in the educational process, particularly with respect to their interaction with textbooks. He presents an analysis of three ways of reading a text. They are: dominated, where one accepts the messages at face value; negotiated, where one may dispute a particular claim, but accepts the general interpretation of a text; and oppositional, where one rejects the dominant interpretations (p.14). These types of responses may occur at once and be contradictory. The importance of this type of analysis is that it allows us to go beyond questions of student learning and achievement and ask important questions about the process of acceptance and rejection of dominant ideology both in texts and in general school knowledge. This is essential in understanding the political and ideological power of knowledge and in understanding the organic connection between students’ experiences and school knowledge.

Students are also members of social groups. Families are the primary social group that influence a child’s educational experience in many ways. Moreover, family is one of the three institutions that Bowles and Gintis argue forms the framework for the role of education in the reproduction of social class (Karabel & Halsey, p.33, 1977). Yet, in many developing countries, education’s ‘reproductive’ effect is predicated on educational accessibility. Educational accessibility depends, among other factors, on a family’s

willingness and ability to send children to school. Moreover, in many families, educational opportunities are inextricably linked to the availability of funds, firstly to send children to school, where school is not free, and secondly to purchase educational materials, notably textbooks. In the web of national education systems in developing countries, what it costs families to send their children to school and to purchase the necessary textbooks appears to form 'the bottom line' in determining educational opportunity.

In addition to the influence of the family, church authorities in some countries represent another organized body exercising power. Where church authorities play an important role in providing schooling, the church's particular religious orientation dictates its educational ideology. Any contradictions with the ruling elite's educational ideology is a source of conflict. The struggle over textbook content in California provides an excellent example of how the 'Religious Right' and their view of creation has come into conflict with mainstream views on evolution (Apple, p.33, 1991). The eventual outcome was that some minor editorial adjustments in the social science textbooks were adopted to appease the creationists. This type of conflict has a very real impact on what and whose knowledge is made available and how it becomes legitimated. Furthermore, the struggle for control of school knowledge between state and church still exists in some developed and developing countries.

The many diverse participants effecting decisions and influencing the direction of the national education system contribute to the schooling process. Political elites, teachers, students, parents and church authorities overtly and covertly influence the form and content of school knowledge. Yet, the power of these various "status groups" is not equal.

Textbook content and selection often reflects the power relations and conflicting views of these key stake-holders.

#### **2.2.11 Summary of National Education Systems: The Transmitters of Legitimated and Contested Western Knowledge**

The international knowledge system influences the direction and content of knowledge disseminated throughout the world. This is particularly apparent for developing countries which, as Altbach states, form the periphery of this system. With the source of knowledge being the West, the domination of school knowledge by Western values and ideologies is apparent. Since national systems of education are major consumers of knowledge, questions of cultural and political appropriateness naturally arise.

Conflicting views about the role of knowledge and education within any one country exist as part of the competition among “status groups” for power and wealth. The functionalists and human capitalists see systemic needs as shaping the educational system, while the ‘reproductionists’ theorists view conflicting interests as the framework for remaking and relegitimizing the ruling elite’s hegemony.

The political elites ensure that the development of curricula and textbooks meets with their approval. Hence, textbook knowledge is not neutral. The politics of the textbook is directly related to the role of the state and the church in selecting and legitimating the texts that dominate the curriculum. The acceptance or rejection of the ‘official’ curriculum by teachers and students also impacts the education system.

The key participants in the educational system influence to varying degrees the policies and the selection processes which determine the form and content of the textbooks used in the classroom. Alternative textbooks which do not follow the dominant set of

values challenge the power relationships of these key stake-holders. The publishing of indigenous textbooks is one way in which the complex process of economic and cultural reproduction of power relations, nationally and internationally, is challenged.

## **CHAPTER THREE:**

### **Constraints & Benefits of Indigenous Textbook Publishing in Developing Countries**

#### ***3.1 Introduction***

The literature overwhelmingly concludes that textbooks are one of the most important educational resources in developing countries (Fuller & Chantavanish, 1977; Heyneman, 1983; Schiefelbein & Farrell, 1974; Smart, 1978). When provided to a substantial percentage of the population, textbooks seem to have a positive effect on academic achievement (Fuller & Chantavanish, 1977; Heyneman, 1983, Schiefelbein & Farrell, 1973, 1974, 1977). In fact, textbooks appear to have a greater effect than any other factor in predicting academic success. A World Bank survey of research on textbooks and achievement in developing nations found that in 15 of the 18 cases studied (83%), textbooks were a positive school factor in predicting academic achievement (World Bank, 1978). The lack of consistent findings regarding other in-school factors implies that investment in textbook provision in developing nations most likely results in improved academic achievement.

The educational potential of textbooks as a unifying force in the school system is another area of study. In analyzing textbook policy and textbook production in developing nations, Altbach and Kelly (1988) state that textbooks are among the most important educational elements and that if the subject matter is not relevant to the particular country in which it is being used, then educational quality may be compromised in terms of understanding and appreciation. For example, the Report of the Education Commission of India 1964-1966 stated that "there was hardly any common book which all the students in

India read and this is one of the reasons why our educational system contributes so little to national integration" (Ministry of Education, p.229). In different regions of the developing world, such as India, the use of common textbooks can serve to promote national integration. Yet, surprisingly, despite the evidence that textbooks have a significant effect on the quality of education, they have not received enough scholarly attention and therefore, merit further research and analysis in order to understand more completely their role as an educational tool, especially in developing nations. Within the scope of this research and based on the current emphasis on education for self-reliance, the pedagogical and cultural constraints and benefits of indigenous textbooks also merit attention.

### ***3.2 Reasons for Indigenous Textbook Publishing: Cultural Relevance, Language & Cost***

The justification for indigenous textbook development projects is based on a growing body of data and reports which indicate that relevant content, language of instruction and textbook costs affect academic achievement (Lillis, 1982, Altbach, 1991, Pearce, 1982). With the availability of textbooks and other printed materials as one of the most consistent predictors of higher student achievement (World Bank, 1989), these other factors may be the most significant predictors of whether or not students value, understand, and accept the knowledge presented in textbooks. Indigenous textbook publishing projects therefore, have as part of their mandate to respond better to local political, cultural, educational and/or economic conditions. The potential of indigenous textbooks to construct a reality more akin to the students reading the text, to enhance local publishing and to make textbooks available to more students are some of the important reasons why they are produced (World Bank, 1989).

### 3.2.1 Cultural Relevance

This points to the significance of culture in textbooks. In developing countries, surprisingly little attention has been paid to the role that textbooks play in defining whose culture and whose knowledge is taught. Inglis (1985) contends that textbooks are a means to setting the canons of truthfulness, which helps to re-create a major reference point for what knowledge, culture, belief, and morality really are (pp.22-23). Since textbooks are not merely delivery mechanisms of objective facts, they are an important mechanism for representing certain ways of selecting and organizing a knowledge infrastructure for society.

Textbooks, as part of the knowledge infrastructure, legitimate a “common culture”. Whether this is a democratic process “...in which all people - not simply those who see themselves as the intellectual guardians of the ‘Western tradition’ - can be involved in the deliberation of what is important” (p.15, Apple) or whether it is influenced by the hegemonic control of ruling elites as the reproduction theorists suggest, depends both on the capacity of dominant institutions to reproduce themselves, and on the strength of power relations between dominant and subordinate culture groups.

Amidst this power struggle, textbooks present a textual authority of “common culture”. On the one hand, selected textbooks may include many “pieces” from the current dominant cultural context. On the other hand, they may present a range of meanings reduced to include only a “selective tradition”. Such is the case with recent efforts in North America to return to the “virtues of Western culture” (Aronowitz & Giroux, p.214, 1991). Nonetheless, whatever textbooks are selected, the decision is a result of a complex interaction of cultural, economic and political forces. As noted in

section 2.5, the cultural politics surrounding textbook content and selection represent a microcosm of the complex interaction of the politico-cultural forces in establishing and controlling educational priorities.

In many developing countries, regional differences mean that the appropriateness of one textbook is determined by its ability to reflect local conditions. The idea of appropriateness leads to issues of cultural relevancy. Dewey (1960) advocated the use of relevant student experiences to form the backbone of education. In his view, the thinking skills and knowledge we learn in society, to be beneficial and productive, must be connected with ourselves and the society in which we function. The use of relevant educational materials and experiences means there is not a bifurcation of student experience and school knowledge. Cultural relevancy, then, is one way of making learning meaningful. It is less clear if this has a direct effect on academic achievement.

In the Philippines, however, findings confirmed that improved academic achievement resulted from the use of textbooks published by the Philippine Textbook Project. This project, which began in June of 1975, had two goals: developing an institutional capacity to develop relevant textbooks, including the writing of manuscripts; and increasing the availability of textbooks in schools (Aprieto, 1983). Here, textbook publishers were insistent about the importance of creating an indigenous publishing industry. A high priority was given to writing textbooks and, books in general, which were "...written by Filipinos for Filipinos and of the Filipinos" (de Guzman II, p.143,1989). The standardization of content and the supply of textbooks helped to equalize learning achievements between rural and urban regions and to raise student performance by 14 per cent (Aprieto, 1983). In fact, "all achievement test scores in

science, mathematics and Filipino were strongly influenced by membership in the Textbook Project” (Heyneman & Jamison, p.143,1984). This case exemplifies the positive outcome of culturally relevant textbooks: improved academic achievement. However, it should be noted that this project received substantial funding and expert guidance from the World Bank and Unesco..

### **3.2.2 Language**

Earlier it was discussed how language acts as a means of social stratification: those that speak the dominant language often have greater upward social mobility. Moreover, the language of instruction in educational institutions often remains that of the colonizers. Not only then is language a legacy of the colonizers, but it is also a medium of knowledge exchange which mediates accessibility. Notably, the language of publication of most scholarly journals is English. Those that understand English have access to this knowledge (depending on availability). Language is consequently a key to controlling the content and access to knowledge in general and in textbooks specifically.

Among the many questions surrounding the issue of language is the question of whether or not there are quantifiable and qualifiable differences in the amount of indigenous content when a Western language or an indigenous language is used? In Nigeria, Okonkwo (1988) conducted a study to examine the possible differences in the amount of indigenous content when the linguistic medium is changed, in this case from English and Igbo. He concluded that the Igbo texts taught children more about themselves than the English texts (p.219). In fact, “the attempt by the English texts to teach culture is fraught with contradictions primarily because many authors of the texts were cultural outsiders”(p.219). He continues to say that the Igbo textbooks included more written texts than the English

textbooks. It was assumed that this was due to the familiarity of the content for both Igbo students and authors. The Igbo authors also used a wider choice of vocabulary based on the assumption that, since it was their mother tongue, the children would understand the meaning. Even with this indication of greater understanding when an indigenous language is used, the tradition of using Western languages in many developing countries continues.

It would be simple to assume that publishing a textbook in a child's native tongue would solve linguistic barriers and increase indigenous content. If the "contents of education reflect a people's idea of reality, and what belongs to reality is given to the people by the language they use, one can then conclude that the obvious differences in what texts teach are due to linguistic medium..."(Okonkwo,p.220). While this may be true, understanding what a text teaches is also affected by the approach used and the level of difficulty of the language employed. What is important to remember is that there are many different approaches to accommodating the diversity and range of languages in one country. In effect, indigenously published textbooks provide the opportunity to do two things: 1. to publish in indigenous tongues; and 2. to adapt the level of difficulty of the Western language(s) used in the educational system to suit the educational needs of students (Altbach, 1988; Pearce,1990).

### **3.2.3 Financial Reasons for Indigenous Publishing**

Many indigenous textbook publishing organizations are, at least in the early years of operation, dependent on subsidies, either from government or from foreign aid. Financing a sustainable textbook provision system is also done by using a revolving fund. This is where income generated from book sales is used to finance future textbook

requirements. However, there is a question of equity: what happens to the children of families who cannot afford to pay even a modest fee? This was an issue in Liberia, where an IDA (International Development Association) project reduced textbook costs by 50%. Yet, still most parents could not afford the textbooks (Read, 1989, p.37). In addition to the income of parents, Pearce (1983) and Read (1989) indicate that funding for textbook provision depends on geographical location (for textbook distribution) and number of students (quantity). Analyzing the various combinations of selling and renting them to wealthier parents, and giving them free to the poorer regions, is an important matter of consideration for funding textbooks.

The case in Liberia underlines the necessity to calculate the cost to the consumer and to consider the effectiveness of subsidies when publishing and distributing textbooks. Not only does this influence the effectiveness of a textbook publishing organization, but also school attendances have been adversely affected when parents were unable to afford textbooks (Pearce, p.330,1983). Economic decisions regarding: a) who should pay for textbooks; b) whether they will be purchased on the international market; c) or whether protection in the form of subsidies is warranted for a struggling indigenous publishing industry, all have an impact on the price of textbooks. Consequently, when choosing between imported and indigenously published textbooks, the available financial resources must be balanced with educational objectives.

In discussing the availability of financial resources for the provision of textbooks, one common problem is high prices which often result "from too much choice among many titles, so that economies of scale in bulk purchase and large print runs are lost" (Read,p.37, 1988). When mismanagement in the procurement of imported textbooks

results in too many titles from which to choose and too high prices, parents cannot afford to purchase all the required textbooks. Indigenously published textbooks can offer one solution to the problem. However, unfair competition from imported textbooks and internal obstacles, such as import duties (which affect the cost of paper and other essential materials) are issues that must be resolved in order to encourage the building of a publishing infrastructure by avoiding economic inequalities.

### ***3.3 Challenges to Indigenous Textbook Publishing: Key Issues and Choices***

#### **3.3.1 Building a Publishing Infrastructure**

The establishment of indigenous textbook publishing offers an opportunity to develop local publishing skills and a local publishing infrastructure. Altbach (1988; 1991) and Pearce (1983) discuss the challenges for indigenous textbook publishers to produce for and access the local markets. This requires the support of both foreign aid agencies and local governments in order to establish an indigenous textbook industry in a highly competitive market (Farrell & Heyneman, p.10, 1989). Aid programmes from the World Bank, for example, are attempting to collaborate with indigenous textbook publishers (in the Philippines, Lesotho, & Mexico, World Bank, 1989). One Canadian NGO, CODE, proposes aid programmes focusing on book market desire. CODE also provides training in publishing books for local use.

Textbooks are effective learning tools when they are effectively written. Pearce (1983) and Altbach (1991) agree that “the author (or authors) are the most important ingredient of textbook quality” (Altbach, p.249, italics theirs). Experts in the field of publishing agree that indigenously published texts provide an opportunity to develop the

writing skills of local authors. In India, the publishing of texts written by local authors and using many regional languages "...is growing and is very slowly coming to be an important element in the country's cultural structure" (Altbach, p.144,1987). Related then to local authorship is the articulation of local culture(s) and in some cases the use of regional languages. The development of a publishing infrastructure, therefore, offers the opportunity for the employment of local authors to write about indigenous culture(s).

In addition, indigenous publishing organizations can often "fit" the content of locally published textbooks with local customs and national curriculum. In the Philippines Textbook Project (1989), curriculum centres formed an essential part of the project. At these centres, textbooks were developed to meet curricular needs according to "a successful organizational structure" (de Guzman II, p.170). "Planning and writing included the analysis of the curriculum to derive the concepts and skills to be treated in the textbook and place them in a logical order on a scope-and-sequence chart" (Ibid, p.149). Textbooks can respond directly to specific curricular needs, where local authors use concepts outlined in the official curriculum as a guide for their written materials. These materials may reflect basic community needs and resources, as in the Philippine Textbook Project, or local authors may be political agitators articulating an emerging ideology, as in Grenada following the revolution in 1979 (Jules, 1991). The development of an indigenous textbook publishing organization therefore, encourages the development of publishing and writing skills. As well, it can provide a closer relation between textbook content and local needs and customs

### **3.3.2 Vested political interests**

Since the publishing industry is a vital aspect of cultural identity and nationalistic sentiment, who controls it is not only a cultural or economic question, but a political one as well. In many developing countries and some developed countries, public sector publishing of textbooks has been assumed by the political elite so as to ensure the control over content in serving a nationalistic purpose. For instance, in China, after the Communists attained power in 1949, the political elite controlled the textbook production and publication industry. Although this control became an important element in rapidly improving China's literacy rate, it stifled the development of private sector publishers and the availability of general publishing materials (Altbach, p.246, 1991). The political elite's control of the educational institution consequently affects the relation between textbook and general publishing, as well as between private and public sector publishing by censoring and dictating what is published.

### **3.3.3 Private versus Public Sector Relations**

Who publishes indigenous textbooks, either the private or public sector, is a critical question. In fact, the complexity of private-public sector relations in the publishing of textbooks often create tensions. The increasing involvement of governments in the provision of textbooks has been perceived as a threat to local publishers in some developing countries (Gopinathan, p.61, 1989). Altbach (1983) points to the fact that government take-over of textbook production can impede the development and survival of private-sector publishers "who have responsibility for publishing cultural books, fiction and often research studies" (p.321). This latter type of publication is often less profitable than textbook publication. This makes textbook production a significant part of the publishing equation in

many developing countries since private publishing organizations often depend on the textbook market to subsidize other less profitable published materials. A government monopoly of textbook production, therefore, has repercussions beyond the immediate textbook publishing situation.

Gopinathan (1989) discusses the three major types of private-public sector relations along a continuum: 1) a public monopoly, where the government controls the production of textbooks; 2) a private monopoly, where private textbook enterprises control the production of textbooks ; 3) a combination of the two, where both parties produce textbooks, thus creating a link between the private and public sectors (p.68). The interactions among many factors and institutions contribute to the complexity of textbook publishing. Moreover, the ways in which social, educational, cultural and political conditions develop differ from country to country. These variations imply that there is no *one* best way to provide textbooks.

Different countries offer different models of public-private sector relations. India provides an interesting example where many models of public-private sector textbook development have experienced differing degrees of success. Being a country with strong regional and religious tensions, India faces awesome difficulties in creating a publishing infrastructure. In some of the states, government-run agencies have been efficient in developing and distributing textbooks, whereas in others textbook agencies have been wrought with corruption, and, as a result, have not provided the needed textbooks.

Kumar (1988) discusses India's heavy reliance on public sector funding and some of the implications that this has had for private sector publishing. Most importantly, since textbooks are often the profit-making part of the publishing operation, the private

publishing industry has been deprived of a reliable financial base by being denied the opportunity to publish school textbooks (p.135). He presents the argument that a blending of public and private sector publishing in India would service this diverse textbook market more efficiently.

Although they are related, the question of whether publishing is private or public is distinct from whether it is indigenous or foreign. Perhaps the difference in publications between private and public publishing can best be summarized by Gopinathan (1989):

A monolithic government publisher lacks the flexibility to produce a small but varied range of titles on diverse topics in response to subtle market trends. It is the commercially oriented publishers who translate the broad cultural objectives of the government into books on history, politics, religion, fine arts and biography (p.65).

In other words, the private sector can respond more readily to local conditions. The capacity of private sector textbook and general publishers to respond to “subtle market trends”, nonetheless, is dependent on the local market. In many developing countries, the markets are often smaller, with various languages and levels of literacy, and with different book buying habits based on lower levels of disposable income. A careful consideration of these factors can aid in making decisions to use the private or public sector, or a combination of the two in responding to textbook requirements.

#### **3.3.4 Authors and Editors**

Typically, in developing countries, several essential components to the sustained development of a textbook publishing infrastructure are missing. Notably, the lack of textbook authors creates a void in the textbook publishing process. Pearce (1983) states that “finding writers to produce the manuscripts [for textbooks], and adequately remunerating them, have been major problems for TPO’s [Textbook Publishing Organizations]” (p.336).

Lack of textbook authors consequently is partially due to a lack of financial gains. In order to sustain an indigenous textbook publishing organization, sufficient remuneration for authors is necessary. An example of an indigenous publishing organization which recognizes some of the complexities of writing and publishing textbooks is Mexico's Free Textbook Programme. Since 1959, the Mexican government has funded a free textbook programme which successfully provides students with textbooks. With considerable experience at publishing, Mexico's Free Textbook Programme confirms that support for the development of writing skills is necessary and requires considerable investment (Neumann & Cunningham, p.138, 1989). Therefore, the funds available to develop textbooks and the allocation of these funds affect the quantity of skilled authors.

Textbook authors not only require specialized skills in writing, but also "detailed knowledge of the process of schooling, of the nature of the curriculum, of the psychology of learning as well as the subject matter and the sequencing of books in the field" (Altbach, p.8, 1988). Not only is there a lack of authors in many developing countries, but also even fewer authors have the combination of skills and knowledge stated above. Even in developed countries, the production and publication of a textbook is done by an elaborate system of experts. In examining the publishing for schools in France, Germany, the United Kingdom and the United States, Neumann (1989) states that textbook authors are given the support of editors, curriculum experts, illustrators and designers (p.117). This infrastructure is not available to authors in many developing countries, making the task of writing textbooks all that more formidable.

In addition to a general lack of textbook authors, there is an insufficient number of skilled editors to be found in developing countries (Pearce, p.337, 1983). Since editors work

closely with authors, the effectiveness of their input affects the final product. Like authors, editors require detailed knowledge of the educational system, as well as learning theory (Altbach,1987). Specialized knowledge of the publishing enterprise applied to establishing quality control mechanisms in the production of textbooks is also a key editing skill. This knowledge and skill comes with experience, which is “in short supply in the Third World” (Altbach,p.126,1987). Several factors consequently affect the quality of indigenously published textbooks, most notably lack of experienced writers, lack of financing to remunerate them, and lack of qualified editors to plan and supervise the preparation of textbook manuscripts.

### **3.3.5 Management Expertise**

In addition to the lack of authors and editors, there are many other challenges facing developing nations wishing to create a textbook publishing infrastructure. Pearce (1983) lists some major causes of failure among indigenous textbook publishing organizations: a) an underestimation of the complexity and size of the job; b) inexperienced advice in planning the operations; c) insufficient resources in management (p.327). These factors are problematic because, in order to be addressed, they require skilled manpower and publishing expertise, often lacking in developing countries.

Lack of coordination is a common pitfall. According to Read (1989), once the need for a textbook has been identified, an author is commissioned to prepare a manuscript, which is then inspected, revised and edited before going to publication. Before production of the textbook can occur, the editor arranges all the physical specifications. Once the textbook has been printed, the question of distribution, selling and storing the textbook must be addressed. These are just some of the principle elements of a publishing infrastructure.

The coordination of these elements and the necessary expertise requires considerable planning and is paramount to the success of an indigenous textbook publishing organization (Ibid). For this process to occur, “[the] skills of publishing personnel are one of the most important parts of the infrastructure of book publishing” (Altbach, p.56, 1988). If management skills are weak, the result can be compared to the domino effect, where if one part falls down, what comes after falls down as well. In other words, the complexity of the publishing process demands strong management skills in order to succeed.

### **3.3.6 Distribution and Availability**

A key challenge to textbook distribution is transportation. Moreover, distribution involves many parts of a nation's infrastructure, including the transportation system, educational establishments, and the publishing industry itself. In general, distribution in developing countries is “especially difficult because of transportation problems, an especially small market, few channels for publicizing books, limited bibliographical tools, and the general level of poverty” (Altbach, p.31, 1987). In Nepal, for example, a textbook project experienced significant distribution problems which Yadunandan (1983) attributes to an inadequate delivery system in a country of many remote districts, some without roads. In other cases, considerations, such as early printing textbooks so they are available for the beginning of the school year, are often disregarded, even though they may absorb as much as 50 per cent of the energy and resources required to ensure timely distribution of textbooks to classrooms (Pearce, 1988).

Conversely, Mexico's Free Textbook Programme experienced a high degree of success in distributing textbooks. “They [textbooks] are distributed through an ingenious system involving the national railroads, trucks, and eventually mules - an impressive

accomplishment in scheduling and organization” (Newmann & Cunningham, p.139,1989). Unfortunately, this degree of cooperation is not the norm in developing countries (Altbach, 1987; Pearce,1983). The challenge of finding a consistent mode of transportation that is not too costly, as well as finding proper storage for books in close proximity to where they are to be distributed, can create a national ‘centre-periphery situation’. In other words, students located in ‘centre’ regions have greater access to textbooks than do those living in ‘periphery’ regions of the country.

### **3.3.7 Pedagogical Quality and Teacher Training**

The pedagogical quality of either imported or indigenous textbooks is related to their effectiveness as a teaching tool. In developed countries, the detailed research that goes into the writing of a textbook results in “a complex teaching tool” that has received input from many experts on all aspects of the textbook publishing process (Neumann,p.117, 1989). An elaborate publishing infrastructure is at the disposal of “Western” publishers. Conversely, Altbach states that authors from developing countries do not have access to “bibliographical tools” and a complex publishing infrastructure (p.31,1987). This clearly has implications for the pedagogical quality of indigenously published textbooks which often lack the distribution system, publishing expertise, writers, etc., which are available to competing multinational firms. In effect, indigenous textbooks are caught in a vicious cycle where the quality remains limited because of lack of experience and resources, and where limited experience reduces the capacity for improvement of textbook quality.

In response to this quandary, the World Bank has been sponsoring many textbook projects which have allowed in some cases for the development of an indigenous textbook industry (1989). One of the largest projects, the Philippines Textbook Project, used

achievement tests to compare students who used the textbooks published by the Project and those who did not. The findings indicate “significant improvements among [Project] textbook users” (p.142). The pedagogical quality, at least in the case of the Philippines Textbook Project, of indigenous textbooks may positively influence academic achievement.

Related to the pedagogical quality of indigenous textbooks is teacher training. The publishing of indigenous textbooks inevitably needs the support of teachers trained to effectively teach with these textbooks. The World Bank (1989) has found that support provided teachers with respect to training and supervision is crucial to the effective use of textbooks in the classroom. Yet, teacher training as a support for textbook use is a concept much less developed by MOE officials in many developing countries. In-service training in this context may not receive the kind of commitment necessary to increase effective use of textbooks.

Some attempts have been made to use high-density training programmes in countries such as Indonesia and the Philippines. The idea of high-density training is to select administrators, principals and teachers at the national level, who in turn train another group at the district level, who in turn organize school-based seminars. In the Philippines, teacher training was factored into the project's mandate and was intended to promote the effective use of the textbooks produced. The objectives for those teachers participating in the training workshops were to:

- apply their skills in curriculum analysis to the use of textbooks in the classroom
- identify and demonstrate teaching strategies appropriate to specific lessons
- manage instructional resources so as to create effective teaching and learning situations and increase the useful life of educational materials
- prepare the appropriate tests for use in class
- integrate curricular areas for development of specific skills.

(de Guzman II, p.167, 1989).

Many indigenous textbook organizations have as one of their aims the training of teachers in the use of their textbooks, thus allowing teachers to familiarize themselves with the materials and to provide an opportunity for discussion and clarification. The pedagogical quality of textbooks inevitably needs the support of teachers trained to effectively teach with indigenous textbooks.

### ***3.4 Summary: Constraints & Benefits of Indigenous Textbook Publishing in Developing Countries***

Textbooks, whether they are imported or locally produced and published, are the main tools of teaching in most developing countries. Developing an indigenous textbook publishing industry is much like creating a complex new industrial sector. Although articulation of curriculum needs with the textbook content is of paramount importance in the development of an excellent education system, having the necessary time to train and prepare curriculum developers and textbook authors is rarely factored into the publishing equation. “The textbook situation in any country depends on the state of the publishing industry (including printing capacity, the availability of paper, and the distribution system), the presence of competent authors (and the research and testing facilities to ensure relevant textbooks), and the educational system “(Altbach,p.318,1983).

Many obstacles remain in the publishing and production of indigenous textbooks. The presence of multinational publishing firms, the decision to use the public or private sector, the process of publishing and distributing local textbooks, and the training of teachers in textbook use are challenging issues whose solutions depend on the internal infrastructure and the international knowledge infrastructure in order to be resolved. The tensions over textbook selection signify other more profound conflicts over political,

cultural and economic issues. For instance, the publication of locally produced textbooks may challenge issues of unequal power, dominant local culture, elitist approaches and metropolitan values. The state 'super-structure' is the site for these conflicts to be resolved. How they are resolved and the struggles inherent in the resolutions all impact on decisions over what school knowledge is legitimated and ultimately what textbooks are selected. An examination of the pedagogical and cultural benefits of indigenous textbooks only begins to contribute to our understanding of the relationship among politics, culture and economy.

## **CHAPTER FOUR:**

### **Research Context and Methods of Data Collection**

#### ***4.1 Introduction***

Textbooks, being a central part of any educational system, can either significantly assist or hinder a teacher. Since textbooks help to define the curriculum, any efforts to reform or improve educational systems require an examination of the materials used to convey school knowledge. Apple (1991) urges us to consider the textbook not psychologically, but rather socially, “as embodiments and the result of the class, race, and gender dynamics that organize society” (p.7). Textbooks therefore, are uniquely qualified to help us understand the complicated relationships of power and contestation.

However, educators in many developing countries appear more concern with increasing accessibility to schools rather than with what actually happens in the “black box”. Looking specifically at Belize, a newly independent country, the point of focus appears to be on maintaining standards of excellence from their colonial past. The idea of maintaining standards of excellence means that the educational process is design for the highest common denominator. For example, textbooks from the colonial era are still in use in Belizean classrooms thus maintaining colonial standards. The exclusivity of these standards of excellence can also be seen in the poor academic results at the primary level (5% continuing on to secondary school; Government of Belize, 1993). These results maintain an elite group of students. Likewise, these results relate to the social structure and are the “embodiment ... of class, race, and gender dynamics that organize society”

(Apple,p.7, 1991). Since textbooks are the most tangible form of the education system, they hold a pivotal position in the hierarchy of power and require more attention.

As a result, Belize provides an excellent opportunity to analyse and compare the imported textbooks currently being used with the attempts of a local publisher to produce indigenous textbooks based on local culture and using approaches aimed at the majority of Belizean children. The difference in knowledge contained within local and imported textbooks relates to conflict and compromises in the Belizean Education System.

#### **4.1.1 Research Context: an Overview of Belize**

Belize gained its independence from Great Britain on September 21, 1981, before which time it was called 'British Honduras' (Larousse, 1985). With a small population of 166,200 and an area of only 23,000 square kilometres, the population density of Belize is about 7 people per square kilometre. Although it is one of the poorest countries of the former British colonies in the Caribbean, Belize has one of the richest cultural mosaics of any of its neighbouring countries. The largest portion (50%) of the population is comprised of Creoles, with the Mestizos (of Hispanic-Indian origin) making up 25% of the population, and the remainder of the population being a mix of Black Caribs, descendants of the Mayans, Garifuna, and other ethnic groups, such as East Indians, Chinese, and Lebanese (Larousse, 1985). This fusion of various ethnic groups makes the necessity of incorporating this cultural diversity into the Belizean educational curriculum apparent.

*Figure 2: Mayan children*

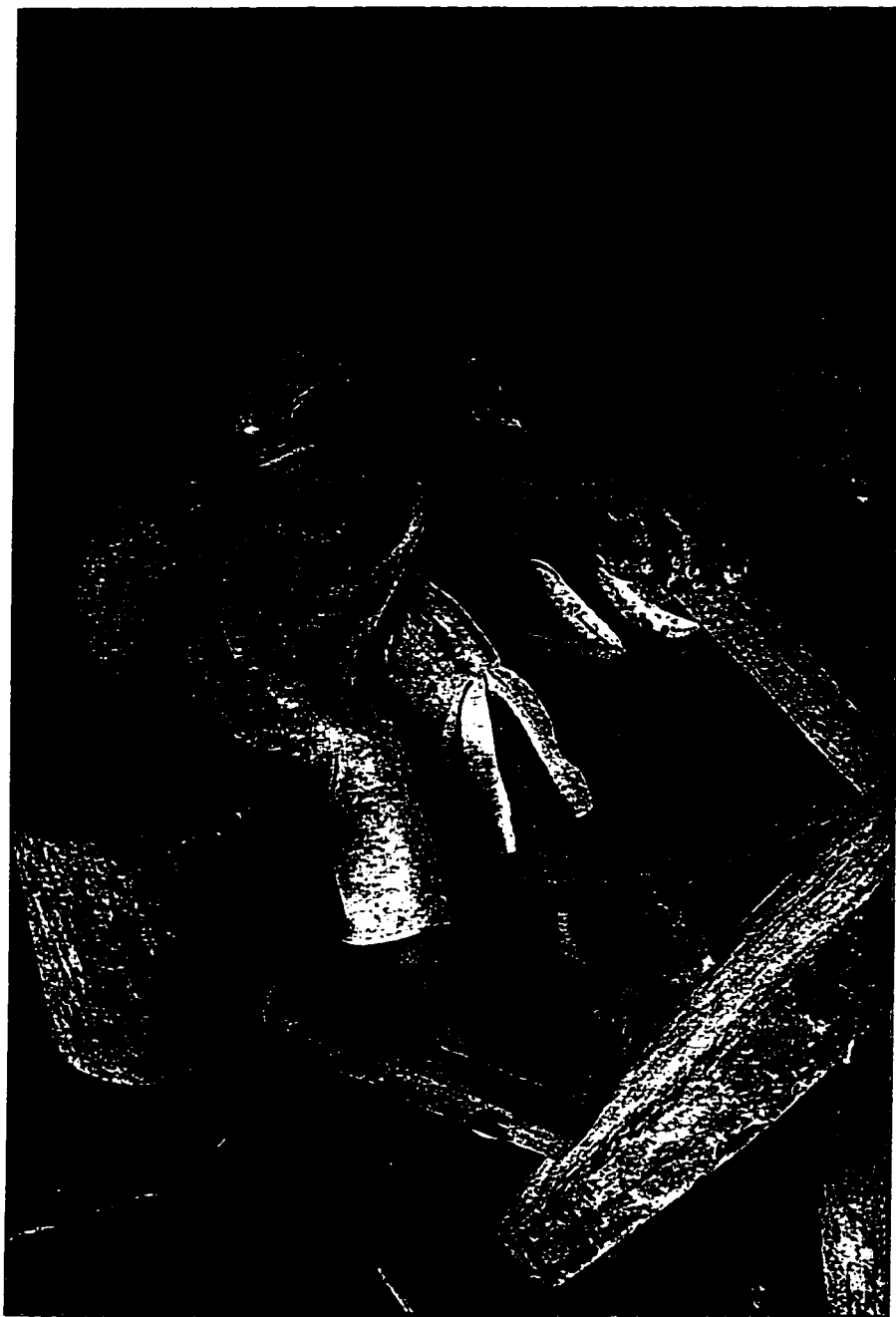


Figure 3: Creole children



The principle natural resource is agricultural land, although it is greatly underexploited. Forty per cent of the country is arable land and yet only 10 per cent of the land suited for agriculture is cultivated. The major reason for the underdevelopment of agricultural land is attributed to a large-scale rural exodus. Furthermore, subsistence farming and high levels of unemployment and underemployment have contributed to the rural exodus, thereby worsening the economic situation (Larousse, 1985). This has resulted in large imports of foreign foodstuffs, causing a drain on the national economy. Despite attempts on the part of the Belizean government to develop its agricultural potential through various education programmes, and despite the modest success that these programmes have witnessed, the Belizean economy remains centred primarily on the sugar industry, citrus farming, and fishing.

Nevertheless, another area with great potential for economic development is the tourist industry. The beauty of the flora and fauna and the country itself attracts increasing numbers of visitors. Many animals, such as jaguars, monkeys and Baird's tapir (the national animal) inhabit the country, particularly in the virgin rain forests.

In many ways, Belize is far ahead of other developing countries in redefining tourism as an economic strategy that can preserve rather than destroy its invaluable resources. The increasing surge in nature-based tourism may provide Belize with long term economic and ecological gains. Certainly, the strength of commitment to eco-tourism in Belize will be a subject for those concerned with the world's environmental health.

#### **4.1.2 General Overview of Belizean Educational System**

In Belize, the educational system has been largely denominational. Ninety per cent of the primary schools are denominational (Government of Belize, 1988). In 1989, the primary education enrolment of Catholics was 62.5%, whereas the Protestant enrolment was 21.9% (World Bank, annex 2, 1991). Each religion has tended to assume a sectarian approach in asserting its role in Belizean education. Education, therefore, has not conformed to the nationalist objectives or the 'Belizeanization' that other social institutions have faced during the last three decades. Nonetheless, with the recent amendment to the Educational Ordinance, this has changed. The Ministry of Education (MOE) strengthened its managing role in the national education system, although consultation with the church school managers is still required on major policies. Generally, the church-state partnership

has been successful in providing access to education for Belizean students of diverse race and ethnic origins.

The Belizean system of education is based on the British model of academic training. Primary education is free and compulsory up to the age of 15 and consists of eight grades of instruction, beginning with the infant class through to the equivalent of the sixth grade in the Canadian system. There are approximately 235 primary schools in Belize, with roughly 68 per cent of these schools located in rural districts (World Bank, 1991).

Belize's enrolment rate for primary education is an impressive 94%. Moreover, the dropout rate is relatively low in comparison with some of its Caribbean and Latin American neighbours, with an estimated 80% of the children completing the primary programme (World Bank, 1991). Moreover, population growth is expected to increase school enrolment by 3% annually over the next several years (Government of Belize, 1988). This will necessitate more qualified teachers and teaching materials. The Ministry of Education already faces a shortage of both qualified teachers and textbooks (MOE, 1993). In 1991, only 45% of teachers were qualified by MOE standards (World Bank, 1991).

As for teaching materials, textbook provision and production have proven to be more complicated. Several factors contribute to this problem. Parents must buy textbooks at subsidized rates. In a country with a generally low level of annual income (\$2050 US per capita: World Bank, 1991), this means that not all children possess the required texts (World Bank, 1991). The required textbooks are chosen by principals and teachers who do not always take into account parents' ability to pay for the books. Furthermore, the lack of standardization of textbooks among Belizean schools means that the number of books parents must buy is excessive (Pearce, p.7,1990). Moreover, booksellers cannot deal in

volume, which tends to make costs rise (interview, Government Bookstore,1993). With textbooks being one of the most important learning materials in a developing country, there was a need for a solution to the textbook dilemma in Belize.

The following picture portrays a Belizean primary school which is representative of the type of structure used.

*Figure 4: Mount Carmel Infant School, Benque del Carmen, Belize*



#### **4.1.3 Administration of Educational System: MOE & CDU**

The amount of direction that schools receive from the MOE is limited. Other than the national exams, the MOE has not been active in directing the course of the Belizean Education Programme prior to 1993 (MOE interview, 1993). With the change in government in 1993, however, the Chief Education Officer stated that he anticipated unifying school teachers by having public forums on educational issues: a type of grassroots approach. The aim would be to discuss issues important to Belizean educators.

One of the specific goals of the MOE is a general appreciation of cultural and aesthetic values. More specifically, each person is to be made aware of the “knowledge of the cultural achievements made by individuals in painting, sculpture, music, literature, and

other cultural media.” (Government of Belize, p.4, 1984). However, no teaching materials or curriculum could be found which would support this goal. In fact, little if anything is done by the MOE to promote these “cultural achievements” according to several educators (interview, 1993).

The Curriculum Development Unit (CDU) is an affiliated branch of the MOE. The CDU is responsible for developing and producing curriculum, programmes of instruction and the accompanying materials as its main objective. It responds to curriculum requirements as outlined by the MOE. Unfortunately, there are vast differences in the production and distribution of educational materials from the CDU, particularly those that deal with cultural aspects of Belizean life. For instance, the CDU does not distribute the Social Studies programme widely. Most copies have remained in the Belize City district (MOE, 1993). Limited financial support and, as a result, limited educational materials hinder the CDU as producer and distributor of learning materials.

In fact, teachers wishing to possess a curriculum guide are obliged to purchase them on a very modest salary. The MOE’s explanation was that because of lack of financial resources, it was impossible to provide the guides free to all schools. Another factor was the presence of the denominational schools and concerns for cries of preferential treatment if only the public schools received copies (MOE, 1993). Hence, in order to avert reprisal from parents choosing a denominational school, all CDU & MOE educational materials must be purchased. As a result, although Belize has acceptable curriculum guides in most core subject areas, few primary teachers are in possession of these guides.

The loose structure of the national education system also contributes to inconsistencies in production and distribution. The CDU has produced some educational

materials, but has failed to distribute them to teachers. Most copies go to high profile schools or remain in the Belize City district, the seat of the CDU and the MOE (CDU, 1993). The loose organizational structure of the national education system is reflected in the inequitable distribution of educational materials and curriculum guides from the CDU.

## **4.2 Textbooks in Belize**

### **4.2.1 State versus Private Textbook Management**

In reaction to the problem of lack of textbooks, the MOE initiated a textbook project in 1989, the Ranfurly Library Service, aimed at selling textbooks to parents at subsidized rates (World Bank, 1991). The MOE imported 108,000 primary textbooks, which were sold to parents at half the UK retail price. Paradoxically, even after a public awareness campaign, many parents were still unaware that textbooks were being sold at reduced prices. This weak link in the project is symptomatic of what the World Bank Report (1990) identified as the main problem: a lack of management skills. Pearce (1990) agrees that it is difficult for governments to manage publishing and distribution projects effectively and efficiently without treating the project like a private enterprise and not a government department (p.10). The skills needed to effectively manage and administer a textbook publishing organization, therefore, require more attention. Specifically, the Ranfurly Library Service points to weaknesses in the public administrative infrastructure of textbook provision in Belize.

### **4.2.2 Textbooks and Student Needs**

Both appropriate content and level of difficulty of a textbook in relation to the students using it are two indicators of a textbook's effectiveness in helping children learn (Altbach, 1991). One important educational need in Belize is the provision of academically

suitable textbooks. The imported language textbooks used in many classrooms present stories which are not culture-specific, meaning that they could take place almost anywhere in a tropical developing country. Moreover, they are not conceived for children learning English as a second language (Nelson Readers, 1974). The language used in these textbooks consequently is far too difficult for ESL students, which comprise the vast majority of Belizean students. As for imported mathematics textbooks, there are concerns that students are not given sufficient practice exercises for student mastery. Neither does the MOE provide supplemental exercise books to ensure that students achieve mastery, nor do they provide sufficient teacher training (see Appendix C). It appears that two essential needs, that of culturally and academically appropriate textbooks, are not being addressed by the MOE.

In Belize, the multilingual composition of the population causes instructional challenges, particularly for students and teachers in the early years of primary schooling. Monolingual children, whose mother tongue is not English, are confronted with English as the language of instruction. In a World Bank Report, it was reported that "the [Belize educational] system is not meeting the early primary education needs of Belize's non-English speaking children..." (World Bank Report, p.4, 1991). The failure of many non-English speaking students to understand the language of instruction contributes to poor student performance. Each year, approximately only 60% of primary students continue to the secondary level (Government of Belize, 1990). Other confounding factors may be lack of effort to learn and/or bottlenecks to secondary school access.

Nonetheless, the multilingual composition of the student population is not officially recognized in educational policies. MOE policy and programme support for ESL learners

and teachers does not exist. There are no courses or textbooks used at the BTTC which deal with ESL learners (interview, MOE, 1993). This absence translates into a lack of relevant training and textbooks for ESL teachers and students. Furthermore, over 90% of teachers (Government of Belize, 1990) have English as a second tongue and speak English only in the context of their teaching duties. The suitability of the textbooks in all subjects, but particularly language textbooks, is contingent on the language abilities of the students (and teachers) using them. Neither are teachers trained nor are textbooks chosen to reflect the needs of the majority of Belizean students.

#### **4.2.3 Government Subsidies**

In some cases, government subsidies offer a solution to the issue of textbook affordability. The Belizean government subsidizes imported textbooks. All of the imported textbooks found in the Government Bookstore are subsidized from 10 to 50% (interview, Government Bookstore, 1993). The Nelson New West Indian reader and Caribbean Primary Mathematics, the textbooks used in this study, are subsidized at approximately 50% the original cost. Locally published language and mathematics textbooks are not subsidized. According to MOE officials, they do not meet with MOE curriculum requirements (interview, 1993). For language textbooks, the MOE endorses the 'see and say' approach to teaching reading. This entails looking at a word and memorizing it (interview, 1993). Contrary to this approach is the phonetic approach where the sounds of letters form the basis for decoding words. As for mathematics textbooks, they are expected to reflect MOE mathematics curriculum guides, both in content and in sequencing (interview, 1993). Since the objectives and approaches set out in the MOE language and

mathematics curriculum guides are not met, the locally produced textbooks are not subsidized.

#### **4.2.4 Textbook Evaluation Committee**

Those imported textbooks which are subsidized by the Government of Belize are found on an ill-defined list of government-endorsed education materials. In November 1992, a Textbook Evaluation Committee was formed with the aim of providing Belizean teachers with a list of approved textbooks. It consisted of MOE and CDU officials. The main objective of the Textbook Evaluation Committee was to evaluate and rank the different textbooks used in Belizean classrooms in order to create an official MOE document (p.1, 1993). From the beginning, however, difficulties in the logistical organization of meetings (p.1) and in ideological preferences (CDU interview, 1993) compromised the productivity and effectiveness of the committee. The evaluation process was biased and did not effectively evaluate textbooks. In the report produced by the Textbook Evaluation Committee, the evaluation was based on assumptions which appear to maintain the status quo in textbook selection rather than a systematic inquiry into the contents and educational benefits of the different textbooks. Firstly, the evaluation instrument dated from 1973. Secondly, classroom observation of actual textbook use was never carried out due to time constraints. Thirdly, the limited participation of active educators on the committee coupled with their lack of actual on-site observation (p.1), and the tight control of appointed committee members limited the significance of the committee's evaluation. The result is an unofficial list of textbooks to which teachers pay little attention. More importantly, there is no official list with a restricted number of subsidized textbooks.

### **4.3 Indigenous Textbook Publishing in Belize: BRC Publishing**

#### **4.3.1 Origins of BRC**

In response to a perceived lack of appropriate textbooks for primary students, BRC Publishing came into existence. Starting in 1986 with a teacher from one of the Roman Catholic schools working in his spare time, BRC produced mimeographed books that were meant to fill an educational void: lack of stories about Belizean life, lack of an effective approach to teach Belizean children English as a Second Language and lack of sufficient practice exercises in Mathematics. The director of BRC contacted CODE in 1989 as he was aware of CODE's work in the field of publishing. The CODE/BRC project was undertaken in 1990. The primary objective of BRC publishing was to provide low-cost, culturally appropriate primary level textbooks in Belize (CODE, 1992). CODE's objective was to provide initial funding to BRC, as well as an offset print machine, a desktop publishing unit and other print associated equipment along with other consumables in order to implement and operate a fully-equipped and integrated printing and publishing unit. In addition to technical assistance, CODE has provided training in terms of business management and production training. It was believed that this would aid in sustaining BRC's publishing proficiency in addition to developing management and cost-recovery strategies.

#### **4.3.2 Rationale**

BRC's 'raison d'être' is the development of 1.) language textbooks which are suited to Belizean children learning English as a second language; 2.) and mathematics textbooks which reinforce basic concepts by providing numerous practice exercises.

With CODE's financial and administrative assistance, BRC has been working to achieve its specific objectives:

1. To provide language textbooks which use a phonetic approach;
2. To increase comprehension in English by creating language textbooks based on Belizean culture;
3. To provide mathematics textbooks which begin at a more basic level than the Caribbean Primary Mathematics textbooks;
4. To provide sufficient practice exercises for student mastery;
5. To provide affordable textbooks for all Belizean children.

(BRC, 1991)

In 1991, BRC published 50,000 textbooks in 21 titles, making BRC the largest publisher of primary textbooks in Belize (CODE, 1991). In its endeavour to become a self-sustaining textbook publishing organization, BRC textbooks are made available to primary-level students at a cost which covers the cost of printing.

Recently, BRC has begun publishing a journal, "The Children's Newspaper", which is made available to primary-level school children. The newspaper encourages literacy through the reading of interesting stories, articles and puzzles dealing with Belizean culture and ethnic groups. Ideally, revenues generated from textbooks sales could subsidize this type of additional educational material. Providing low-cost textbooks could, therefore, contribute to long range educational gains in literacy. In the case of BRC, the issue will be to determine if it has achieved its objective of providing low-cost indigenously-produced textbooks which are 'nationally' relevant and educationally beneficial.

#### **4.3.3 BRC & Educational Needs**

In the educational planning of BRC, several of the above mentioned concerns have been addressed. The first objective for BRC Printing, that of publishing inexpensive, Belizean-produced language and mathematics textbooks, began in 1986 (BRC, 1986). Before then, teachers used only imported workbooks and textbooks in their classrooms since there were no indigenously produced textbooks. In Belize, since children are expected to pay for their own textbooks, the price of textbooks was therefore a significant issue. Textbook cost is the basis for one of the educational needs BRC is attempting to address. BRC contends that their textbooks offer an inexpensive solution to the purchase of textbooks for Belizean students.

Figure 5: Student using BRC Language Year 3 (BRC 3.1)



Another educational need articulated by BRC is to acknowledge that the majority of Belizean students are learning English as a second language. BRC's approach to language learning is to employ simple words with much repetition, as well as many visual cues in the form of illustrations. Moreover, there is a heavy emphasis on the phonetic approach. In this way, BRC language textbooks allow students to exploit the three cueing systems: syntax, context, and visual. In a country where the mother tongue of the vast majority of the population (95%; Government of Belize, 1993) is a language other than English, the significance of this educational need is surprisingly not a recognized priority of the MOE. Nowhere is it mentioned in MOE documents that the majority of the student population has English as a second language.

Through the use of Belizean content, BRC's intention is to create a sense of cultural identity and civic pride in the children who use the texts. Furthermore, the authors are Belizean citizens, thus encouraging indigenous authors to write with the objective of fostering an atmosphere of cultural acceptance in mind. These differences

and general objectives are worth exploring further to establish if they are realized and if there are other educational disadvantages and/or benefits to BRC textbooks.

#### **4.4 Research Questions**

The general research question for the study is:

As reflected by the introduction and use of primary school textbooks, is education a system of reproduction or contestation of legitimate school knowledge in Belize?

The research question is guided by the following sub-questions:

- iv. What are the pedagogical differences between indigenously published textbooks and imported textbooks?
- v. What are the indicators of cultural differences between indigenously published textbooks and imported textbooks?
- vi. What are the differences in perception of educators on the appropriateness of indigenous versus imported textbooks?

#### **4.5 Instruments of Data Collection and Analyses**

Of particular interest to this study were the differences in indigenous content in both imported and locally published textbooks, and the different and sometimes polemical perspectives on education. In order to compare and contrast the textbooks used in Belizean classrooms, a field study of BRC was conducted from August 23, 1993 to September 8, 1993 in Belize. Over this two week time span, interviews and examination of BRC textbooks and imported textbooks took place. The information gathered during the field study was recorded using a tape recorder and written notes. Data for this case study, therefore, come from three broad sources: content analysis, interviews and questionnaires. For each question investigated, information was gathered from different participants and from available written records. Multiple source data collection not only generates 'richer data' and 'thicker description' (Yin, 1989), but also provides for triangulation and validation.

Those people identified as knowledgeable about the publishing organization, BRC, as well as those who are knowledgeable about the Belizean education system and who were available for questioning, were interviewed. The following people were interviewed:

1. Director of BRC Publishing,
2. Twelve Principals,
3. Three Representatives of the Ministry of Education responsible for educational publications and their distribution,
4. Representative of the World Bank responsible for the Primary School Project in Belize.

As a method of data collection, interviews with a variety of people furnish evidence needed to confirm the comprehensiveness and accuracy of the study's findings. This helped to contribute to the triangulation of data and to provide checks for information (Lincoln and Guba, 1985). The focus of the interviews was BRC and imported textbooks, and related issues concerning educational and cultural needs of children in Belize. Interview questions were formulated and based on the research sub-questions, using both structured and open-ended questions, all of which helped to provide for consistency.

#### **4.5.1 Content Analysis**

As in many developing countries, the data on textbooks used in Belizean schools are exceedingly scanty. Yet, content analysis of textbooks provides a rich source of information. Such an analysis has the potential of contributing to the general understanding of the effectiveness of so basic an educational tool.

In the context of this study, the importance and usefulness of a content analysis is best seen in the comparison it affords between imported and BRC textbooks. A content analysis helps answer the question: Is there a quantifiable difference in the indigenous

content and the amount of practice exercises in BRC textbooks and the imported textbooks currently used in Belize? Moreover, content analysis is a technique aimed at improving the quality of the inferences we make (Carney, p.xv, 1972). By using this technique, the focus of evaluation is clearer. The findings clarify not only the content, but also the frequency of its occurrence. In the case of BRC language textbooks, the issue was to determine if the illustrations and story content are more Belizean than the Nelson's New West Indian textbooks. Another comparison of BRC mathematics textbooks and Caribbean Primary Mathematics textbooks was to determine if there is a difference in the number of topics presented and the number of practice exercises.

Illustrations and story content can be usefully evaluated by tabulating the frequency of occurrence of pre-determined categories. In this study, those categories are: geography, daily life, flora, fauna, ethnic representation, festivities and religion, and history and legends. A simple mean difference is calculated according to three criteria:

1. "Belizean", where the content is uniquely and typically found in Belize, such as the tapir, milpa (a small farm), Belizean sites (e.g., Victoria Peak);
2. "Non Belizean", where the content is not typically found in Belize, such as snow;
3. "Generic", where the content is typically found both in Belize and elsewhere in the Caribbean, such as beaches and tropical birds.

In addition to value placed on textbook content, there is value in contributing to a positive national identity. If textbooks and curricula are intended to reflect and encourage a sense of citizenship, they necessarily must represent cultural and social aspects of children's lives. In this way, a textbook's content could positively affect a child's sense of national identity.

#### **4.5.2 Interviews**

Questions for the interviews focused on the description of textbook use in classrooms, the process of textbook choice, perceived educational and cultural needs of Belizean students, and perceived and quantitative benefits to students. Participants were also asked to evaluate BRC and imported textbooks by rank order. Each interview was recorded, with the participants consent, and transcribed for review and analysis. Further explanations and clarifications of the questions were given when asked. The key questions used during interviews were:

1. What are the educational needs of Belizean children?
2. What are the basic cultural needs of Belizean children with respect to textbooks?
3. Do BRC language and mathematics textbooks respond to the educational and cultural needs of Belizean elementary school children?
4. Compare BRC language textbooks with Nelson New West Indian Readers.
5. Compare BRC mathematics textbooks with CPM textbooks.
6. What is the most outstanding feature of BRC language and mathematics textbooks?
7. If you could, what aspect of BRC language and mathematics textbooks would you change?
8. Do you have any other comments, either positive or negative, about BRC language and mathematics textbooks concerning for example, content, cost, availability, durability, graphics, etc.?

The interview data from these interviews focused on (i.) the general learning needs of Belizean children and the challenges in meeting these needs; (ii.) a comparison of 1. BRC reading textbooks and Nelson's New West Indian Readers, and 2. BRC

mathematics textbooks and Caribbean Mathematics (CPM) textbooks; (iii.) feedback, either positive or negative, on BRC reading and mathematics textbooks.

The interviewees were contacted by telephone to establish a time and place for the interview. The interviews were conducted at the interviewees' offices during working hours. Each interview began with a simple introduction and explanation of the study's objective. Three of the interviews were tape-recorded and the fourth was recorded by writing notes due to technical difficulties. The interviews lasted from 45 minutes to one hour.

#### **4.5.3 Questionnaire**

The questionnaire (refer to Appendix A) was given to 29 consenting teachers. The questionnaire asked similar questions asked during the interviews. The majority of teachers responding to the questionnaire were from the Cayo and the Stann Creek districts. In total, there are five districts in Belize. These two districts were chosen due to the availability of teachers, to each districts' distinctive ethnic composition and to the different economic levels found in each district.

An explanation of the nature of the study was given, as was an explanation of the questions. Following this, questions were answered for clarification. No time limit was given for the completion of the questionnaire. Most teacher-respondents managed to complete it in 1/2 an hour.

In Stann Creek District, the questionnaire was distributed to teachers immediately following a BRC workshop. These teacher-respondents represented seven schools in Stann Creek District. All fourteen teacher respondents answered the questionnaire in the same room. In order to encourage each individual to express his/her own opinion, the

teacher-respondents were asked not to discuss their answers with each other while they were completing the questionnaire. The researcher remained available at the back of the room in order to provide clarification of questions.

In Cayo District, two schools were visited in order to find teachers willing to complete the questionnaire. Fifteen consenting teachers responded to the questionnaire. They answered the questionnaire in their respective classrooms while the researcher remained in the hallway or sought out other potential participants in nearby classrooms.

#### **4.5.3.1 *Limitations***

All but one question were open-ended. In some instances, the unspecific nature of these questions created confusion on the part of some of the teacher-respondents. As a result, they either did not answer the question or their responses were too open to interpretation and thus to cultural bias. I endeavoured to check and re-check the data from these responses. When this was impossible, I simply discarded the data. Incorrect assumptions, cultural bias, and miscommunication are all potential limitations of the data collected. While I acknowledge these limitations and have learned from them, I also am confident of the integrity of the data yielded.

#### **4.5.4 *Written Records***

In this study, written records include Ministry of Education documents, including curriculum guides and policy papers, as well as other pertinent written sources of information. Other sources of information include Curriculum Development Unit documents, World Bank reports, CODE newsletters and texts, and educational materials. These sources of data assist in triangulation.

#### **4.5.5 Organization of the Data**

Processing the data from the field study was guided by the research sub-questions:

1. What are the differences between indigenously published textbooks and imported textbooks?
2. What are the indicators of cultural differences between indigenously published textbooks and imported textbooks?
3. What are the differences in perception of educators on the appropriateness of indigenous versus imported textbooks?

The analysis procedure included both a thematic and a descriptive analysis of the information given for each interview and questionnaire, and a comparison of this evidence with written documents in order to draw valid conclusions. In chapter five, a content analysis of BRC and Nelson's language textbooks, and BRC and CPM mathematics textbooks will reveal to the reader quantifiable and qualifiable differences between the two textbooks. The content analysis highlights the written and illustrated content of the textbooks, as well as the printing quality and general appeal of the textbooks. This stage provided a record of the differences between BRC and imported textbooks.

Data from interviews and questionnaires have been categorized into general themes in chapter six. These themes are: learning needs of Belizean children; important elements about textbooks; comparisons of BRC and imported textbooks for education and cultural benefits, and in terms of differences in price, print quality, availability and support materials; teacher perception of BRC textbooks. This stage provided an overview of the interactive influences affecting indigenous textbook publishing, particularly BRC Publishing.

## **CHAPTER FIVE**

### **Response Presentation: Content Analysis and Teachers' Guides**

#### **5.0 Data Presentation**

The following two chapters present the data from the field research in Belize. In chapter five, the data are presented in three parts. The first part presents a comparative content analysis of BRC reading textbooks and Nelson's New West Indian readers. The second part compares BRC mathematics textbooks with Caribbean Primary Mathematics textbooks by examining the number of concepts, the number of practice exercises and the level of difficulty in each textbook. Part 3 presents an analysis of the BRC Teachers' Guides.

##### **5.0.1 Textbook Sources: Comparing Indigenous and Imported Textbooks**

For several reasons, including lack of both educational and publishing infrastructures, Belize has relied on foreign educational expertise and imported textbooks. This dependency on Western industrialized countries for the production of knowledge requires further examination to determine if this dependency necessarily perpetuates a form of Western imperialism through the control of knowledge. Looking specifically at BRC and Nelson readers, we explore patterns of cultural representation and learning approaches appropriate to the Belizean context. BRC and CPM mathematics textbooks are also compared to compare the amount of practice exercises and number of concepts presented per lesson. If a significant difference in the amount of Belizean culture between BRC and Nelson's textbooks is found, then one could posit that a pattern of cultural omission represents a form of cultural imperialism. Likewise, if a significant

difference in the amount of practice exercises in BRC and CPM mathematics textbooks is found, then it could be posited that this also represents a form of imperialism, where the aim is to maintain high academic standards and therefore an elite group of students. The findings are compared in chapter six with the responses from educators as to perceived effectiveness of each approach and the benefits and limitations of each textbook. This will contribute to triangulation with the other sources of data.

### **5.0.2 Price, Distribution and Approach**

One major difference between BRC Reading Series and Nelson's New West Indian Reader is their different approaches. BRC focuses strictly on teaching the phonic principles of letters. Nelson's readers encourage teachers to use both the phonetic approach and the 'see and say' approach, depending on the word. This difference appears slight, but for those untrained teachers whose second tongue is English, the Nelson's approach is problematic. Varying the approach makes two assumptions: that untrained and inexperienced teachers possess the teaching skills necessary to vary their approach with little or no guidance; and that these teachers possess the language skills necessary to determine which approach, either phonetic or 'see and say' would be more appropriate for their students. Many of these inexperienced and untrained teachers have not received formal instruction to understand what is meant by 'phonetic' and 'see and say'. For more experienced teachers with a better mastery of English and a richer variety of approaches, however, adapting an approach according to the word may be less of a problem.

In some instances, the teacher may use the textbook to provide the structure of the programme. Textbooks used in these circumstances are highly structured, providing well-prepared lessons, exercises, and follow-up activities. In other instances, the teacher

may use the textbook as support material for an already established programme.

Textbooks suitable to this teaching situation are less structured, assuming that the teacher will use the textbook more as a reference document. Untrained and inexperienced teachers are likely to make better use of the first type of textbook.

Another major difference between the two reading series is affordability. The following four tables outline the prices, the academic level in Belize, the equivalent Canadian grade, and the abbreviation to be used for the textbooks included in this case study. Those textbooks whose title is bold are used in this case study.

### Sequencing of Language Textbooks

*Table 1: Sequencing of Nelson Reading Textbooks*

| <b><u>Nelson Textbooks</u></b>                        | <b><u>Used in<br/>Belizean<br/>school year</u></b> | <b><u>Equivalent<br/>Canadian<br/>grade</u></b> | <b><u>Price</u></b> | <b><u>Abbreviation</u></b> |
|-------------------------------------------------------|----------------------------------------------------|-------------------------------------------------|---------------------|----------------------------|
| <b>New West Indian reader<br/>Infant Book 1</b>       | Infant 1                                           | Kindergarten                                    | 2,66\$Cdn           | Nelson 1                   |
| <b>New West Indian reader<br/>Infant Book 2</b>       | Infant 2                                           | Grade 1                                         | 2,92\$Cdn           | Nelson 2                   |
| <b>New West Indian Reader<br/>Introductory Book 1</b> | Year                                               | Grade 2                                         | 3,15\$Cdn           | Nelson 3                   |
| <b>New West Indian Reader<br/>Introductory Book 2</b> | Year 2                                             | Grade 3                                         | 3.15\$Cdn           | Nelson 4                   |

*Table 2: Sequencing of BRC Reading Textbooks*

| <b><u>BRC Reading Textbooks</u></b> | <b><u>Used in<br/>Belizean<br/>school year</u></b> | <b><u>Equivalent<br/>Canadian<br/>grade</u></b> | <b><u>Price</u></b> | <b><u>Abbreviation</u></b> |
|-------------------------------------|----------------------------------------------------|-------------------------------------------------|---------------------|----------------------------|
| BRC Reading 1, Book 1               | Year 1                                             | Grade 1                                         | 1,85\$Cdn           | BRC 1.1                    |
| BRC Reading 1, Book 2               | Year 1                                             | Grade 1                                         | 1,85\$Cdn           | BRC 1.2                    |
| BRC Reading 2, Book 1               | Year 2                                             | Grade 2                                         | 1,85\$Cdn           | BRC 2.1                    |
| BRC Reading 2, Book 2               | Year 2                                             | Grade 2                                         | 1,85\$Cdn           | BRC 2.2                    |
| BRC Reading 3, Book 1               | Year 3                                             | Grade 3                                         | 1,85\$Cdn           | BRC 3.1                    |
| BRC Reading 3, Book 2               | Year 3                                             | Grade 3                                         | 1,85\$Cdn           | BRC 3.2                    |

Sequencing of Mathematics Textbooks

*Table 3: Sequencing of CPM Mathematics Textbooks*

| <b><u>Title CPM</u></b>     | <b><u>Used in<br/>Belizean<br/>school year</u></b> | <b><u>Equivalent<br/>Canadian<br/>grade</u></b> | <b><u>Price</u></b> | <b><u>Abbreviation</u></b> |
|-----------------------------|----------------------------------------------------|-------------------------------------------------|---------------------|----------------------------|
| Caribbean Primary Maths 1-1 | Year 1                                             | Grade 1                                         | 1,76\$Cdn           | CPM 1                      |
| Caribbean Primary Maths 1-2 | Year 1                                             | Grade 1                                         | 1,76\$Cdn           | CPM 2                      |
| Caribbean Primary Maths 2-1 | Year 2                                             | Grade 2                                         | 2,00\$Cdn           | CPM 3                      |
| Caribbean Primary Maths 2-2 | Year 2                                             | Grade 2                                         | 2,00\$Cdn           | CPM 4                      |
| Caribbean Primary Maths 3-1 | Year 3                                             | Grade 3                                         | 2,09\$Cdn           | CPM 5                      |
| Caribbean Primary Maths 3-2 | Year 3                                             | Grade 3                                         | 2,09\$Cdn           | CPM 6                      |

*Table 4: Sequencing of BRC Mathematics Textbooks*

| <b><u>Title BRC</u></b>                        | <b><u>Used in<br/>Belizean<br/>school year</u></b> | <b><u>Equivalent<br/>Canadian<br/>grade</u></b> | <b><u>Price</u></b> | <b><u>Abbreviation</u></b> |
|------------------------------------------------|----------------------------------------------------|-------------------------------------------------|---------------------|----------------------------|
| BRC Basic Math 1 <sup>st</sup> Year,<br>Book 1 | Year 1                                             | Grade 1                                         | 1,00\$Cdn           | BRC Math 1                 |
| BRC Basic Math 1 <sup>st</sup> Year,<br>Book 2 | Year 1                                             | Grade 1                                         | 1,00\$Cdn           | BRC Math 2                 |
| BRC Basic Math 2 <sup>nd</sup> Year,<br>Book 1 | Year 2                                             | Grade 2                                         | 1,25\$Cdn           | BRC Math 3                 |
| BRC Basic Math 2 <sup>nd</sup> Year,<br>Book 2 | Year 2                                             | Grade 2                                         | 1,35\$Cdn           | BRC Math 4                 |
| <b>BRC Basic Math 3rd Year,<br/>Book 1</b>     | Year 3                                             | Grade 3                                         | 1,48\$Cdn           | BRC Math 5                 |
| <b>BRC Basic Math 3rd Year,<br/>Book 2</b>     | Year 3                                             | Grade 3                                         | 1,48\$Cdn           | BRC Math 6                 |

The difference in price between the imported textbooks and BRC textbooks could mean the difference in a child buying the textbook or not.

Lastly, textbook distribution throughout Belize is limited at best and non-existent at worst, for there is no standard form of distribution. Like the Nelson readers and CPM textbooks, the BRC textbooks are distributed to schools and the Government Bookstore in Belize City. In fact, many schools act as booksellers, providing textbooks for their students upon payment. Schools carry out this function during the week before school commences. Likewise, the Nelson's New West Indian Readers and CPM textbooks are available in schools at the beginning of the school year only, meaning that if a child starts school late or loses his books he may not be able to buy another copy. (Unless, s/he is

able to make a trip to the Government Bookstore in Belize City). Schools do not usually keep a surplus of textbooks simply because they cannot afford to do so.

BRC's Basic Reading Series and Math Series, on the other hand, are available all year round directly through BRC Publishing in Cayo District. There, they sell textbooks directly to clients. Since BRC is locally published and has can be contacted directly, it can react more quickly to supplying and distributing its textbooks throughout the school year.

In addition to these differences, the following content analysis will help determine if there are differences, as well as cultural differences in the illustrations and content presented therein.

## ***5.1 Content Analysis of Stories & Illustrations: A Comparison of BRC & Nelson's New West Indian Reading Textbooks***

### **5.1.1 Introduction**

An analysis of textbook content does not assume that there is a direct connection among textbook content, educational quality and academic achievement. The factors which determine educational quality and predict academic achievement vary and are extremely complex. Each country, with the help of its experienced educators, must determine appropriate content and academic level for learning activities so that they respond and support educational and cultural needs. This contributes to educational quality by motivating the child to learn, since the content is appropriate for their needs and relates to their experiences. Likewise, this could contribute to increased academic achievement if motivation is higher and if more time is spent using the textbook as a learning tool.

The following content analysis examines BRC and Nelson's New West Indian reading textbooks used from Year 1 through Year 3.

### 5.1.2 Categories and Criteria

For each of the six reading textbooks, seven categories will be used to classify the data. These are categories of subjects typically found in a reading textbook. These categories were established only after the textbooks in this study were examined. No effort was made to fit the data into predetermined classifications. They are:

1. flora: plant life
2. fauna: animal life, both domestic and untamed
3. geography: notable sites and physical aspects
4. ethnic representation: including ethnic groups found in Belize
5. celebrations & religion: activities which celebrate either religious or secular beliefs and traditions
6. daily life: activities performed on a daily basis, such as eating and chores; language used in daily conversation for topics such as, clothing, furniture, sports equipment, body parts, etc.
7. history, legends & tales: information based on local folklore or history.

In order to further investigate the words, stories and illustrations using the seven categories, the following criteria were used.

1. "Belizean", where the content is uniquely and customarily found in Belize, such as the tapir, milpa (rice-like food), Belizean sites (eg. Victoria Peak);
2. "Non Belizean", where the content is *not* typically found in Belize, such as snow;
3. "Generic", where the content is commonly found both in Belize and elsewhere in the Caribbean, such as beaches and tropical birds.

For the purposes of the content analysis, three textbooks from each publishing organization are included: Nelson 2,3, and 4; BRC 1.2, 2.2, and 3.1. There are two BRC language textbooks per year. For the purposes of this study only one BRC language textbook per year is used. The corresponding Nelson's language textbooks is used.

Nelson produces two language textbooks intended for Infant 1 and Infant 2. BRC produces two language textbooks intended for use in Infant 2 classes. BRC does not publish a textbook for Infant 1 as it believes that Infant 1 students should focus on learning the alphabet in English. The following table explains the use of textbooks according to grade level.

*Table 5: Textbooks & Grade Level*

| <u>Canadian Grade</u> | <u>Belizean Grade</u> | <u>Nelson's</u> | <u>BRC</u>                |
|-----------------------|-----------------------|-----------------|---------------------------|
| Kindergarten          | Infant 1              | Nelson 1        | -none-                    |
| Grade One             | Infant 2              | <u>Nelson 2</u> | BRC 1.1<br><u>BRC 1.2</u> |
| Grade Two             | Year 1                | <u>Nelson 3</u> | BRC 2.1<br><u>BRC 2.2</u> |
| Grade Three           | Year 2                | <u>Nelson 4</u> | <u>BRC 3.1</u><br>BRC 3.2 |

\*Underlined titles are the illustrative examples used in the content analysis.

The six textbooks provide an example of illustrations and content found in language textbooks for grades one, two and three.

### **5.1.3 BRC Basic Reading 1, Book 2 (BRC 1.2) (204 pp.)**

#### ***5.1.3.1 Illustrations in BRC 1.2***

In BRC 1.2, the majority of illustrations, 323 (92%), are generic. That is, they present images which are readily found in the Caribbean. However, there is a total of 28 'Belizean' illustrations found throughout the textbook. They focus on Belizean fauna, geography, daily life, and ethnic representation. Specifically, there are 12 (8%) illustrations of animals found typically in Belize, in particular the tapir, Belize's national

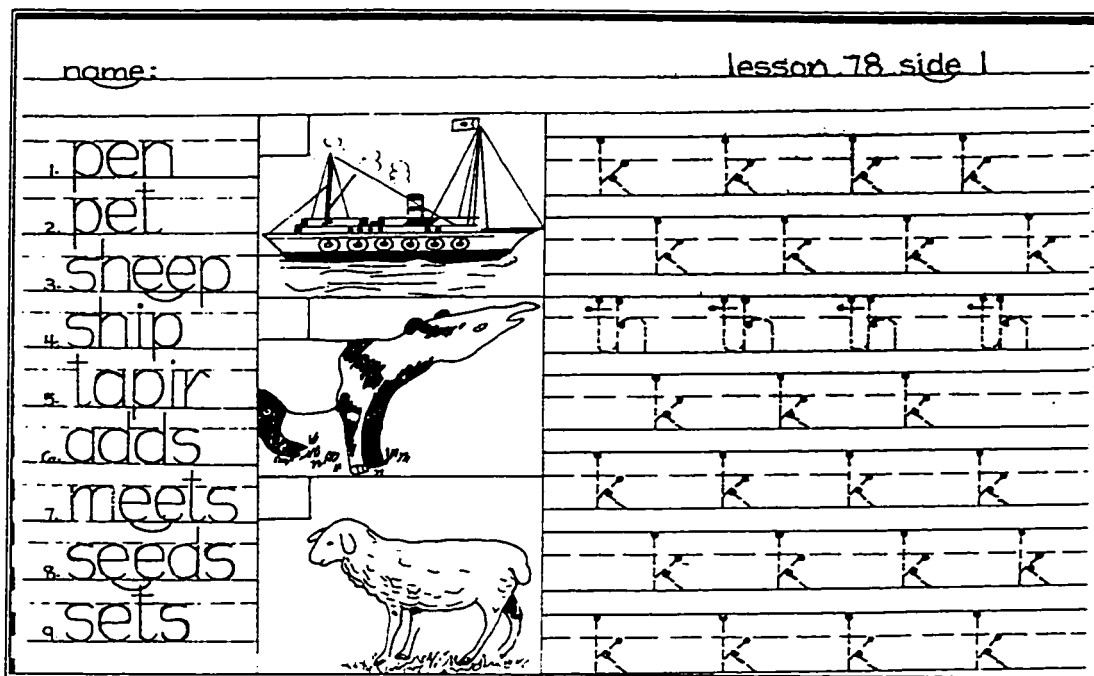
animal. As well, there are 9 (3%) illustrations of Belizean geography, showing either the national flag or a map of Belize. Six (2%) illustrations are of Mayans. One illustration of daily life shows a Mayan man gathering honey, a very typical activity in Belize. Other illustrations depicting daily life include everyday activities (eating, cleaning, playing, etc.), common household articles (desks, brooms, toys, etc.), and standard modes of transportation (bicycles, boats, walking). No Non-Belizean illustrations are found in the BRC 1.2. Table 6 compares the 'Belizean', 'Non-Belizean' and 'Generic' illustrations presented in the BRC 1.2. This will help demonstrate the difference in type and number of illustrations in BRC 1.2 to those found in Nelson's 2.

*Table 6: Thematic analysis of illustrations in BRC Basic Reading 1, Book 2 (BRC 1.2)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 23             | 0               | 0                   | 23               |
| b. Fauna                    | 72             | 12              | 0                   | 84               |
| c. Geography                | 17             | 9               | 0                   | 26               |
| d. Daily Life               | 193            | 1               | 0                   | 194              |
| e. Ethnic Representation    | 13             | 6               | 0                   | 19               |
| f. Celebrations & Religion  | 5              | 0               | 0                   | 5                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| TOTAL                       | 323            | 28              | 0                   | 351              |

The illustrations in figure 6 are examples of the type of illustration found in BRC 1.2. In fact in BRC 1.2, 323 (92%) illustrations are 'generic' and 28 (8%) are 'Belizean'.

*Figure 6: Illustrations in BRC 1.2*



#### *5.1.3.2 Content*

For the majority of children in Infant 2, this is their first exposure to reading and writing English. The age range in Infant 2 is from six to seven years. As a result, there are no stories in the BRC 1.1 or 1.2, only letters, words, and short sentences, as these are the textbooks used to introduce printing and the English language to the children. There are no 'non-Belizean' words found in the BRC 1.2 textbook.

Out of the 59 lessons in the BRC 1.2 textbook, two 'Belizean' words are used 18 (4%) times. They are common things: 'milpa', a typical Belizean farm, and 'tapir', the Belizean national animal. The remaining 388 (96%) words are familiar subjects, such as 'man', 'hill', and 'sheep'. Many words are repeated often. The last 15 lessons provide 4

practice sentences, using individual words in the lesson. Therefore, the vast majority of words used in BRC 1.2 are 'generic'.

Table 7 compares the 'generic', 'Belizean' or 'Non-Belizean' content in BRC 1.2.

*Table 7: Thematic analysis of content in BRC Basic Reading, Year 1, Book 2 (BRC 1.2)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 23             | 0               | 0                   | 23               |
| b. Fauna                    | 113            | 10              | 0                   | 123              |
| c. Geography                | 35             | 0               | 0                   | 35               |
| d. Daily Life               | 212            | 8               | 0                   | 220              |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 5              | 0               | 0                   | 5                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| <b>TOTAL</b>                | <b>388</b>     | <b>18</b>       | <b>0</b>            | <b>406</b>       |

#### **5.1.4 Nelson's Infant 2 Workbook and Reader (48 pp.)**

##### **5.1.4.1 Illustrations**

The Nelson 2 textbook is the equivalent of the BRC 1.2 textbook. The illustrations found in the Nelson textbooks are mostly generic, that is they are images of people, things and places that could be seen in many places in the Caribbean. There are no typically local Belizean illustrations in this textbook. As for non-Belizean illustrations, there are two. They depict animals found commonly in Africa: a zebra and a lion.

There are 27 (33%) illustrations of people from different ethnic groups commonly found in the Caribbean, such as Hispanic, Afro-American and Caucasian. Likewise, the geography shown in the textbook is common to the Caribbean: sandy beaches with lush vegetation. Scenes of daily life include baking, fishing on a boat, pets, and working on a

farm. Table 8 compares the number of 'Belizean', 'Non-Belizean' and 'Generic'

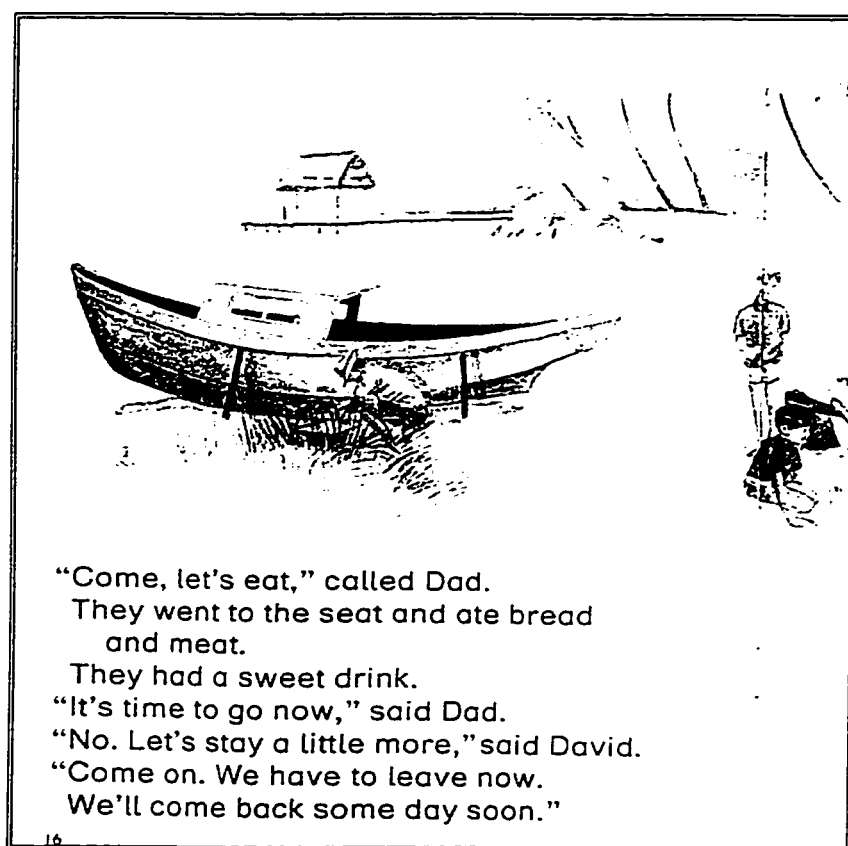
illustrations found in Nelson 2.

*Table 8: Thematic analysis of illustrations in Nelson's New West Indian Reader, Infant Book 2 (Nelson 2)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 6              | 0               | 0                   | 6                |
| b. Fauna                    | 5              | 0               | 2                   | 7                |
| c. Geography                | 3              | 0               | 0                   | 3                |
| d. Daily Life               | 37             | 0               | 0                   | 37               |
| e. Ethnic Representation    | 27             | 0               | 0                   | 27               |
| f. Celebrations & Religion  | 1              | 0               | 0                   | 1                |
| g. History, Legends & Tales | 1              | 0               | 0                   | 1                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| TOTAL                       | 80             | 0               | 2                   | 82               |

The illustration in figure 7 shows a Caribbean scene with a boat. Almost all of the illustrations in Nelson 2 are 'generic', as in figure 7. This scene could be almost anywhere in the Caribbean. In contrast to the 'Belizean' illustrations in BRC 1.2, there is nothing uniquely 'Belizean' in this illustration.

*Figure 7: Illustration of Nelson 2*



#### **5.1.4.2 Content**

The Nelson 2 reader contains one on-going story about life in the Caribbean. There are no specific cultural or geographical references. In fact, the story could be set on almost any of the Caribbean islands. Yet, the story is long: over 40 pages. This raises some concerns for a beginning reader in terms of attention span and continued interest in the story. Moreover, when the words in Figures 7 and 9 are contrasted, the

difference in level of difficulty of the language is evident. The language used in Nelson's 2 is considerably more difficult than in BRC 1.2.

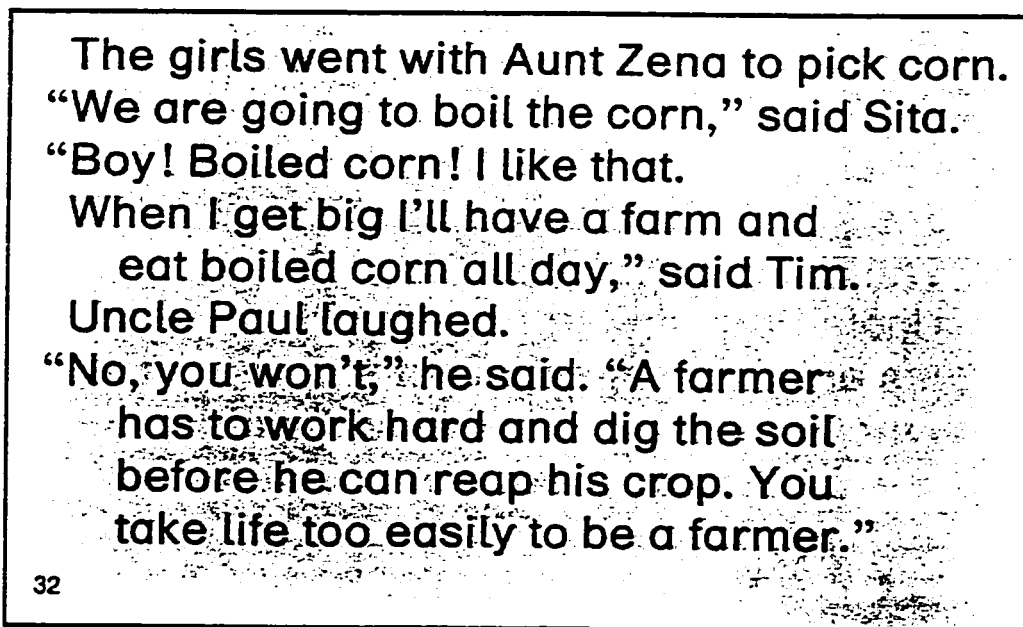
For a beginner's reader to be used with ESL children, the language is surprisingly advanced (refer to figure 8). The words and phraseology employed in this reader are for children with some degree of mastery of the English language. An example of one particularly long sentence is found midway through the reader: "A farmer has to work hard and dig the soil before he can reap his crop" (Nelson's Infant 2, 1987, p.32). Regardless of the length of the story, analysis of this text reveals that there is no 'Belizean' content in the Nelson 2. Three times (1.5%) there is mention of two animals found in Africa: a lion and a zebra. While this is in the context of a zoo, in Belize there are only zoos containing indigenous animals. There are thirteen word lists totalling 264 words. The words from one list are not repeated in the subsequent word lists. Much of the story content (99%) is 'generic'. Table 9 presents the comparative content in the Nelson 2 textbook.

*Table 9: Thematic analysis of content in Nelson's New West Indian Reader Infant 2 (Nelson 2)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 4              | 0               | 0                   | 4                |
| b. Fauna                    | 9              | 0               | 3                   | 12               |
| c. Geography                | 3              | 0               | 0                   | 3                |
| d. Daily Life               | 207            | 0               | 0                   | 207              |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 1              | 0               | 0                   | 1                |
| g. History, Legends & Tales | 2              | 0               | 0                   | 2                |
| h. Sports                   | 5              | 0               | 0                   | 5                |
| TOTAL                       | 231            | 0               | 3                   | 234              |

Figure 8 shows a text from the Nelson 2 textbook. This excerpt is part of the one on-going story in this textbook.

*Figure 8: Content found in Nelson 2*



### **5.1.5 BRC Year 2, Book 2 (BRC 2.2) (130 pp.)**

#### ***5.1.5.1 Illustrations***

The cover of BRC 2.2 depicts a typical Belizean-style school with the Belizean national flag flying in the playground. The illustrations accompanying the short stories portray several Belizean sites, particularly in the Pine Ridge area. Pine Ridge is a site in Belize, well-known for its trees, vines and caves. After the initial story "Mike and Marta visit the Pine Ridge", there are several other stories which elaborate on the theme of Pine Ridge. There are 10 (7%) illustrations which present a place that most Belizean children have at least heard of, if not already visited.

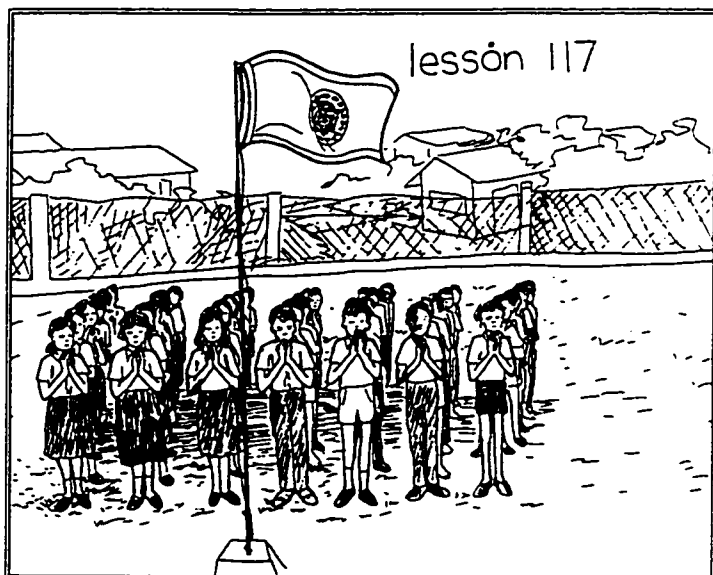
Other 'Belizean' illustrations vary. There are two images (1.4%) of Belizean fauna: a tapir and a fer-de-lance (or 'tommygoff', an infamous deadly snake). Scenes of daily life include two illustrations of a man collecting honey and two of children in front of a Belizean school (refer to Figure 9). The three (2%) illustrations representing a Belizean ethnic group are of a Mayan dressed in traditional wear. One illustration representing 'celebrations & religion' depicts children singing with a Belizean flag in the foreground (lesson 109; refer to Figure 9). Otherwise, the majority of illustrations (55%) are generic images of daily life, such as clothing, farm scenes, eating and body parts. Many images of common farm animals are presented as well (20%). The remaining 'generic' images are of common plants, beaches and Afro-American people. Table 10 compares the number of illustrations which are 'Belizean', 'Non-Belizean', or 'Generic' in BRC 2.2.

*Table 10: Thematic analysis of illustrations in BRC Basic Reading Year 2, Book 2 (BRC 2.2)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 7              | 0               | 0                   | 7                |
| b. Fauna                    | 27             | 2               | 0                   | 29               |
| c. Geography                | 3              | 10              | 0                   | 13               |
| d. Daily Life               | 75             | 3               | 0                   | 78               |
| e. Ethnic Representation    | 5              | 3               | 0                   | 8                |
| f. Celebrations & Religion  | 1              | 1               | 0                   | 2                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| TOTAL                       | 118            | 19              | 0                   | 137              |

The illustration in figure 9 shows children in front of a school with the Belizean flag.

*Figure 9: Illustrations in BRC 2.2*



#### **5.1.5.2 Content**

There are several themes in this textbook around which short stories have been written: daily life in a rural setting, Pine Ridge, and family life. The textbook portrays place settings, such as Pine Ridge, which give the BRC 2.2 reading textbook a definite Belizean perspective. Moreover, the children can easily identify with the characters who also have common Belizean names, such as Mike and Marta (refer to Figure 10).

The content categorized as 'daily life' consisted mostly of generic activities at home, at school and in a store. Three stories (.7% of total) of 'daily life' were categorized as Belizean because they characterised Belizean children at school (refer to figure 10). Content categorized as 'fauna' consisted mostly of 'generic' farm animals. Illustrations of bees with their bee keepers are categorized as fauna. This is a typical Belizean enterprise.

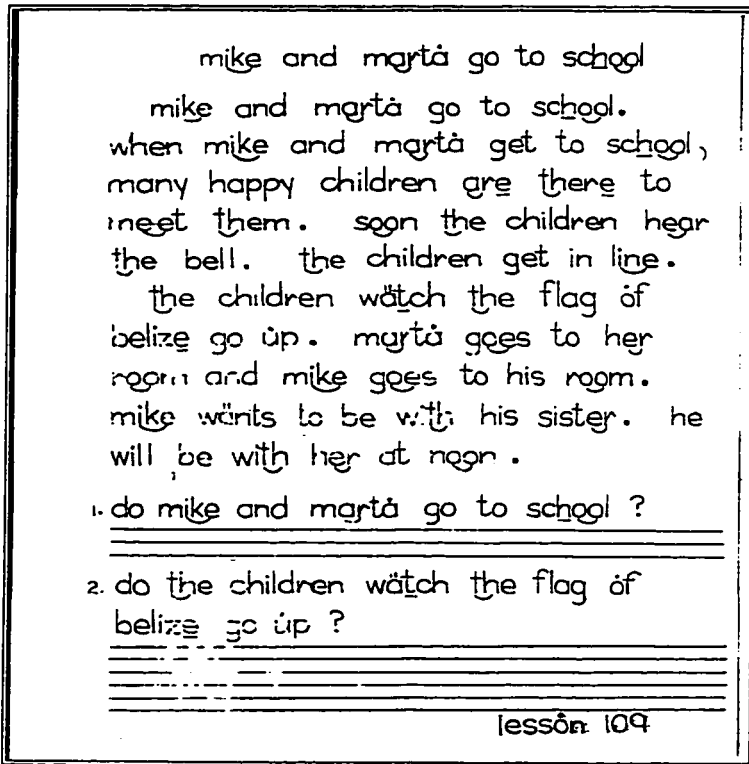
While the majority of the content (96%) was 'generic', there was no 'Non-Belizean' content in BRC 2.2. The stories and words chosen for this textbook are simple (refer to figure 10). Moreover, BRC 2.2 presents a mix of mostly generic (96%) with some Belizean content (4%). Table 11 presents a thematic analysis of the story content found in BRC 2.2.

*Table 11: Thematic analysis of content in BRC's Basic Reading Year 2, Book 2 (BRC 2.2)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 15             | 0               | 0                   | 15               |
| b. Fauna                    | 28             | 1               | 0                   | 29               |
| c. Geography                | 21             | 15              | 0                   | 36               |
| d. Daily Life               | 325            | 1               | 0                   | 326              |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 12             | 0               | 0                   | 12               |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 15             | 0               | 0                   | 15               |
| TOTAL                       | 416            | 17              | 0                   | 433              |

Figure 10 shows a text found in the BRC 2.2 textbook. This text talks about Belizean children and their experience at school.

*Figure 10: Content in BRC 2.2*



#### 5.1.6 Nelson's Caribbean Reader Introductory Book 1 (Nelson 3) (48 pp.)

##### 5.1.6.1 Illustrations

All illustrations in this textbook are of 'generic' scenes that could readily be found in most regions of the Caribbean. The illustrations of 'generic' scenes of daily life (25 out of 32) include such activities as going to school, doing chores on the farm or fishing (refer to figure11). Three illustrations depict children from different racial/ethnic origins. Two illustrations show a grapefruit tree, while two other illustrations depict ducks and monkeys.

In Nelson 3, there are neither 'Belizean' nor 'Non-Belizean' illustrations. This is not surprising, since the textbook is not aimed at any specific Caribbean population. There is consequently no sense of direct indigenous identification from the illustrations presented. Illustrations of people, places or things that are not commonly found in Belize do not appear in this textbook. Similarly, illustrations of people, places or things characteristically 'Belizean' also do not appear. While the pictorial message in Nelson 3 is not one of inclusion of Belizean culture, it is neither one of exclusion, where students cannot comprehend the substance of the illustrations.

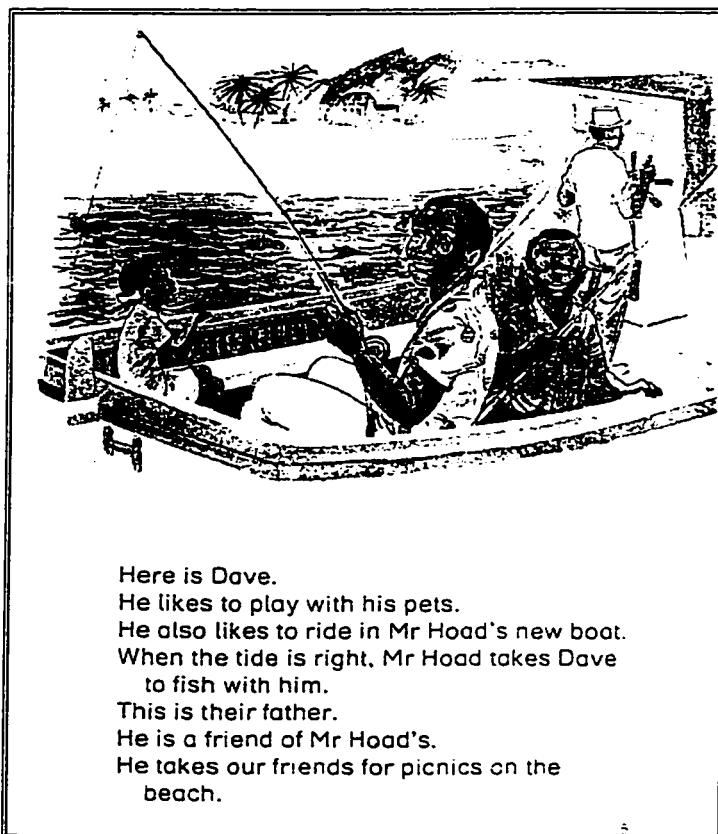
The following Table 12 compares the number of illustrations which are either 'Belizean', 'Non-Belizean', or 'Generic' found in Nelson 3.

*Table 12: Thematic Analysis of illustrations in Nelson's New West Indian Introductory Book 1 (Nelson 3)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 2              | 0               | 0                   | 2                |
| b. Fauna                    | 2              | 0               | 0                   | 2                |
| c. Geography                | 0              | 0               | 0                   | 0                |
| d. Daily Life               | 25             | 0               | 0                   | 25               |
| e. Ethnic Representation    | 3              | 0               | 0                   | 3                |
| f. Celebrations & Religion  | 0              | 0               | 0                   | 0                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| TOTAL                       | 32             | 0               | 0                   | 32               |

The illustration for figure11 depicts a 'generic' scene from the Caribbean.

*Figure 11: Illustration of Nelson 3*



### 5.1.6.2 Content

The content of Nelson 3 is entirely 'generic', meaning there is neither 'Belizean' nor 'Non-Belizean' content in the story. Much of the story content concentrates on topics which are categorized as 'daily life': a bicycle, eating, school, and dreams, which is shown in Figure 12. The school sports day is categorized as 'celebration'. This was the topic for seven pages.

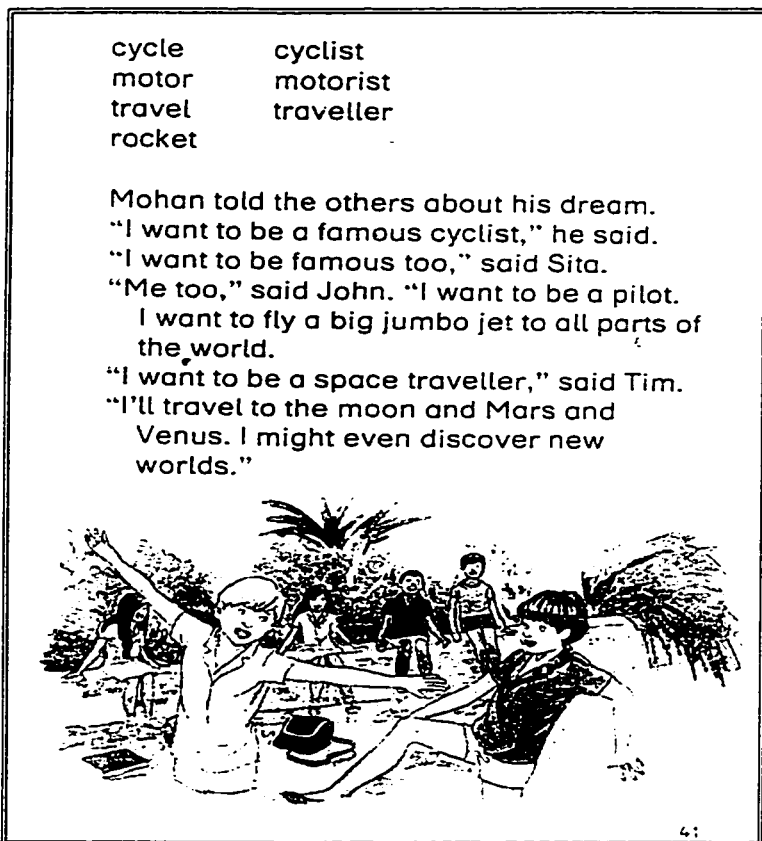
Of importance is the one, on-going story in Nelson 3. There are no titles to help divide up the story into chapters. Each page contains a minimum of 30 words. Again, for beginning ESL readers, this presents a formidable challenge. These students are normally in their second or third year of school, aged 7 or 8 years. For them to have mastered the English language sufficiently to read the text presented in the Nelson readers seems unrealistic. In addition to the story, there are six word lists with a total of 118 new words. Table 13 presents a thematic analysis of the content found in Nelson 3.

*Table 13: Thematic Analysis for Content in Nelson's New West Indian Reader Introductory Book 1 (Nelson 3)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 2              | 0               | 0                   | 2                |
| b. Fauna                    | 12             | 0               | 0                   | 12               |
| c. Geography                | 2              | 0               | 0                   | 2                |
| d. Daily Life               | 132            | 0               | 0                   | 132              |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 7              | 0               | 0                   | 7                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 11             | 0               | 0                   | 11               |
| TOTAL                       | 166            | 0               | 0                   | 166              |

Figure 12 shows a text from the Nelson 3 textbook. The difficulty of the vocabulary is evident in such words as traveller and motorist. Again, this passage has no title.

*Figure 12: Content of Nelson 3*



#### 5.1.7 BRC Basic Reading 3, Book 1 (BRC 3.1) (134 pp.)

##### 5.1.7.1 Illustrations

In the BRC 3.1, the majority of illustrations are 'generic' scenes of daily life (50%), such as boat races and preparing meals, as well as images of common animals (29%). There are six (4%) "generic" illustrations for the categories of both 'geography' (rivers, beaches and forests) and 'celebrations and religion' (children going to church or praying). There are also eighteen (12%) uniquely 'Belizean' illustrations showing, for

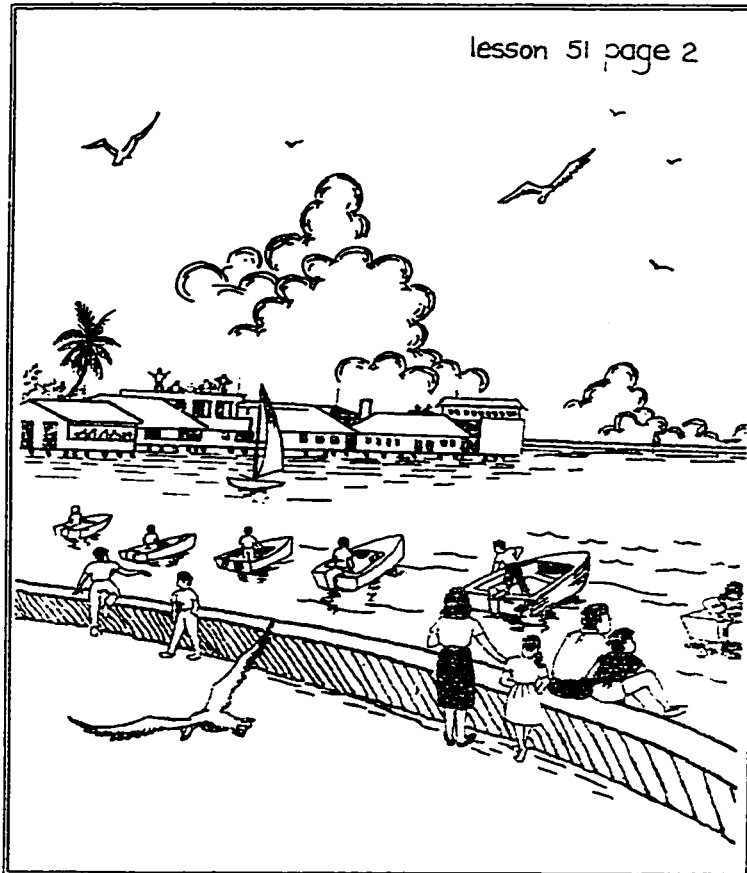
instance, the tapir (fauna) and Mayan Indian (ethnic representation). Several of the illustrations depict different well-known Belizean sites, such as Pine Ridge, Baldy Beacon, Victoria Peak and San Pedro (refer to Figure13). Many students would have already travelled to these places or at least would know of their existence. Table 14 compares the number of illustrations that are 'Non-Belizean', 'Belizean' or 'Generic' in BRC 3.1.

*Table 14: Thematic Analysis of Illustrations in BRC Basic Reading Year 3, Book 1, (BRC 3.1)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 1              | 0               | 0                   | 1                |
| b. Fauna                    | 42             | 1               | 0                   | 43               |
| c. Geography                | 6              | 11              | 0                   | 17               |
| d. Daily Life               | 72             | 6               | 0                   | 78               |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 6              | 0               | 0                   | 6                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| TOTAL                       | 127            | 18              | 0                   | 145              |

Figure 13 depicts a Belizean scene at San Pedro. The illustration is drawn by a local artist.

*Figure 13: Illustrations in BRC 3.1*



#### **5.1.7.2 Content**

The BRC 3.1 textbook contains 32 short stories, 12 of which take place in Belize. BRC 3.1 has titles for each new story. This helps to clarify the story subject for the children. In this particular textbook, seven Belizean sites are the subject of discussion for 12 stories. These are places for which Belize is famous. There is also mention of activities of daily life that are 'Belizean' a total of nine times (8%). They include painting Belizean sites, swimming in San Pedro, visiting a 'Milpa', a word commonly used in

'Belizean English' to designate a small farm, and boat races from the docks in Belize City (refer to figure 14).

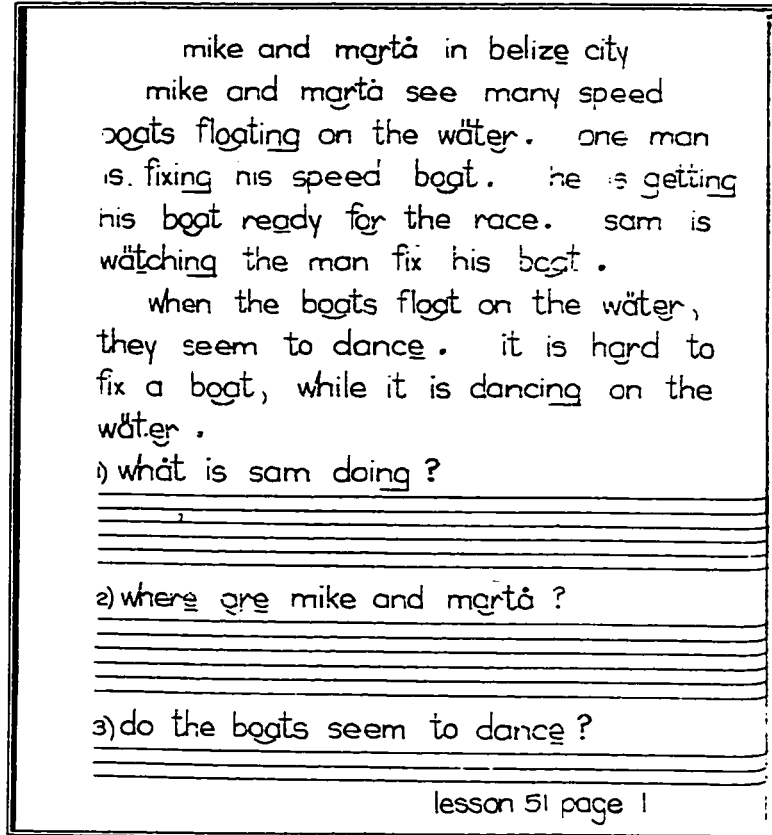
While the majority (77%) of the content is 'generic', there is no 'non-Belizean' content. Moreover, the 'Belizean' content totalled 23%. Table 15 compares the 'generic', 'Belizean' and 'non-Belizean' content found in BRC 3.1.

*Table 15: Thematic analysis for content in BRC Basic Reading 3, Book 1 (BRC 3.1)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 5              | 0               | 0                   | 5                |
| b. Fauna                    | 20             | 2               | 0                   | 22               |
| c. Geography                | 4              | 15              | 0                   | 19               |
| d. Daily Life               | 52             | 9               | 0                   | 61               |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 6              | 0               | 0                   | 6                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| TOTAL                       | 87             | 26              | 0                   | 113              |

The excerpt from BRC 3.1 describes a boat race in Belize City. Mike and Marta are characters used in other texts in this textbook.

*Figure 14: Illustrations in BRC 3.1*



#### 5.1.8 Nelson's West Indian Reader: Introductory Book 2 (Nelson 4) (48pp.)

##### 5.1.8.1 Illustrations

Nelson 4 uses 'generic' type illustrations (33 or 100%). The majority (52%) of these illustrations are depictions of common scenes, such as cooking at home (18%) (refer to figure15), children playing (12%) and going to the store (21%). Illustrations of special events included the sports meeting at school (18%), a birthday party by the river (9%) and a boy falling in the river (9%).

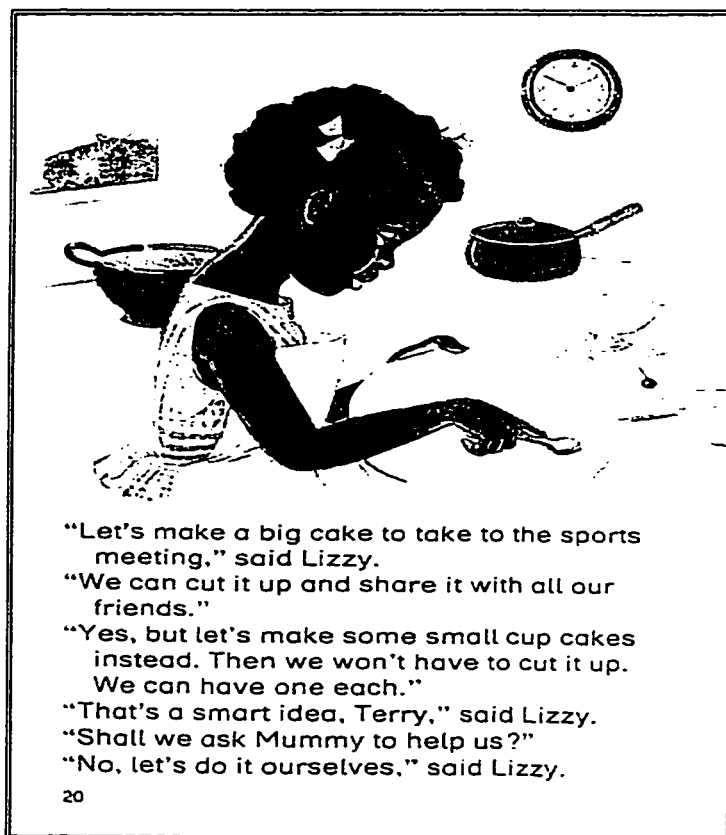
None of the illustrations are images of people, places or things that are 'non-Belizean'. Likewise, there are no illustrations that are uniquely Belizean. Nelson 4 presents illustrations that are Caribbean. Initially, there does not appear to be a substantial cultural difference between "Belizean" and "Generic". The generic nature of these illustrations appears to serve equally well in Belize as in several other Caribbean societies. However, this assumption is erroneous when considering the importance of experiences and ideas with which children can directly identify. "Generic" illustrations provide children with a more ambiguous view of the world. It is this kind of thinking that has previously marginalized indigenous content. The 'generic' illustrations found in Nelson 4 do not give prominence to any particular indigenous culture in the Caribbean. Table 16 compares the number of illustrations that are 'Non-Belizean', 'Belizean' or 'Generic' in Nelson 4.

*Table 16: Thematic analysis of illustrations in Nelson's New West Indian Reader, Introductory Book 2 (Nelson 4)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 0              | 0               | 0                   | 0                |
| b. Fauna                    | 4              | 0               | 0                   | 4                |
| c. Geography                | 0              | 0               | 0                   | 0                |
| d. Daily Life               | 17             | 0               | 0                   | 17               |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 12             | 0               | 0                   | 12               |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 0              | 0               | 0                   | 0                |
| TOTAL                       | 33             | 0               | 0                   | 33               |

Figure15, taken from Nelson 4, is 'generic' and depicts a young girl cooking.

*Figure 15: Illustration of Nelson 4*



#### *5.1.8.2 Content*

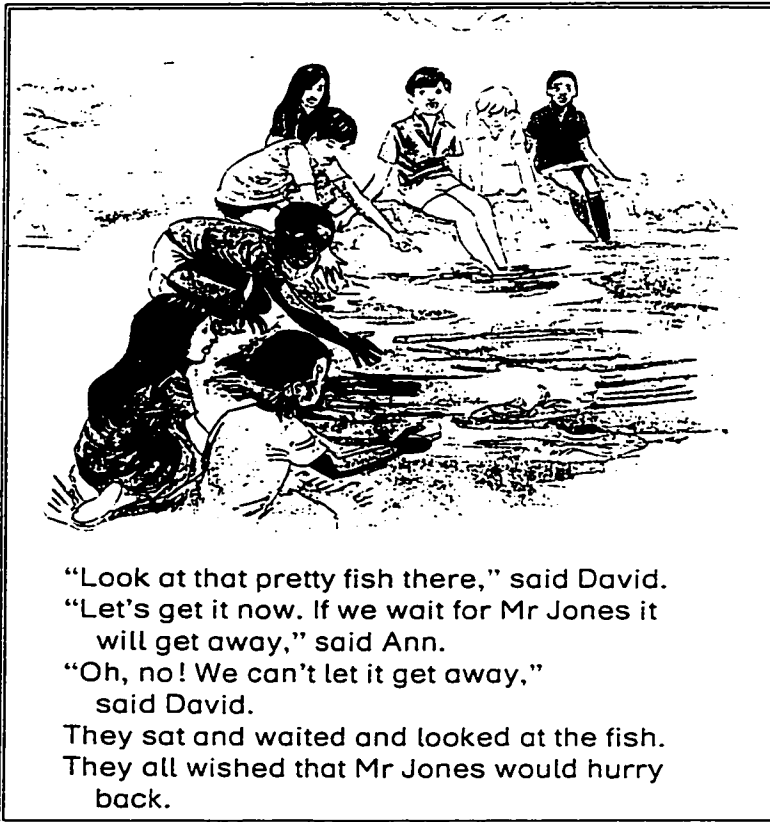
The vocabulary in Nelson 4 is challenging for ESL students in their third year of school (eg. vanilla, something, kitchen, p.22) . There is little repetition of words with approximately 60 words per page (refer to Figure 16). As with the other Nelson readers, there is an on-going story with no chapters or titles. For children beginning to read, chapters and titles would make the task easier. Moreover, it is unrealistic to expect them to follow such a long story which presents several themes, such as a birthday party, baking, a school sports day and children in a bookstore. Furthermore, this textbook is

designed for first language readers (as are all the Nelson language textbooks), and not for ESL readers in their third year of school. Table 17 compares the 'generic', 'Belizean' and 'non-Belizean' content found in Nelson 4.

*Table 17: Thematic Analysis for content in Nelson's New West Indian Reader  
Introductory Book 2 (Nelson 4)*

| <u>Category</u>             | <u>Generic</u> | <u>Belizean</u> | <u>Non-Belizean</u> | <u>Sub-total</u> |
|-----------------------------|----------------|-----------------|---------------------|------------------|
| a. Flora                    | 9              | 0               | 0                   | 9                |
| b. Fauna                    | 0              | 0               | 0                   | 0                |
| c. Geography                | 1              | 0               | 0                   | 1                |
| d. Daily Life               | 140            | 0               | 0                   | 140              |
| e. Ethnic Representation    | 0              | 0               | 0                   | 0                |
| f. Celebrations & Religion  | 8              | 0               | 0                   | 8                |
| g. History, Legends & Tales | 0              | 0               | 0                   | 0                |
| h. Sports                   | 47             | 0               | 0                   | 47               |
| TOTAL                       | 205            | 0               | 0                   | 205              |

Figure 16: Illustration of Nelson 4



### 5.1.9 Discussion of Content Analysis for Reading Textbooks

The data indicate that BRC readers differ from Nelson readers. BRC readers offer a representation of life which conforms more closely to the students' lived culture than the Nelson readers. Tables 18 and 19 provide a summation of the percentage differences for the illustrations and content between the two readers.

*Table 18: Comparison of illustrations of Nelson and BRC Textbooks*

| <b>Textbook title</b> | <b>% of Generic illustrations</b> | <b>% of Belizean illustrations</b> | <b>% of Non-Belizean illustrations</b> | <b>% Total</b> | <b>Total number of pages</b> |
|-----------------------|-----------------------------------|------------------------------------|----------------------------------------|----------------|------------------------------|
| Nelson 2              | 97.5                              | 0                                  | 2.5                                    | 100            | 48                           |
| BRC 1.2               | 92                                | 8                                  | 0                                      | 100            | 204                          |
| Nelson 3              | 100                               | 0                                  | 0                                      | 100            | 48                           |
| BRC 2.2               | 86                                | 14                                 | 0                                      | 100            | 130                          |
| Nelson 4              | 100                               | 0                                  | 0                                      | 100            | 48                           |
| BRC 3.1               | 87.5                              | 12.5                               | 0                                      | 100            | 134                          |

*Table 19: Comparison of content of Nelson and BRC Textbooks*

| <b>Textbook title</b> | <b>% of Generic content</b> | <b>% of Belizean content</b> | <b>% of Non-Belizean content</b> | <b>% Total</b> | <b>Total number of pages</b> |
|-----------------------|-----------------------------|------------------------------|----------------------------------|----------------|------------------------------|
| Nelson 2              | 98.5                        | 0                            | 1.5                              | 100            | 48                           |
| BRC 1.2               | 95.5                        | 4.5                          | 0                                | 100            | 204                          |
| Nelson 3              | 100                         | 0                            | 0                                | 100            | 48                           |
| BRC 2.2               | 96                          | 4                            | 0                                | 100            | 130                          |
| Nelson 4              | 100                         | 0                            | 0                                | 100            | 48                           |
| BRC 3.1               | 77                          | 13                           | 0                                | 100            | 134                          |

The BRC texts teach children more about themselves and about their country. In the Nelson texts, the omission of typically Belizean activities and cultural patterns is not supportive of the current emphasis on education for self-reliance and social reconstruction. Since the content of BRC readers more clearly reflects Belizean influences and customs, it is oriented towards the indigenization of education. BRC content therefore, is compatible with what the research has long demonstrated about indigenization as an appropriate approach.

Moreover, generic cultural content presents indistinct culture. The ideas offered in generic texts, such as Nelson's readers, fail to teach students to analyze, compare or critique a specific culture. In terms of ideational content in reading textbooks, Baker and Freebody (1987, cited in Altbach, p.207,1991) found that language and learning constructed in literature does indeed help define students' literate, cultural and political understanding (p.70). Similarly, the Belizean content in BRC readers helps make a connection between classroom-based reading and actual experiences in the community.

Studies of textbook content have found that when culture-specific knowledge does not conform to known cultural knowledge, there is a significant change and reorientation in values compared with those of the students' lived culture (Biraimah, 1988). While it is useful to analyse what illustrations and content are presented, there are other more tacit messages transmitted through the omission of culture-specific images, such as race and gender issues. For this too presents an incongruity between what is lived and what is learned in school. While this point may be so general as to be relatively inconsequential for policy makers, it is important that the ties between cultural perception and cultural reality are not ignored.

Overall, the life styles presented in the content and illustrations of both Nelson's and BRC's readers differ. However, the difference is much more subtle for the first year of primary education than for the subsequent two years. In BRC 2.1, 2.2, 3.1, 3.2 there is distinctive Belizean content. The equivalent Nelson readers contain common stories of the Caribbean. It would be easy to assume that Caribbean content would be considered Belizean content. While Belize is in fact a Caribbean country, it has its own distinct identity and traditions. Therefore, BRC 2.1, 2.2, 3.1, 3.2 are more representative of Belizean life than Nelson 2 & 3.

Looking specifically at content, there are several points of difference between the BRC Basic Reading Series and Nelson's New West Indian Readers. The first major difference is the level of difficulty of the language. In the Nelson readers, there are word lists presented without illustrations. Moreover, using an on-going story with no chapters or titles presents the students with a formidable challenge in terms of deciphering the intent of the lecture, and remembering the gist of the story and the previous new vocabulary. Therefore, the language ability necessary for the use of the Nelson readers is significantly more difficult than the corresponding BRC Reading Series.

The issue of language difficulty also includes the intended student population of the reader. The Nelson readers are designed for English-speaking Caribbean students, whereas BRC language textbooks are designed for Belizean English as a Second Language learners. The transferability of the Nelson textbooks is limited to the stronger students or those who possess the required language skills. The Nelson readers are, therefore, not easily transferable to the majority of ESL students in Belize.

The level of difficulty of the language and the intended student population place BRC readers at the other end of the spectrum from Nelson's readers: very simple and easy and intended for ESL students. In Belize, the patterns of academic achievement indicate that in regions such as Toledo and Stann Creek, the ability of any textbook to transmit a set of messages may be curtailed by classroom shortages. Students in these regions most particularly are often not in possession of a textbook. There is consequently a need for textbooks to be more sensitive to the economic, academic and cultural needs of these students. It would appear that BRC's aim to produce a reader for the lower 70% of the students has been achieved.

While this content analysis offers no definitive answers to the question of differences in student learning, it does raise a series of issues that Belizean educators should explore, notably, studies into the effect of 'relevance' and 'appropriateness' of content in textbooks on student performance. Textbooks are needed that conform more closely to the students' lived culture, and not necessarily to a 'generic' or generalized culture. BRC encourages authors to be more sensitive to the cultural patterns and academic needs of its students. However, a formal study of student comprehension rates and levels of internalization are necessary to determine which textbooks have the greatest potential for teaching Belizean students what they need to know. The data indicate that BRC readers offer a positive cultural identity.

## **5.2 A Comparison of BRC Mathematics & Caribbean Primary Mathematics Textbooks**

### **5.2.1 Content Analysis of Mathematics Textbooks**

A comparison of the BRC and the CPM mathematics textbooks for year three permitted an examination of: 1) the number of topics presented per page and their level of difficulty; and 2) the number of practice exercises provided for these lessons. Although the lessons are not the same due to the differences of each mathematics textbook, the comparison does give an idea of the differences in eight illustrative lessons found at approximately the same point in each textbook. Data from the content analysis of the mathematics textbooks examines if there is a quantifiable difference between BRC and CPM mathematics textbooks.

Eight lessons were selected from each textbook for content analysis.

### **5.2.2 BRC Basic Math Year 3, Book 1 (BRC 3.1 M) & CPM 5 (CPM 3.1)**

#### **i. Number of topics presented per lesson**

In its attempts to meet the needs of weaker students, one of BRC's objectives is to introduce fewer concepts in their mathematics textbooks. This is in response to CPM mathematics textbooks which some educators thought to be too difficult for Belizean students (refer to interview and questionnaire data). However, CPM mathematics textbooks correspond to the official MOE mathematics curriculum, whereas BRC mathematics textbooks do not. This is an important point of difference which leaves BRC open for criticism. BRC 3.1 M does not include graphing, division, the metric system of measurement, temperature or the calendar. The rationale is explained for each

mathematics curriculum objective that is not included. In each instance, the BRC Teachers' Guide indicates that most Belizean children are not academically ready for these MOE objectives and that their English language skills are too limited to learn these objectives in the third year (v. BRC Teachers' Guide, 3.1).

Table 20 and Table 21 on page 123 present the number of topics per page in BRC 3.1 M and CPM 3.1.

*Table 20: Content Analysis for Number of Topics Presented per lesson in BRC Basic Math Year 3, Book 1 (BRC 3.1 M)*

| <u>Lesson Number</u> | <u>Number of new topics<br/>per Lesson</u> | <u>Topic(s)</u>         |
|----------------------|--------------------------------------------|-------------------------|
| 2                    | 1                                          | Write numerals          |
| 13                   | 1                                          | Value placement         |
| 23                   | 2                                          | Addition & subtraction  |
| 33                   | 1                                          | Dollar value            |
| 44                   | 1                                          | Fractions               |
| 52                   | 2                                          | Numerator & denominator |
| 61                   | 1                                          | Ordinals                |
| 68                   | 1                                          | Carrying                |
| TOTAL                | 10                                         |                         |

*Table 21: Content analysis for number of practice exercises in CPM 3, First Part (CPM 3.1)*

| <u>Lesson Number</u> | <u>Number of new topics per Lesson</u> | <u>Topic(s)</u>                                                    |
|----------------------|----------------------------------------|--------------------------------------------------------------------|
| 2                    | 3                                      | Counting by 2's, 3's & 5's; addition & subtraction                 |
| 13                   | 1                                      | Number concepts above 100 using groups of ten                      |
| 19                   | 2                                      | Centilitre & relating 1/2 litre to 50 centilitres                  |
| 33                   | 2                                      | Adding a 2-digit numbers & 1-digit & 2-digit numbers by regrouping |
| 36                   | 3                                      | Addition tables; adding 2-digit numbers & 2 & 1-digit numbers      |
| 39                   | 3                                      | >, < & = signs; counting in fives; counting in tens                |
| 49                   | 2                                      | Place value; addition of 1- and 2-digit numbers                    |
| 59                   | 2                                      | Multiplication & division facts to 21                              |
| TOTAL                | 18                                     |                                                                    |

### **Discussion:**

There is a significant difference in the total number of concepts presented in the eight lessons: BRC - 10; CPM - 18. Not only is there a quantifiable difference, but also a difference in difficulty. For instance, lesson 59 of the CPM 3.1 has students doing multiplication and division facts to 21, whereas BRC 3.1 M, lesson 61 concentrates on more basic math skills: numeration, addition and subtraction. Therefore, the CPM

textbook presents both more concepts and more difficult concepts than does the BRC textbook.

### **5.2.3 ii.) Number of practice exercises per lesson**

The amount of practice exercises provided for students is an important measure, as practice is essential in the learning process. In this regard, BRC's aim is to provide ample practice exercises, thus enabling even the weaker students the opportunity to be successful in mathematics. CPM mathematics textbook are intended to correspond to MOE learning objectives.

Table 22 compares the number of practice exercises provided per lesson in BRC

3.1 M and CPM 3.1.

*Table 22: Content analysis for number of practice exercises in BRC 3.1 M and CPM 3.1*

| <u>Publishing Company</u> | <u>Lesson number</u>    | <u>Number of practice exercises per lesson</u> |
|---------------------------|-------------------------|------------------------------------------------|
| i. BRC                    | 2                       | 22                                             |
| ii. CPM                   | 2                       | 16                                             |
| i. BRC                    | 13                      | 32                                             |
| ii. CPM                   | 13                      | 6                                              |
| i. BRC                    | 23                      | 40                                             |
| ii. CPM                   | 19                      | 10                                             |
| i. BRC                    | 33                      | 40                                             |
| ii. CPM                   | 33                      | 26                                             |
| i. BRC                    | 44                      | 34                                             |
| ii. CPM                   | 34,35,36<br>(same page) | 55                                             |
| i. BRC                    | 52                      | 50                                             |
| ii. CPM                   | 39 & 40<br>(same page)  | 25                                             |
| i. BRC                    | 61                      | 49                                             |
| ii. CPM                   | 49                      | 17                                             |
| i. BRC                    | 68                      | 39                                             |
| ii. CPM                   | 59                      | 20                                             |

#### **Discussion:**

There is a quantifiable difference between BRC 3.1 M and CPM 3.1 concerning the amount of practice exercises. BRC 3.1 M provides students with more practice exercises. In seven of the eight lessons selected, BRC 3.1 M provided more practice

exercises than the CPM 3.1 M equivalent textbook. The data indicate that there is a difference in importance attributed to practice exercises between the two publishing companies. This, coupled with the number of concepts presented on each page, indicates that one of CPM's aims is to present a large number of topics in CPM 3.1, all of which are found in the MOE mathematics curriculum guidelines. The data also show that practice is not a high priority for CPM 3.1. Conversely, BRC 3.1 M encourages student mastery of a limited number of math concepts rather than completing the items listed in the MOE mathematics curriculum. Nonetheless, not following the official mathematics curriculum has become a major point of contention and debate among educators (this is discussed in the section dealing with teacher perceptions).

Figures 17 and 18 provide illustrative examples of the difference in amount of practice given for one topic: adding a two digit number and a one digit number. Lesson 33 in CPM 3.1, provides 26 practice exercises. Subsequent practice exercises are found on two other pages. Lesson 53 in BRC 3.1 M, provides 20 practice exercises. Subsequent practice exercises are found on 30 more pages. Again, the fast-paced CPM textbooks present the topic, provide a limited amount of practice exercises and then move on in order to cover other topics.

Figure 17: CPM Mathematics 3.1 Lesson 33, Adding Two-digit and One & Two-digit Numbers

|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| <p><b>23</b> <math>23 + 8 = \square</math></p> <p>tens ones</p> <table border="1" style="width: 100%; height: 40px; margin-top: 5px;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td></td><td></td></tr> </table>                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  | <p><b>41</b> <math>41 + 9 = \square</math></p> <p>tens ones</p> <table border="1" style="width: 100%; height: 40px; margin-top: 5px;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td></td><td></td></tr> </table> |  |  |  |  | <p><b>36</b> <math>36 + 6 = \square</math></p> <p>tens ones</p> <table border="1" style="width: 100%; height: 40px; margin-top: 5px;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td></td><td></td></tr> </table> |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
| <p><b>18</b> <math>18 + 2 = \square</math></p> <p>tens ones</p> <table border="1" style="width: 100%; height: 40px; margin-top: 5px;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td></td><td></td></tr> </table>                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  | <p><b>19</b> <math>19 + 3 = \square</math></p> <p>tens ones</p> <table border="1" style="width: 100%; height: 40px; margin-top: 5px;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td></td><td></td></tr> </table> |  |  |  |  | <p><b>55</b> <math>55 + 7 = \square</math></p> <p>tens ones</p> <table border="1" style="width: 100%; height: 40px; margin-top: 5px;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td></td><td></td></tr> </table> |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
| <p><b>27</b> <math>27 = \square</math> tens <math>\square</math> ones</p> <p><math>8 = \square</math> tens <math>\square</math> ones</p> <hr style="width: 100%;"/> <p><math>27 + 8 = \square</math> tens <math>\square</math> ones</p> <p><math>27 + 8 = \square</math> tens <math>\square</math> ones</p> <p style="text-align: center;"><math>27 + 8 = \square</math></p> |  | <p><b>28</b> <math>28 = \square</math> tens <math>\square</math> ones</p> <p><math>7 = \square</math> tens <math>\square</math> ones</p> <hr style="width: 100%;"/> <p><math>28 + 7 = \square</math> tens <math>\square</math> ones</p> <p><math>28 + 7 = \square</math> tens <math>\square</math> ones</p> <p style="text-align: center;"><math>28 + 7 = \square</math></p> |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |
| <p><b>64</b> <math>64 = \square</math> tens <math>\square</math> ones</p> <p><math>6 = \square</math> tens <math>\square</math> ones</p> <hr style="width: 100%;"/> <p><math>64 + 6 = \square</math> tens <math>\square</math> ones</p> <p><math>64 + 6 = \square</math> tens <math>\square</math> ones</p> <p style="text-align: center;"><math>64 + 6 = \square</math></p> |  | <p><b>86</b> <math>86 = \square</math> tens <math>\square</math> ones</p> <p><math>9 = \square</math> tens <math>\square</math> ones</p> <hr style="width: 100%;"/> <p><math>86 + 9 = \square</math> tens <math>\square</math> ones</p> <p><math>86 + 9 = \square</math> tens <math>\square</math> ones</p> <p style="text-align: center;"><math>86 + 9 = \square</math></p> |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |                                                                                                                                                                                                                                                 |  |  |  |  |

Figure 18: BRC Mathematics 3.1, Lesson 53: Adding Two-digit and One & Two-digit Numbers

Name: \_\_\_\_\_ Lesson R 53

find the sum or difference: \_\_\_\_\_

|                                                     |                                                     |                                                     |                                                     |                                                     |
|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| $\begin{array}{r} 32 \\ + 45 \\ \hline \end{array}$ | $\begin{array}{r} 58 \\ + 22 \\ \hline \end{array}$ | $\begin{array}{r} 44 \\ + 42 \\ \hline \end{array}$ | $\begin{array}{r} 76 \\ + 23 \\ \hline \end{array}$ | $\begin{array}{r} 43 \\ + 35 \\ \hline \end{array}$ |
| $\begin{array}{r} 12 \\ + 7 \\ \hline \end{array}$  | $\begin{array}{r} 2 \\ + 66 \\ \hline \end{array}$  | $\begin{array}{r} 31 \\ + 3 \\ \hline \end{array}$  | $\begin{array}{r} 4 \\ + 80 \\ \hline \end{array}$  | $\begin{array}{r} 84 \\ + 5 \\ \hline \end{array}$  |
| $\begin{array}{r} 44 \\ + 1 \\ \hline \end{array}$  | $\begin{array}{r} 0 \\ + 22 \\ \hline \end{array}$  | $\begin{array}{r} 2 \\ + 43 \\ \hline \end{array}$  | $\begin{array}{r} 76 \\ + 2 \\ \hline \end{array}$  | $\begin{array}{r} 5 \\ + 43 \\ \hline \end{array}$  |
| $\begin{array}{r} 16 \\ - 9 \\ \hline \end{array}$  | $\begin{array}{r} 19 \\ - 7 \\ \hline \end{array}$  | $\begin{array}{r} 18 \\ - 6 \\ \hline \end{array}$  | $\begin{array}{r} 11 \\ - 7 \\ \hline \end{array}$  | $\begin{array}{r} 17 \\ - 6 \\ \hline \end{array}$  |
| $\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$   | $\begin{array}{r} 6 \\ + 9 \\ \hline \end{array}$   | $\begin{array}{r} 4 \\ + 4 \\ \hline \end{array}$   | $\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$   | $\begin{array}{r} 6 \\ + 6 \\ \hline \end{array}$   |

put in order: \_\_\_\_\_

24

34    85

72

73    31

write the correct sign: \_\_\_\_\_

44 \_\_\_\_\_ 49    26 \_\_\_\_\_ 26    91 \_\_\_\_\_ 92

### 5.2.4 BRC Basic Math Year 3, Book 2 (BRC Math 3.2 M) & Caribbean Primary Maths 3, Second Part (CPM 3.2)

The following tables, Table 23 and Table 24 on page 130, compare the second textbook of BRC and of CPM for Year 3: BRC 3.2 M and CPM 3.2.

*Table 23: Content Analysis for Number of Topics Presented per lesson in BRC Basic Math Year 3, Book 2 (BRC 3.2 M)*

| <u>Lesson Number</u> | <u>Number of topics per Lesson</u> | <u>Topic(s)</u>                                                                                                |
|----------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 71                   | 5                                  | Addition; value placement; counting by groups; multiplication                                                  |
| 81                   | 6                                  | Word problems; written numerals; value placement; multiplication; addition; subtraction                        |
| 92                   | 4                                  | Word problems; value placement; fractions; multiplication                                                      |
| 103                  | 4                                  | Fractions; multiplication; addition; subtraction                                                               |
| 114                  | 6                                  | Word problems; addition; multiplication; counting by groups; expanded notation; measurement                    |
| 122                  | 5                                  | Expanded notation; word problems; multiplication; addition; subtraction                                        |
| 135                  | 4                                  | Measurement; multiplication; addition; subtraction                                                             |
| 140                  | 9                                  | Measurement; addition; subtraction; multiplication; word problems; signs; ordering; fractions; value placement |
| <b>TOTAL</b>         | <b>43</b>                          |                                                                                                                |

*Table 24: Content analysis for number of topics per lesson in CPM 3, Second Part (CPM 3.2)*

| <u>Lesson Number</u> | <u>Number of topics per Lesson</u> | <u>Topic(s)</u>                                                                                           |
|----------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 75                   | 4                                  | Counting in 25's; counting by 10's; addition; counting by 10's;                                           |
| 80                   | 3                                  | Closed figures; plane figures; congruent figures                                                          |
| 91                   | 6                                  | Place value; fractions; time; addition; money; geometric shapes                                           |
| 98                   | 3                                  | Word problems; addition; number ordering                                                                  |
| 111                  | 2                                  | Estimating and measuring lengths in centimetres                                                           |
| 124                  | 2                                  | Drawing and interpreting graphs                                                                           |
| 137                  | 6                                  | Using a letter to represent a number; addition; subtraction; multiplication; division; symbol recognition |
| 143                  | 6                                  | Place value; word problems; addition; multiplication; division; subtraction;                              |
| TOTAL                | 32                                 |                                                                                                           |

**Discussion:**

BRC 3.2 M presents 11 more topics over eight lessons than does CPM 3.2.

However, the total number of new topics presented over the 8 lessons is as follows: BRC 3.2 M: 11; CPM 3.2: 23. Referring to tables 23 and 24, CPM lesson 91 and BRC lesson 92 (cited above) demonstrate that CPM textbooks present more topics per lesson.

The level of difficulty of the topics (refer to table 24) and their repetition outlined in the "Topics" column reveal that CPM 3.2 is a more challenging textbook. This clearly

illustrates a scholastic emphasis in CPM 3.2. For instance, multiplication is repeated in each of the eight lessons selected in BRC 3.2 M, whereas in CPM 3.2 multiplication appears twice. Therefore, the data show that BRC 3.2 M is more repetitive than CPM 3.2 and, as a result, presents fewer new concepts per lesson.

#### 5.2.5 ii. Number of practice exercises

The following Table 25 compares the number of practice exercises per lesson in CPM 3.2 and BRC 3.2 M.

*Table 25: Content analysis for number of practice exercises in CPM 3.2 and BRC 3.2 M*

| <u>Publishing Company</u> | <u>Lesson number</u> | <u>Number of practice exercises per lesson</u> |
|---------------------------|----------------------|------------------------------------------------|
| i. CPM                    | 75                   | 19                                             |
| ii. BRC                   | 75                   | 57                                             |
| i. CPM                    | 80                   | 27                                             |
| ii. BRC                   | 81                   | 86                                             |
| i. CPM                    | 91                   | 25                                             |
| ii. BRC                   | 92                   | 41                                             |
| i. CPM                    | 98                   | 8                                              |
| ii. BRC                   | 103                  | 53                                             |
| i. CPM                    | 111                  | 19                                             |
| ii. BRC                   | 114                  | 55                                             |
| i. CPM                    | 124                  | 11                                             |
| ii. BRC                   | 122                  | 43                                             |
| i. CPM                    | 137                  | 64                                             |
| ii. BRC                   | 135                  | 42                                             |
| i. CPM                    | 143                  | 23                                             |
| ii. BRC                   | 140                  | 85                                             |

**Discussion:**

For all but one lesson, BRC 3.2 M provides more practice exercises than CPM

3.2. There is much repetition of "basic" mathematics operations, such as addition, subtraction, multiplication and division in BRC 3.2 M. CPM 3.2 provides fewer practice exercises. This suggests that there are different perceptions of students' math abilities, where BRC math textbooks have too many practice exercises for brighter students and CPM textbooks have too little practice for weaker students.

The data indicate that both CPM 3.1 and 3.2 present more topics, thus adhering to the MOE curriculum mathematics guidelines, whereas BRC 3.1 M and 3.2 M limit the number of topics presented based on the belief that Belizean students' mathematics and language skills are neither solidly nor sufficiently developed to learn the objectives set out by the MOE.

**5.2.6 Summary of Data on BRC and CPM Mathematics Textbooks**

The data indicate three major differences in content between the BRC math textbooks and the Caribbean Primary Mathematics (CPM) textbooks:

1. the level of difficulty;
2. the quantity of practice exercises;
3. the quantity of mathematical concepts presented within each textbook.

First, like BRC readers, BRC math textbooks are distinctly less challenging than the CPM textbooks. Fewer concepts and fewer lessons are presented per page in the BRC math textbooks than in the CPM textbooks which present several concepts per page and often include more than one lesson per page. It is by simplifying the content and eliminating certain MOE objectives that the BRC textbooks aim to respond to 'slower'

learners. Conversely, the CPM textbooks conform to the MOE math curriculum by including all topics for each academic year. They are more difficult and fast-paced.

Second, the number of practice exercises in BRC textbooks is greater than the CPM textbooks. Each lesson is presented over at least two pages in the BRC textbooks, where a minimum of one page is practice exercises. Conversely, the CPM textbooks have significantly fewer practice exercises (refer to the content analysis). Providing many practice exercises is one way of encouraging mastery and slowing the pace of the mathematics programme.

Third, some of the objectives in the Mathematics Curriculum Guides from the Ministry of Education (MOE) are not included in the BRC math textbooks. This is indicated in the accompanying BRC teachers' guides with the reasons explaining why. Conversely, the CPM textbooks include all of the MOE mathematics objectives. By following the MOE math curriculum guidelines, these textbooks are intended to prepare students for the ultimate writing of the national exams. However, the MOE sidesteps the disquieting problem that CPM math textbooks are ill-suited to the majority of students and therefore, do not equally prepare students for this end. Conversely, BRC math textbooks contain fewer concepts and many repetitive practice exercises. While student mastery is important, BRC sidesteps the eventual problem of preparing students for the national exams. Ultimately, CPM textbooks are product-oriented and BRC math textbooks are process-oriented.

Finally, the data also indicate that there are different perceptions about what content and which approach should be found in the mathematics textbooks. The decision to officially support the more academically challenging imported textbook over the

indigenous textbook appears to have become hidebound ministry policy. The MOE support for the imported mathematics textbooks also reflects the strong emphasis on academic learning to prepare a select number of students. This leads us back to the issue of hegemonic control of knowledge through textbook content. Hegemonic ideology makes it difficult to answer the question, “Which mathematics textbook teaches students the mathematics skills they need to know to function in their social context?” since who makes decisions over content is never a neutral issue.

### ***5.2.7 Concluding Remarks on Content Analysis for BRC Textbooks in view of MOE Ideology***

There is a warring of ideologies between the MOE and BRC. The MOE makes little provision for slower learners in terms of programming, alternative approaches or materials to use. As a result, BRC contends that the MOE is elitist, catering to only the brightest students. BRC believes that bright children will learn on their own (BRC, 1991). These are a few of the points of view that the MOE finds inflammatory.

Specifically, with regards to the readers used in Belizean classrooms, the MOE is a proponent of the 'see and say' approach. In contrast, BRC is a proponent of the phonetic approach. Another major difference between the MOE and BRC's approach to teaching language is the introduction of upper case letters. According to MOE ideology, both upper and lower case letters are presented at the same time. Conversely, BRC delays the introduction of upper case letters until Third Year. The reason for this forms another point of departure for the MOE and BRC: the language abilities of Belizean children. BRC recognizes that 95% of the students have English as a second language. The MOE does not officially address this issue. These three points, the phonetic approach, the

delayed presentation of upper case letters and language considerations place BRC in another ideological camp than the MOE.

Similarly, both the approach and content of the MOE's and BRC's mathematics programme differ. Like the reading programme BRC aims its materials at the slower students. The emphasis is on using concrete objects to teach math, practicing the concepts presented, following a step-by-step approach, and providing for the limited language abilities of Belizean students. The topics and teaching pace in CPM textbooks, on the other hand, coincide with the MOE mathematics curriculum. The MOE's prime focus is the preparation of students for the national mathematics exams (refer to data on MOE response presentation). Nonetheless, what teachers teach is not necessarily what students learn.

### **5.3 BRC Teacher's Guides**

#### **5.3.1 Introduction**

The following section examines the BRC teacher's guides in terms of the "notes", the scope and sequence, the suggested approach, and the overall usefulness of each guide in explaining its intent and the material it is to accompany. An important point of difference between BRC and the imported publishing firms is that they promote the use of a teachers' guide. Nelson's does not publish a teacher's guide and the CPM teacher's guide is not commonly used as the cost is prohibitive and is not readily available (12\$Cdn.: Government Bookstore, 1993). Examining BRC teacher's guides helps answer research question #1 (What are the differences between indigenously published textbooks and imported textbooks?) by considering the usefulness of these guides in the dynamic aspect of teaching.

##### **5.3.1.2 BRC Teacher's Guides: A Critique of the "Introduction"**

The BRC teacher's guides clearly state in the "Introduction" that they are designed for inexperienced teachers. While it is necessary to know the target audience, the preamble that follows is forceful in its conviction. "A person who leaves high school and enters the teaching profession rarely, if ever, has the knowledge to teach math, reading and language in an accurate, sequential manner" (BRC Teachers' Guides, p.1, 1993). If, then, teachers happen to fall into the category of high school graduates, they will be left with the impression that they are incompetent. An attempt could be made to encourage uncertified and inexperienced teachers to use the guide in a more positive fashion.

To add to the negative initial message, there is a list of factors which cause failure in teaching. For example, the failure of a student to learn can be caused by teachers not reading the teachers' guide (BRC Teachers' Guide, p.1, 1991). Yet, there is no counter-balancing list of factors which can contribute to success in teaching. The initial message, then, is one of anticipated failure.

### **5.3.2 BRC Mathematics Teachers' Guides**

#### **5.3.2.1 "Notes"**

The "Notes" section and the approach used in BRC mathematics teachers' guides are the same for each textbook. Following the Introduction, the section entitled "Notes" is more constructive than the Introduction and further clarifies how to use the guide to reap maximum benefits. The first statement reminds teachers that most of the children are learning in their second tongue. In the initial stages of learning English as a second language, it is recommended that the explanations for math be given in their native tongue, while counting and key mathematical terms be given in English, the official language of instruction. This is an important point of difference between BRC and the CPM textbooks which are aimed at English-as-a-first-language students, and are not accompanied by a teachers' guide explaining the content, scope and sequence of the programme.

Also included in this section are explanations of activities for teaching various mathematics concepts. For example, it is suggested that the concept of money should be taught using actual money, which is "far more realistic and practical" than using round circles with numbers written in them (iv, BRC Teachers' Guide, 1993).

### 5.3.2.2 Scope and Sequence

The "scope and sequence" section varies according to the topic content for each academic year, but they are all divided into the same categories: numeration, addition & subtraction, measurement, geometry, and evaluation. This section of the mathematics teachers' guides is well laid out and easy to follow. This is particularly useful not only for inexperienced or beginning teachers, but also for teachers wishing a clear outline of the mathematics programme which is contained within seven or eight pages.

### 5.3.2.3 Approach

The approach used in BRC mathematics teachers' guides is teacher-centred. Part of the reason BRC uses this approach is the large numbers of students in most Belizean classrooms: often over 30 students and sometimes as many as 50 in one classroom (Government of Belize, 1993). It is believed that a teacher-centred approach affords more control over classroom learning. Regardless, the explanations of the lessons in the BRC teachers' guides help take the trial and error out of teaching, particularly for new or inexperienced teachers, of which there are many in Belize: 65% (Government of Belize, 1992). This aims to contribute to consistency in teaching approach between classrooms and schools.

Each set of lessons provides a clearly stated objective, a choice of activities to do with the class, and several added notes which further explain the scope and sequence of the lessons. The explanations of the lessons are straightforward. Furthermore, BRC teachers' guides encourage teachers to invent new games and activities to present the material, as well as to use all available resources. The BRC mathematics teachers' guide

is well-structured with sequenced instructions as to what students and teachers are expected to do.

BRC teachers' guides remind teachers that the majority of students are ESL students. None of the imported textbooks make mention of this important fact. To accommodate ESL learners, BRC mathematics teachers' guides encourage teachers to use much repetition and to use simple language for explanations. While this is important for the second language learner and those experiencing difficulties, it becomes tedious for those who learn at a faster rate. The only suggestion for faster learners is that there is seat work that they can do. The learners are very dependent on the teacher for their learning.

### ***5.3.3 BRC Language Teachers' Guides***

#### **5.3.3.1 "Notes"**

As with the BRC mathematics textbooks, the "Notes" are the same for the three language teachers' guides studied. The "Notes" section provides a brief explanation of some of the approaches and philosophies BRC uses. Notably, the step-by-step teaching approach, grouping techniques, immediate reinforcement for learning, the importance of practice, ways of building confidence in student, using tests as motivators to learning and effective teaching are the points of focus in the "Notes" section. One of the explanations discusses the importance of being "sensitive to the reading, writing and language problems of our children...". Elsewhere the guide states that if a child does not understand a concept, it may be due to his/her lack of mastery of English. Other remarks made in the "Notes" section of the teachers' guide remind teachers that BRC language series targets the bottom 70% of the class (BRC, 1988).

### **5.3.3.2 Scope and Sequence**

BRC asserts that the curriculum and imported textbooks in Belize are aimed at the brighter children. In an attempt to correct this, the scope of BRC's language programme focuses on the needs of less gifted students. It aims to address the need of the bottom 70% of the class (BRC 1991). Consequently, the scope and sequence of the language programme is neither flexible nor open-ended so that it does not accommodate many levels of learning. In other words, the material presented is intended for the slower learner, with few suggestions for adapting the programme to address different contingencies: how to simplify/enrich, shorten/lengthen, increase/decrease difficulty level. Despite this important limitation in the language programme, the BRC language teachers' guides do present a clear and logical sequencing of activities for a specific target population.

### **5.3.3.3 Approach**

The BRC language teachers' guides promote the phonetic approach to language learning. With this approach, a system of symbols, only used with certain letters, is used to aid students in decoding words. The teachers are to teach the significance of these symbols. For instance, a dot over a vowel signifies that it is a short vowel. BRC contends that the symbols help children learn to read more quickly and independently. By the fourth year (Canadian grade three), the symbols are gradually eliminated.

Another anomaly in BRC's approach is the use of lower case letters. Capital letters are not introduced until the third year. Many teachers find this unacceptable, particularly for brighter children who can learn at a much faster rate than the BRC language allows. Learning upper case letters much later than lower case letters forces

children to unlearn the habit of reading and writing exclusively in lower case letters. As a result of much criticism, BRC is revising the textbooks of the language series to include upper case letters from Year 1.

#### **5.3.4 Summary of BRC Teachers' Guides**

In general, the teachers' guides may contribute to clarity of instruction for students and teachers using the BRC mathematics and language series. The mathematics teachers' guides may make BRC textbooks more 'user friendly' since they come with added explanations. For instance, BRC encourages teachers to use the new mathematics terms in everyday language and teaching. Consequently, the children learn the new terminology indirectly and in a practical context. Useful suggestions and added explanations are an important part of a teachers' guide.

Moreover, the BRC mathematics teachers' guides are both helpful in explaining the material and a suggested method. The teacher-centred approach, however, has its limitations, but may be appropriate in a country with such a low level of qualified teachers and a large pupil/teacher ratio. For it allows for more control over the direction and rate of learning.

The two most obvious problems with the BRC reading teachers' guides are 1.) the different approach from that encouraged by the MOE; 2.) the BRC reading series is aimed at the lower 70% of the class. This begs the question: what reading textbooks are the top 30% of the class to use? The limited range of BRC textbooks is a point several education authorities find difficult to accept. Despite this, the reading teachers' guides are an asset in explaining and clarifying the BRC reading programme.

As for differences between the publishing companies in this study, neither Nelson's nor CPM provide teachers' guides at affordable prices. The BRC teachers' guides are intended to support the implementation of the BRC mathematics textbooks and are free of charge to its clients (BRC, 1993). Although CPM mathematics textbooks do have an accompanying teachers' guide, the cost is prohibitive: over 26\$Bel (Government Bookstore, 1993). As a result, these teachers' guides are not commonly used. Furthermore, the Government Bookstore does not stock these teachers' guides, making them difficult for teachers to obtain.

#### ***5.4 Summary of Data Presented in Chapter Five***

The findings of the content analysis indicate that there are differences in the approach used for language learning, the cultural content of illustrations, the amount of concepts presented per math lesson, and the degree of adherence to MOE guidelines for both language and mathematics textbooks. From these differences, it is evident that BRC textbooks are aimed at the slower learners (which BRC estimates is the lower 70% of the class). When specifically comparing cultural content and illustrations, BRC reading textbooks use more Belizean content than Nelson readers. The BRC reading textbooks use a phonetic approach, whereas the Nelson readers suggest using either the 'see and say' or phonetic approach depending on the teacher's judgement.

In both imported and BRC language and mathematics textbooks, English is used. This is an important point for it is an example of the persistence of a colonial language, a Western language. The type of English used in the textbooks becomes a tool for

stratifying the students. Since the majority of Belizean students are ESL, the challenging language content of the Nelson language textbooks sets the ESL students apart from those who command the English language. Not only the choice of language, but also the type of vocabulary found in the textbooks acts as a tool for academic stratification.

The differences between the two mathematics textbooks illustrate contestation over legitimate content and approach. BRC mathematics textbooks present fewer mathematics concepts, but more practice exercises than the CPM. CPM textbooks follow MOE guidelines and present fewer practice exercises. However, opinions concerning the effectiveness of CPM and BRC mathematics textbooks vary amongst educators.

The data indicate that the nexus of the issue is not one of better or worse, but instead a complex web of reproduction and contestation over legitimated knowledge. The differences in approach and cultural content between the imported textbooks and BRC textbooks represent opposing viewpoints on what should be taught and how it should be taught. Interestingly, the data support both viewpoints: where one is that BRC textbooks have been “dumbed down” by modifying the content and approach; where the other is that imported textbooks maintain an elite standard unattainable to most students. For the language textbooks in particular, the struggle is between imported superior culture and cultural relativism. In both the imported textbooks, the legitimated content preserves a tradition that transcends the indigenous content found in the BRC textbooks. Yet, the process of knowledge legitimation involves not only officially sanctioned textbooks and the contents of the official curriculum, but also ‘curriculum-in-action’ in the form of educators and students working in the field. As we will see in the next

chapter, the control of official cultural knowledge through textbook selection does not always follow the direction it receives from the ruling elite.

## CHAPTER SIX

### **Response Presentation: Interviews and Questionnaires**

#### **6.1 Introduction**

Chapter six presents data gathered during interviews and from a written questionnaire. During the interviews and questionnaires, respondents were asked to comment on the learning needs of Belizean children that needed to be addressed. This was an attempt to discover if textbook needs, such as provision and content, figured among primary learning needs. The different responses from the four respondent groups are explained by the fact that their roles and experiences in education give rise to different perspectives. Later, when they discuss textbook effectiveness, their different beliefs about who is the client in the Belizean education system becomes an important factor.

The interview responses were divided into three main groups in order to help differentiate and describe the findings. Each part is presented as a combination of data collected from interviews and questionnaires.

The data are organized into four categories:

#### **A. Learning Needs of Belizean Children**

In order to investigate whether or not there is a perceived educational need to publish BRC textbooks, an examination of interview responses concerning the general learning needs of Belizean children is necessary.

#### **B. Important Elements About Textbooks**

An examination of important elements about textbooks provides information about the role of textbooks in fulfilling these learning needs in Belize.

### C.) Comparison of BRC and Imported Textbooks

A comparison of BRC Basic Reading textbooks with Nelson's New West Indian Readers and BRC mathematics textbooks with Caribbean Primary Mathematics textbooks will reveal the pedagogical differences, benefits and weaknesses of each respective textbook.

### D.) Teacher perceptions of BRC textbooks

An examination of teacher perceptions of the pedagogical benefits or drawbacks of BRC textbooks provides information on the degree of BRC's success in the field in achieving its objectives.

#### **6.1.1 The Four Groups of Respondents**

The sample is divided into four groups of respondents. They are:

1. Four Ministry of Education (MOE) Officials
2. Three Peace Corps Teacher Trainers
3. Four Principals and One District Manager
4. Twenty-nine Teachers

##### ***6.1.1.1 Ministry of Education Officials (MOE)***

There were four MOE officials interviewed, and one of them was employed at the Curriculum Development Unit (CDU) which is under the direction of the MOE. Two of the four were high ranking officials. All four MOE officials had over fifteen years experience in the Belizean education system. They were chosen for their knowledge of the Belizean education system, their involvement in the evaluation of textbooks, their knowledge of textbook use in the classroom, and their views on learning needs in Belize.

#### ***6.1.1.2 Peace Corps Teacher Trainers***

Three teacher trainers from the American Peace Corps were interviewed. All three interviewees were American and had over 20 years experience in education in the United States. One had two years experience working in the field of education in another developing country.

They each had been training teachers in Belize for over one year. Two interviewees were working in Orange District in northern Belize and the third interviewee was working in the south, in Toledo District. None of these interviewees had any direct involvement with BRC Publishing.

One part of their duties involved giving model lessons to untrained or uncertified teachers. During the model lesson, they taught a lesson to Belizean children using the textbooks and educational materials that were available in the school. They had all used BRC reading and mathematics textbooks. This exposure to Belizean children and educational materials, including BRC textbooks, was considered a good source of relatively unbiased information about Belizean children's learning needs and the effectiveness of BRC textbooks.

Another part of their duties involved giving interactive workshops during which untrained teachers developed and expanded their repertoire of teaching skills. The expertise of the Peace Corps trainers in the field of education, their relatively unbiased opinion about BRC textbooks, their direct contact with teachers in the field, and their manipulation of currently used textbooks were considered useful sources of information.

### ***6.1.1.3 Principals and District Manager***

Four principals and one district manager were interviewed. The Canadian equivalent to a district manager is a superintendent. All five school administrators had been teachers for at least 12 years before becoming principals or district managers. Their experiences working as school administrators ranged from five to twelve years.

The district manager came from Stann Creek District. Two of the principals came from Toledo District. One principal came from Belize City District. Lastly, one principal came from Cayo District. Four districts were represented in this group of respondents.

In all of their five respective schools, both BRC language and mathematics textbooks were being used at the time of the study. However, none of these interviewees had used the BRC language and mathematics textbooks themselves in a classroom. Despite this, as principals and as a district manager, one of their functions is to evaluate teacher performance, including effective use of textbooks. Therefore, their teaching and administrative expertise gave them insights into the value and effectiveness of BRC textbooks.

### ***6.1.1.4 Teachers***

The teacher respondents numbered 29. The sample included 15 teacher-respondents from Cayo District and 14 from Stann Creek District. These two districts were chosen for the availability of teachers. English was the second language of all 29 teachers who participated in the study.

The four criteria for selection were: (i) a minimum of one year teaching experience; (ii) presently use or have used BRC mathematics and/or language textbooks

in their classroom; (iii) presently use or have used CPM textbooks and Nelson's New West Indian Readers; (iv.) had participated in a BRC workshop.

The average number of years of teaching experience of the 29 teacher-respondents was 6.62. The percentage of teachers with five or more years teaching experience was 37.93% (11 teachers). The percentage of teachers with one year's teaching experience was 34.48% (10 teachers). The other 8 teachers (27.59%) had between one and five years teaching experience. Of the 29 teacher-respondents, only 11 (37.93%) were certified, while the other 18 (62.06%) were high school graduates.

Of the 11 (37.93%) teacher-respondents who had college or university education, one teacher had a college diploma in agriculture, while another had a diploma in education from a university in the United States. Both of these teachers were teaching in the Stann Creek district. The other 9 certified teachers had Teaching Diplomas from BTTC (Belize Teacher Training College). Eight of these BTTC graduates teach in Cayo, and one teaches in Stann Creek.

Twenty-five of the teacher-respondents surveyed were using both BRC Mathematics and Language Series at the time of fieldwork. The remaining 4 teachers were using either the BRC mathematics or the BRC language textbook.

Teacher-respondents answered a questionnaire which concentrated on two of the same themes as the questions used in the interviews. They were: (i.) the general educational and cultural needs of Belizean children; and (ii.) the strengths and weaknesses of BRC textbooks. A total of 20 close-ended and open-ended questions were asked.

None of the 20 questions were fully answered by the 29 teacher respondents due to limited language skills, to lack of motivation and to some confusion over the meaning of some of the questions. This is discussed in the section entitled "Limitations" in chapter four.

All 29 teacher respondents taught all core subjects: language arts, mathematics, social studies, physical education and health, and science. Four teacher-respondents from Stann Creek taught more than one grade in their classrooms: three taught a split 2/3 level (grade 3 & 4), while one taught an Infant 1, 2 and Standard I (4 & 5 year old kindergarten and grade 1) concurrently in the same classroom.

## **6.2 Learning & Belizean Children**

To facilitate the analysis of interviews, responses to questions about learning were grouped into four main categories: (i) professional development, such as teacher training; (ii) textbook related, such as revision of curriculum; (iii) budgetary, such as providing more buildings for schools or decreasing pupil/teacher ratios; (iv) societal, such as providing equal educational opportunities for urban and rural students. Questionnaire responses were too diverse to categorize into these categories.

### **6.2.1 MOE Officials**

The MOE officials discussed learning with regard to all of the four main categories. According to these four interviewees, the five primary learning basics were, in order of frequency: that children be taught the curriculum (3 officials); that the pupil/teacher ratio should decrease (3 officials); that teacher training be improved (2 officials); that the curriculum requires revision (1); that the kind and quality of education between rural and urban children be equalized (1). Table 26 summarizes the responses from the MOE officials.

Table 26: Learning Needs Stated by MOE Officials

| <u>Learning Needs</u>                                              | <u>Number of MOE respondents</u> | <u>Category</u>         |
|--------------------------------------------------------------------|----------------------------------|-------------------------|
| 1.Teachers teach MOE curriculum                                    | 3                                | Professional            |
| 2.Decrease pupil/teacher ratio                                     | 3                                | Budgetary               |
| 3.Improve teacher training                                         | 2                                | Professional            |
| 4.Revise curriculum                                                | 1                                | <b>Textbook related</b> |
| 5.Equalize learning opportunities between rural and urban children | 1                                | Societal                |
| Total                                                              | 10                               |                         |

#### **Discussion:**

For the MOE officials, discussions about the general learning of Belizean children centred mostly on teachers' actions and training; in essence, how teachers could be more effective in the classroom. Three MOE officials stated that teaching the MOE curriculum is an important learning need. "In Belize, teachers don't always follow the MOE curriculum... Their students have a hard time preparing for the national exams."

Moreover, the general perception of three of the MOE interviewees is that the teacher is the most important element in learning. "Teachers determine what goes on in the classroom. They must be effective if a child is to learn." These comments indicate the importance accorded teachers and is consistent with the teacher-centred approach promoted by the MOE.

Consistent with concerns about teachers are needs for a decrease in pupil/teacher ratio and for improved teacher training. The primary concern for teacher effectiveness

"would lead to better educational results". When asked if the MOE had set specific objectives in order to decrease pupil/teacher ratios and improve teacher training, the World Bank Primary Education Project was cited as a means to improving teacher training. As for pupil/teacher ratios, "there are not enough funds at present to pay more teachers."

While discussing possible contributions of the World Bank's Primary Education Project, one interviewee emphasized "the importance of strengthening the delivery and effectiveness of the curriculum. Our curriculum guides are acceptable, but not many teachers follow them. They often don't even have a copy [of the curriculum guides] or a teachers' guide." However, teachers are expected to pay for their own copy of a curriculum guide. When asked why the guides are not distributed freely, it was explained that all schools were not government-run schools. Money being scarce, the MOE cannot afford to give free copies to the church-run or private schools. "To make it fair [to all schools], we charge something to cover the costs." With respect to the availability of other educational materials, the Curriculum Development Unit (CDU) has done some developing. However, it has distributed few copies to teachers. As for preparing teachers to use the materials, one interviewee admitted, "the CDU and the MOE haven't done much training on [use of] the curriculum."

Of the four MOE officials, one in particular was pessimistic about the MOE's ability to provide for the learning of Belizean children. He proposed some measures which would effect some curricular revision, such as reconsidering the national examination process and national curricula. "I don't think our education system is good enough. Some of the curriculum is too advanced for our students. For math, for

example, there are too many concepts for too little time...There needs to be some changes in what we are teaching and how we are doing it." When asked to give examples, he stated that more time needed to be spent consolidating basic skills, such as addition and subtraction, and that teachers could prepare practice exercises, so long as the children learned basic mathematical operations. This respondent de-emphasized the role of textbooks, stating that there was "too much textbook teaching" by Belizean teachers and not enough "active teaching". Again, the teacher is seen as the primary source of knowledge in the classroom.

### **6.2.2 Peace Corps Teacher Trainers and Learning Needs**

The Peace Corps interviewees provided a different perspective of learning needs. Their awareness of the difficulties that indigenous initiatives encounter in a post-colonial state, coupled with their knowledge and understanding of the Belizean system of education, became evident throughout the course of the interviews. Their concerns focused mostly on the specific needs of children and the kind of learning situations that could support these needs. Their background as teachers and principals in the United States gave them a point of comparison other interviewees did not possess.

As their purpose in Belize was to train teachers in the classroom and through workshops, their responses were informed by direct observations of teachers and students. According to their observations, central to learning is better trained teachers (3), a decrease in PTR (3), providing more educational materials (by this they meant textbooks, maps, reference books, etc.) (2), and improved physical space (2). Table 27 summarizes the responses of the Peace Corps teacher trainers.

*Table 27: Learning Needs Stated by Peace Corps Officers*

| <u>Learning Needs</u>             | <u>Number of Peace Corps Respondents</u> | <u>Category</u>            |
|-----------------------------------|------------------------------------------|----------------------------|
| 1. Improve teacher training       | 3                                        | Professional               |
| 2. Decrease pupil/teacher ratio   | 3                                        | Budgetary                  |
| 3. Increase educational resources | 2                                        | Budgetary/Textbook related |
| 4. Improved physical space        | 2                                        | Budgetary                  |
| Total                             | 10                                       |                            |

#### **Discussion:**

In contrast to responses from the MOE officials, none of the Peace Corps teacher trainers stated that following the MOE curriculum was a primary learning necessity. Their responses instead identified basic issues greatly dependent on the availability of financial resources. That teacher training and decreasing the pupil/teacher ratio were stated by the Peace Corps teacher trainers is not surprising since training teachers is their mission in Belize. Their efforts, in conjunction with the World Bank Primary Education Project efforts, make teacher training a national issue.

The Peace Corps respondents also discussed problems with the present program of training at the BTTC. "Their over-emphasis on theory doesn't serve a useful purpose. What happens in fact is that certified teachers leave without any practical applications of the theory they're given (at BTTC). It makes no sense and seems like a waste of resources." While a theoretical understanding is necessary, BTTC does not appear to

prepare teachers to teach in the field. As for teachers who do not attend BTTC, there is no standard training or documents that they must undergo or follow before they go out into the field. This has interesting implications for the effective use of textbooks, which shall be discussed later.

While decreasing the pupil/teacher ratio for both rural and urban schools was discussed by MOE officials, the Peace Corps respondents focused their concern for high PTR more on the rural schools. "These schools are disadvantaged. We have visited at least three schools with more than 50 students to one teacher!" As to why, the Belizean government does not keep accurate statistics on PTR for each school. It was speculated that there is "no political interest". In other words, the majority of voters live in the urban centres, which is where financial resources remain concentrated. As such, it is general knowledge that rural schools have more students per teacher than urban schools.

Furthermore, there is a difference in the number of trained and certified teachers between urban and rural centres (refer to Appendix C).

Teachers in the rural schools tend to not have had any training...It is difficult to find teachers who are trained and certified to go to the rural schools for several reasons. First, they're too many students. Second, these schools are remote. Often the teacher has to leave their home and district. And then, [third] the schools themselves [building] are in poor shape - too small and dirty, and falling apart.

In addition to these concerns, the lack of teaching materials is evident in many rural Belizean schools. One school in San Miguel, Toledo District, "had no maps, hardly any books and basically an empty classroom to start the year last year (1992)". Again, this is attributable to limited financial resources.

### 6.2.3 Principals and District Managers and Learning Needs

The Principals and district manager who were interviewed provided a variety of answers. Coming from different districts, this was expected. Their answers provided richer data on administrative influences and their effect on learning.

*Table 28: Learning Needs Stated by Principals and a District Manager*

| <u>Learning Needs</u>                             | <u>Number of Respondents</u> | <u>Category</u>           |
|---------------------------------------------------|------------------------------|---------------------------|
| 1. Decrease Pupil/teacher ratio                   | 4                            | Budgetary                 |
| 2. Improve teacher training                       | 3                            | Professional              |
| 3. Equalize literacy levels between districts     | 2                            | Societal/Textbook related |
| 4. Equal opportunity for rural and urban students | 2                            | Societal                  |
| 5. More schools                                   | 1                            | Budgetary                 |
| 6. Revise mathematics curriculum                  | 1                            | Textbook related          |
| Total                                             | 13                           |                           |

#### **Discussion:**

During the interviews, several of the principals were emphatic about the overcrowding of classes. In particular, the principals from Toledo District stated that overcrowding was part of the reason that children from rural schools perform less well than those from urban schools (refer to Appendix B). Details on the teacher-hiring process revealed that often in the remote villages (and there are many in Toledo District) "anyone who will accept the [teaching] position is hired". This too has serious implications for differences in the quality of education between rural and urban schools.

In fact, many of the issues raised by principals from Toledo and Stann Creek districts revolved around discrepancies in educational opportunities between urban and rural students. Differences in reading ability between urban and rural children were attributed in part to lack of books. Yet, the issue of literacy is difficult to substantiate since no official record has been kept in Belize. Despite this, two respondents explained that a national standard of literacy would be one way to equalize the gap between education standards in the urban and rural centres. One respondent stated, "The literacy rate in Toledo is far too low...Standardizing would mean more funds for rural districts." Specific strategies aimed to equalize educational opportunities included better trained teachers, as well as more textbooks per student. Therefore, the argument is for more low-cost, effective and easily available textbooks.

Concern over revising the mathematics curriculum was discussed during interviews with principal respondents. Suggestions focused on the mastery of basic concepts (addition, subtraction, multiplication, division) in the elementary school years. "Students have a high failure rate because there is too much material to cover. I have asked the Ministry [of Education] to change the math curriculum to reflect our students' abilities, but there is this issue of keeping high standards." The CPM textbooks, while corresponding to the MOE mathematics curriculum, were not viewed as particularly well-suited to the learning abilities of Belizean children. The lack of practice provided for in the CPM textbooks and the amount of material to cover means that these textbooks are considered too difficult for many Belizean children.

This last comment is perhaps indicative of a general shortcoming in the education system in Belize. There is significant institutional weakness in both the communication

and the accountability structures among teachers, schools and the MOE. Part of the problem can be attributed to the administrative bottlenecks that occur when the MOE distributes educational materials, including textbook lists. There is no organized feedback mechanism or formal evaluation effected which would indicate, for instance, the effectiveness of educational materials in both rural and urban settings. Furthermore, accountability structures for teacher training, for effectiveness of curriculum, and for PTR do not exist.

What this means is that the issues stated by principals are not addressed. In relation to this study, textbook costs, the educational level of textbooks and the curriculum to which textbooks are intended to correspond do not appear to reflect the learning needs of Belizean children.

#### **6.2.4 Teacher-Respondents and Learning Needs**

Similar to the interview responses, teachers' responses in the questionnaire about the learning needs of Belizean children informed this study of a variety of issues relating to textbooks. Their answers provide richer data on issues relating directly to delivering an effective educational system.

*Table 29: Learning Needs Stated by Teachers*

| <u>Learning Needs</u>                              | <u>Number of Respondents</u> | <u>Category</u>                                |
|----------------------------------------------------|------------------------------|------------------------------------------------|
| 1. Field trips                                     | 5                            | Budgetary                                      |
| 2. Provide for slow learners                       | 2                            | <b>Textbook related</b>                        |
| 3. Invite guest speakers                           | 3                            | Budgetary                                      |
| 4. Use child-centred approach                      | 1                            | Professional                                   |
| 5. Manipulatives in classroom                      | 2                            | Budgetary                                      |
| 6. More visual aids                                | 2                            | Budgetary                                      |
| 7. Teach tolerance                                 | 2                            | Societal                                       |
| 8. Recognition of ethnic groups                    | 3                            | <b>Textbook Related/<br/>Societal</b>          |
| 9. Teach listening skills                          | 1                            | Professional                                   |
| 10. Teach thinking skills                          | 1                            | Professional                                   |
| 11. Involve parents                                | 1                            | Societal                                       |
| 12. Learn basics                                   | 2                            | <b>Professional/ Textbook<br/>related</b>      |
| 13. Improve teacher training                       | 2                            | Professional                                   |
| 14. More schools                                   | 2                            | Budgetary                                      |
| 15. Knowledge of Belize                            | 1                            | Societal                                       |
| 16. Provide material relevant to Belizean students | 1                            | <b>Societal/Textbook<br/>related/Budgetary</b> |
| <b>Total</b>                                       | <b>31</b>                    |                                                |

**Discussion:**

Teacher views on general learning were solicited in order to see if, without being directly asked, needs directly relating to textbooks would emerge. It was also hoped that an open-ended approach to a question on learning needs would raise a variety of issues, thus providing information on the broader context of education in Belize.

The categorization of the data indicates that budgetary issues are a priority, where fifteen responses were stated in this category. Next, there were eight responses categorized as textbook related. Societal and professional each received seven and six responses respectively.

Teacher views on general learning needs varied. Several of the learning needs involved activities which go beyond providing the basic essentials for learning. Activities such as field trips (5 respondents) and inviting guest speakers (3 respondents) were considered important learning needs. The near lack of comment by some respondents on very basic learning needs, such as the provision of paper, textbooks, reference books, etc., may indicate that these needs are already provided for in their particular schools and may explain why some teacher-respondents generally are more concerned with the quality of the instructional process.

Conversely, several teacher-respondents were concerned with the very basic provision of classrooms and educational materials. Responses such as "learn the basics" (2 respondents) and "provide more schools" (2 respondents) identify basic needs which require greater financial resources. Although the respondents stating "learn the basics" did not elaborate, it is assumed here that 'basics' means reading, writing and arithmetic. Therefore, some teacher-respondents indicated that the learning process is in need of

improvement at a fundamental level, while other teacher-respondents tended to be more focused on learning needs which can enrich the basic process of learning. The richness and variety in the teacher-respondents' answers may be attributed to a difference in the educational experiences of teacher respondents.

#### **6.2.5 Summary of Responses on Learning Needs**

The central question to this study concerns the possible benefits of using indigenous textbooks. The responses indicate that there is little interest or concern over the use of indigenous textbooks or the indigenization of education in Belize. This explains the concern for other issues seen as more fundamental. Moreover, the data indicate a considerable gap between areas of concern and the importance accorded textbooks. According to the literature, textbooks are one of the most important educational resources in developing countries. Contrary to this view, the data indicate that textbooks are not seen as vital as other "learning needs" issues.

Interview respondents stated several different learning needs. Two learning needs common to the three groups of interviewees were: 1. an improvement of teacher training; 2. a decrease in pupil/teacher ratios.

The teacher-respondents to the questionnaire provided a wide range of learning needs. Most of the learning needs (14) were identified as budgetary. This is no surprise for a developing country. Interestingly, those needs identified as 'textbook related' are conducive to the aims of BRC language and mathematics textbooks (refer to content analysis). BRC textbooks appear to address four of the learning needs stated by teacher-respondents.

Structural issues, such as decentralization and the ill-defined role of the MOE, seem to aggravate the lack of communication over which learning needs should be addressed. The responses of the MOE officials indicate concern for teaching the official curriculum, since this is important in order to pass the national exams. The continued progression of students through the system depends on the success of students in writing these exams at the end of their primary education. In this way, the system of national exams obliges teachers and students to concentrate on preparing for them. However, despite the poor rate of success, the MOE is reluctant to re-design or eliminate the national exams. These factors taken together make it very difficult for teachers, principals or, in the case of this study, textbook publishers to introduce changes to existing approaches, curriculum content and textbook choice in order to better address the learning of Belizean children.

Interest among respondents over institutional issues, such as teacher training and a shortage of appropriate educational resources, is strong. Learning needs focusing on these issues are a result of the politico-economic context. Money being scarce, however, little can be done to address these issues in Belize.

The shortage of teaching materials and differences in quantities of these materials from one school to another is a result of both a general lack of capital and a highly decentralized education system. The ensuing inequities create tension. To aggravate this situation, there are poor school-MOE linkages, resulting in inequities and inconsistencies in such domains as the provision of textbooks. In this sense, the data show a lack of communication between the MOE and the teachers.

### **6.3 Important Elements about Textbooks**

Perspectives on textbooks were expected to reveal the degree to which interviewees and questionnaire respondents would identify textbook requirements in accordance with the aims of BRC Publishing. Interview question #2 asked *"List the 3 to 5 most important educational and cultural elements in a textbook intended for Belizean children."* Interview answers formed one group of responses. Questionnaire responses formed the second group where data was drawn from responses to questions #5 and #14 of the questionnaire. All three questions concentrated on assumptions about textbooks used in Belize and attempted to solicit explanations of different perspectives on textbooks.

#### **6.3.1 MOE, Peace Corps and Principal Interview Responses**

In addition to information about learning needs in general, responses to interview question #2 revealed different beliefs about the role of textbooks. Generally, the MOE officials view textbooks as a means of processing information. The Peace Corps responses tend to emphasize the personalizing of the learning process through appropriate content and academic level in a textbook. While the principals' responses vary the most of the three groups of interviewees, the administration of textbook provision appears to underscore the majority of their responses. Table 30 summarizes the responses from these three sources on perspectives about reading and mathematics textbooks. The first column describes the MOE officials' (MOE) responses to important elements about textbooks. The second column describes the Peace Corps' (PC) responses. The third column describes the Principals' (Prin) answers. The first section of the table refers to

general elements relating to both reading and mathematics textbooks. The second section refers to elements concerning primarily reading textbooks. The third section deals with elements pertaining to mathematics textbooks.

*Table 30: Perspectives on Reading & Mathematics Textbooks: MOE, Peace Corps & Principals*

| <u>Element</u>                               | <u>MOE</u> | <u>P.C.</u> | <u>Prin</u> | <u>Total</u> |
|----------------------------------------------|------------|-------------|-------------|--------------|
| <b><u>General</u></b>                        |            |             |             |              |
| 1. Availability                              | 0          | 2           | 4           | 6            |
| 2. Affordability                             | 4          | 2           | 4           | 10           |
| 3. Motivation of students                    | 1          | 0           | 2           | 3            |
| 4. Correspondence to MOE curriculum          | 3          | 0           | 2           | 5            |
| 5. Focus on 'average' students' abilities    | 0          | 2           | 0           | 2            |
| <b>Sub-Total</b>                             | <b>8</b>   | <b>6</b>    | <b>12</b>   | <b>26</b>    |
| <b><u>Reading</u></b>                        |            |             |             |              |
| 1. Relevant stories                          | 0          | 3           | 2           | 5            |
| 2. Intended for ESL students                 | 0          | 3           | 2           | 5            |
| 3. Motivation of students                    | 0          | 0           | 4           | 4            |
| 4. Appropriate language level                | 0          | 2           | 1           | 3            |
| <b>Sub-Total</b>                             | <b>0</b>   | <b>8</b>    | <b>9</b>    | <b>17</b>    |
| <b><u>Mathematics</u></b>                    |            |             |             |              |
| 1. Sufficient practice exercises for mastery | 0          | 3           | 3           | 6            |
| 2. Provides challenge for students           | 3          | 0           | 1           | 4            |
| 3. Good explanations for exercises           | 4          | 0           | 2           | 6            |
| 4. Follows standard mathematical procedures  | 3          | 0           | 1           | 4            |
| <b>Sub-Total</b>                             | <b>10</b>  | <b>3</b>    | <b>7</b>    | <b>20</b>    |
| <b>Total</b>                                 | <b>18</b>  | <b>17</b>   | <b>28</b>   | <b>63</b>    |

## **Discussion:**

### ***6.3.1.1 MOE***

Three MOE respondents discussed the significance of textbooks corresponding to MOE curricula. "We find some textbooks more comprehensive and supportive with our materials [MOE curriculum] than others." The importance of a match between textbooks and curriculum is reflected in the MOE's predominant objective of preparing students for the national exams. Yet there has been no attempt to discover the origins of the low success rates on these exams (refer to Appendix B). One MOE respondent recognized that "the textbooks currently being used by the MOE do not fit the educational needs of Belizean children." Interestingly, one particular issue which was clearly omitted by the MOE officials was accommodating ESL students' needs. However, nothing is being done to address this issue.

Another MOE respondent discussed "a programme of distance education for teachers to better their knowledge base", attributing the low success rates on national exams to a lack of teacher training. He continued by explaining other efforts to better respond to low success rates on national exams: "We are instituting a process of dialogue with teachers and the community in hopes of changing the structure and the image of the MOE. This will mean changing the curriculum and textbooks too." No reference was made to BRC textbooks being part of the change in education.

Much emphasis was placed by MOE respondents on the level of difficulty of the mathematics textbooks. Again, the concern for preparing students for the national exams was cited as a primary reason for using any mathematics textbook. Providing

explanations for exercises was also mentioned as important. This is in direct reference to BRC mathematics textbooks: "They [BRC textbooks] do not provide adequate explanations with their [math] exercises. It is frustrating for faster students who want to work independently." There was also some frustration for the MOE respondents who would like to see standard mathematical procedures used by students. This comment reflects the stated belief that a textbook should respond to MOE curriculum guides, as well as reflecting on the lack of standardization of teaching in mathematics.

Other comments by the MOE respondents recognized that there are problems concerning the affordability, the standardization, the distribution and availability of textbooks, but finding solutions to these problems seems secondary and "too costly". When asked specifically about the lack of standardization of textbooks between schools and districts, and the issue of affordability, two respondents noted that this is an area under investigation. The lack of any detailed information on attempts to better match Belizean childrens' educational needs with textbooks and the MOE curriculum seems to indicate that they place economic realities ahead of educational impact. However, the MOE simply does not have funds available in order to address these concerns.

#### ***6.3.1.2 Peace Corps Volunteers***

In discussing 'general' elements for Belizean textbooks, the Peace Corps respondents noted availability, affordability and academic level. While affordability is a concern in all districts in Belize (World Bank Report, 1989), availability tends to affect the rural districts more directly. One respondent discussed some of the challenges to availability in the Toledo District. "There is no guarantee that textbook supplies will be

sufficient for the number of students buying the [text]books, meaning that some of our students come to school without books because there weren't any [to buy]." Few schools provide booksellers with estimates of the number of copies of textbooks that will be required for students. When supplies run out students must go to Belize City, the location of the only bookstore which keeps school textbooks throughout the year. According to the Peace Corps respondents, this rarely occurs in the poorer rural districts as the transportation system is insufficiently organized and parents often lack the money to pay for textbooks. Thus textbook availability directly impacts on student learning.

Student learning is also affected by the academic level of the textbooks used. "The low educational levels of many parents and the language problems in the early years of schooling mean that [text]books produced in the Caribbean are not suited to Belizean needs." This respondent based her answer on two years experience using several imported reading and mathematics textbooks, including those used in this study. The academic level, meaning the scope and sequence, as well as the accommodation of slower learners, of the imported textbooks were viewed as "too advanced".

Another Peace Corps respondent elaborated on the idea of textbooks "aimed at 'average' students' abilities".

Some of the U.S. textbooks are scientifically superior showing pictures of advanced technology, as well as being superior in terms of the production of the textbook itself, meaning the printed material, etc. But they [textbooks] do not need to be conceived to last 10 years with high gloss paper. It is more important in Belize to focus on the appropriate content and language so that the average student can succeed and be motivated to learn.

Here, the emphasis is on textbooks meeting the learning needs of the average student rather than on the textbooks meeting a set of printing specifications.

When discussing reading textbooks, one Peace Corps respondent stated that "stories relating to the kids' lives helps motivate them to want to read". While the Nelson reader contains stories in and around the Caribbean which relate indirectly to Belizean children's lives, "BRC makes specific mention of places and things in Belize. The kids like that." But does this make a difference in their learning?

The language and vocabulary levels were stated as the element that makes a difference in learning, where BRC readers are more suited to Belizean students' language needs. Moreover, all three Peace Corps respondents were surprised to find that there was no account taken of the language abilities of the students. "I haven't seen anything to indicate that they [MOE] are dealing with ESL students."

When discussing mathematics textbooks, Peace Corps respondents focused on students mastering the math concepts. Their experience of teaching mathematics to Belizean children revealed that "Belizean kids are being fed too many math concepts at once. Slowing down the process would help, as would using materials that the students can handle." Using the national exams as a general indicator (Appendix B), where the pass rate is at less than 50%, students do not appear to be mastering what they are taught. While the Peace Corps respondents recognize that there are several intervening variables causing the low pass rate, such as the quality of teaching, the academic level of students, levels of motivation for both teachers and students, "textbook content for mathematics and reading should not be overlooked."

### *6.3.1.3 Principals*

The school administrators were strongly supportive of having affordable textbooks available throughout the school year. An important part of their job involves ordering, storing and selling textbooks at the beginning of the school year.

In Belize, there is no [textbook] distribution system. Each district has its own way of obtaining textbooks. Sometimes the district managers sell books at the local office. But they often have storage problems. And the remote districts have transportation problems because the roads are in very bad shape (interview, Punta Gorda, 1993).

In addition, the movement of students between families, schools and districts makes textbook provision an arduous task for principals. The delays in obtaining textbooks for students who do not begin the school year with the recommended textbook are believed to compromise student learning.

Four principals were strong advocates of the phonetic approach to reading. "I think that phonics gives students the building blocks to learn a second language." Two of these four respondents elaborated on the need to address the issue of ESL. "The textbooks we use are for English-speaking children. Some of my students are strong and understand, but many others struggle with the tough vocabulary [of the Nelson reader]." However, one principal stated that the language level should be challenging for the strongest students and that "it was the teacher's role to explain the words to the slower students". Here, there appears to be a difference in belief about the role of textbooks: on the one hand, textbooks are intended to address student needs; on the other hand, textbooks are to challenge the brightest students. While these two perspectives are not

mutually exclusive, none of the principal respondents was aware of a reading textbook that does both.

For the mathematics textbooks, responses indicate that the most important element is the provision of sufficient practice exercises for mastery. In other words, "the student is allowed the chance to practise the lesson. Teachers sometimes don't have [the] skill or time to make up practice exercises."

There was also some concern about the accompanying explanations given in the mathematics textbooks. Having clear explanations in the textbook allows "some students to learn more [effectively] than relying on the teacher's lesson." It was further explained that the skill level of some teachers in mathematics may be a hindrance to the students' learning. It seems natural to assume that their inability to perform the mathematical operations would affect their ability to explain them. Thus good explanations are an asset in a mathematics textbook.

Other comments concentrated on presenting students with a challenge and following the MOE mathematics curriculum. "Due to the general weak math skills of teachers, the textbooks can make a difference because they can test the brightest students." Another principal stated that all selected mathematics textbooks should follow typical mathematical procedures in order to encourage standardization throughout Belize.

In general, the principals provided a broad range of responses which are representative of the variety of educational beliefs that are discussed throughout the study. These beliefs can generally be divided into two camps: where one supports the continuation of the British style of education with national exams and textbooks fitting a

national curriculum; where the other concentrates on student learning and is more needs based.

### 6.3.2 Teacher Responses

The teachers answered questions asking for their perspective on reading and mathematics textbooks. Table 31 illustrates the data from their responses.

*Table 31: Perspectives on Language & Mathematics Textbooks: Teachers*

| <u>Element</u>                           | <u>Number of teacher-respondents</u> |
|------------------------------------------|--------------------------------------|
| <b><u>General</u></b>                    |                                      |
| 1. Effective methodology                 | 20                                   |
| 2. Quality of printed text               | 13                                   |
| 3. Illustrations of Belizean life        | 21                                   |
| 4. Quantity of information               | 14                                   |
| <b>Sub-Total</b>                         | <b>68</b>                            |
| <b><u>Language</u></b>                   |                                      |
| 1. Language: used in daily life          | 22                                   |
| 2. Language: cultural appropriateness    | 24                                   |
| 3. Quality of written text               | 15                                   |
| 4. Story content: customs/ethnic groups  | 20                                   |
| <b>Sub-Total</b>                         | <b>81</b>                            |
| <b><u>Mathematics</u></b>                |                                      |
| 1. Examples & situations from daily life | 18                                   |
| 2. Practice exercises                    | 12                                   |
| <b>Sub-Total</b>                         | <b>30</b>                            |
| <b>Total</b>                             | <b>179</b>                           |

## **Discussion**

Teacher responses revealed that there is a high level of agreement with respect to perspectives on language and mathematics textbooks. It could also be argued that teacher responses are as similar as they are due to the close-ended nature of the two questions used to construct this table. However, for one of the questions, there was a section marked 'other' allowing for individual responses.

In the section entitled 'general', twenty respondents indicated effective methodology as an important aspect of textbooks, and 21 indicated the use of illustrations of Belizean life as an important aspect of textbooks.

There were more responses concerning reading textbooks (81) than mathematics textbooks (30). Again, this may be a function of the close-ended questions used to gather the data, and which centred on elements of history, culture and daily life more likely found in language textbooks rather than in mathematics textbooks. It may also be indicative of the importance accorded language in the reading textbooks. The data indicate that the use of words that children can easily understand and relate to is a significant aspect of a textbook.

Furthermore, the use of examples and situations from daily life in mathematics textbooks was perceived as important (18 responses). Although the quantity of practice exercises becomes an important factor later when a direct comparison of BRC and CPM mathematics textbooks is made, the data indicate that teachers view this as the least important aspect in a mathematics textbook.

### **6.3.3 Summary of Important Elements About Textbooks**

Data about textbooks in general helps to determine if the objectives BRC Publishing established are similarly perceived to be issues of importance by educators and administrators. The first group of responses reveal diverse perceptions on a textbooks role. The MOE officials' responses indicate that the most important element about a textbook is its effectiveness at transmitting knowledge as defined by MOE curriculum. Conversely, the Peace Corps respondents articulate the pedagogical role of a textbook, where the most important element of a textbook is its capacity to correspond to the student's academic ability and learning context. Generally, the principals' responses focus on the administration of textbook provision, although there was some concern over the academic appropriateness of some of the textbooks being used. Lastly, data from teacher-respondents show that the most important aspects in textbooks for teacher-respondents are centred on the kind and nature of the language used, the effectiveness of the methodology, and illustrations and stories representing Belizean life.

#### **6.4 Comparison of BRC Textbooks with Two Imported Textbooks**

Interview respondents were asked to compare: (i) BRC Basic Reading and Nelson's New West Indian Reader; and (ii) BRC Mathematics Series and Caribbean Primary Mathematics. (*Interview question #4: Please compare imported textbooks to BRC textbooks based on their relative effectiveness in the classroom.*) The MOE officials, the Peace Corps teacher trainers and the principals provided detailed responses during interviews. Answers from the MOE respondents indicated a lack of knowledge beyond the bureaucratic structures. Conversely, answers from the Peace Corps respondents suggest a strong emphasis on learners' needs. Lastly, the responses from the group of principals varied, but tended to focus on administrative concerns, such as the provision and cost of the textbooks. Table 32 and Table 33 on page 18282 summarize the interview responses.

##### **6.4.1 A Comparison of (a) Nelson's New West Indian Reader & (b) BRC Reading Series**

Interview respondents were asked to compare the BRC Reading Series and Nelson's New West Indian reader, as well as to explain their preferences. This produced a mixture of interesting responses. Table 32 presents the findings from this question.

*Table 32: A Comparison of (a)Nelson's New West Indian Reader & (b)BRC Reading Series MOE, Peace Corps & Principal Respondents*

| <u>Preferred Textbook</u>               | <u>MOE</u> | <u>Peace Corps</u> | <u>Principals</u> | <u>Total</u> |
|-----------------------------------------|------------|--------------------|-------------------|--------------|
| a. <u>Nelson's Reader</u>               | 3          | 0                  | 2                 | 5            |
| <u>Reasons for selecting Nelson's</u>   |            |                    |                   |              |
| 1. Quality of print                     | 3          | 0                  | 2                 | 5            |
| 2. Challenging vocabulary               | 3          | 0                  | 1                 | 4            |
| 3. Use of capital letters               | 4          | 0                  | 2                 | 6            |
| 4. Long stories (appropriate for level) | 2          | 0                  | 0                 | 2            |
| <b>Sub-Total</b>                        | <b>12</b>  | <b>0</b>           | <b>5</b>          | <b>17</b>    |
| b. <u>BRC textbooks</u>                 | 0          | 3                  | 3                 | 6            |
| <u>Reasons for selecting BRC</u>        |            |                    |                   |              |
| 1. Affordable                           | 0          | 3                  | 3                 | 6            |
| 2. Local content                        | 0          | 1                  | 1                 | 2            |
| 3. Phonetic approach                    | 0          | 0                  | 3                 | 3            |
| 4. Teachers' guides provided            | 0          | 2                  | 2                 | 4            |
| 5. Simple vocabulary                    | 0          | 3                  | 1                 | 4            |
| <b>Sub-Total</b>                        | <b>0</b>   | <b>9</b>           | <b>10</b>         | <b>19</b>    |
| <b>Total</b>                            | <b>12</b>  | <b>9</b>           | <b>15</b>         | <b>36</b>    |

#### **Discussion:**

Interview respondents were asked to consider all aspects of the textbooks, including approach, content, vocabulary, cost, story length, any feedback from teachers and principals they had received for each textbook, etc.

##### **6.4.1.1 MOE Officials**

Three MOE respondents preferred the Nelson's reader. These respondents preferred the superior print quality, the challenging vocabulary and the use of capital

letters in the Nelson reader. The use of colour illustrations in the Nelson reader make for "a more attractive textbook". This begs the question of whether or not coloured illustrations positively affect student learning. One respondent claimed that students are more motivated to learn when colour is used in textbooks. This is an interesting but questionable assumption, however.

When discussing the subject of challenging vocabulary, respondents were clear in their conviction that BRC readers are "too easy and too repetitive", and this especially so for the brighter students. Three MOE officials stated their unwavering support for imported textbooks currently available in Belize. The MOE officials have a high degree of concern for the learning of the academically strong students.

There was consensus on the issue of capitalization. BRC readers do not use capital letters until the third year. One official stated, "Students should learn the alphabet, both small and capital letters". BRC uses only lower case letters and a system of symbols which are aimed at facilitating the decoding of words. However, all four MOE respondents stated that the symbols are confusing to students.

One MOE respondent initially refused to identify a preferred language textbook, stating:

there is a warring of ideologies [between the MOE and BRC].  
Both textbooks have good and bad points. The MOE and [the  
director of BRC] should try working together

Throughout the interview, he put forth many suggestions, from ways of improving education in Belize to ways of improving BRC reading textbooks: "They [BRC reading textbooks] should use capitals and stop using all those signs", meaning the phonetic symbols for long and short vowels. The interview concluded with a statement that

Belizean teachers are far too dependent on textbooks for their teaching, but that if he had to choose, he would choose BRC. "It's time they learned more about their environment and how to use it." It was encouraging to see that there was at least one MOE official who had a less bureaucratic view from the other MOE officials.

#### ***6.4.1.2 Peace Corps Volunteers***

There was a high level of consensus among Peace Corps respondents when comparing the two reading textbooks. Affordability was stated as a major factor in determining which textbook should be chosen. As such, these respondents preferred BRC Reading textbooks. Another reason for preferring BRC reading textbooks is the use of simple words which "are at the kids' level [of language understanding]...I find the vocabulary in the Nelson reader too difficult for many Belizean students."

Understandably, their responses reflect their field experience. Their descriptions of the schools they have frequented revealed situations in which students regularly were not in possession of a textbook and were struggling to read. Providing simpler materials, they stated, would possibly allow the students to "meet with some success."

#### ***6.4.1.3 Principals***

The principals' responses were more diverse. The two who preferred the Nelson reader did so because of the use of capital letters, the superior quality of print and the challenging vocabulary. Their concern for the printing quality was unexpected, since the price of textbooks is a concern throughout Belize and quality printing is often the most costly feature in publishing textbooks. Regardless, these respondents were adamant that the quality of the print was essential if a textbook was to be effective. "It has to look professional. The use of colour is good too."

The other three principal respondents preferred BRC Reading textbooks particularly for their phonetic approach. Two of the principals appreciated the BRC teachers' guides as a good source of additional instructional techniques for the teachers under their supervision.

The issue of affordability was mentioned by the same three principals who preferred BRC language textbooks. Two were from Toledo District. Due to poor test results in language arts and mathematics, these two principals decided to try BRC reading and mathematics textbooks. One of the major factors that led to this decision was that the schools in this district are poorly supplied with educational materials, including textbooks. "BRC was available and even more importantly easily affordable."

The other principal concerned with textbook affordability was from the Belize City district. At this school, the Scott Forman reader had been previously used. But it is the most expensive reader in Belize (40\$Bel, Government Bookstore, 1993).

It [Scott Forman reader] was very expensive and wasn't serving its purpose because it was too Americanized. Most of the children couldn't afford it. So only a few children actually had the textbook.

As a result, she tried an 'experiment' with BRC readers. First, there was one group using BRC readers, for students experiencing some difficulties in reading, and another using the Rainbow Series, for the faster students. The following year the two groups were combined and when the principal asked the teacher for a progress report, the teacher cited students who had been in the 'fast' group the previous year as those who were experiencing difficulties. The principal stated:

The children who used BRC [readers] were as good if not better in reading and writing than the children who had used

the Rainbow readers the year before.

There were two different teachers, which may account for learning differences. Yet they were both equally qualified and, according to this principal, were "good teachers". BRC readers are now consequently used for the entire school. "They [BRC readers] are effective and affordable". Now, almost each student has a copy.

#### ***6.4.1.4 Summary of Comparison of Nelson's & BRC Reading Textbooks***

The differences between schools and districts seem to make a choice of one textbook over another difficult. The respondents' decisions seemed to be influenced by where they placed the measure of effectiveness. In other words, when their reasons reflected student needs, they tended to prefer BRC Reading textbooks. When their reasons reflected government policy on what was effective and necessary in the classrooms, they tended to prefer the Nelson reader. Not only does there appear to be a "warring of ideologies", but also a difference in perception of educational needs.

#### **6.4.2 A Comparison of CPM & BRC Mathematics Textbooks**

In Belize, there are several different mathematics textbooks available. Caribbean Primary Math (CPM) is most commonly used. BRC math series exists indirectly as a result of the perceived fast-paced presentation of math concepts in CPM and the limited amount of practice afforded students. The director of BRC began in 1983 by producing mimeographed math worksheets which allowed students to practice the math concepts taught. Since then BRC Publishing expanded on the worksheets to create a textbook.

Table 33 presents the data from interview respondents comparing CPM and BRC mathematics textbooks.

*Table 33: Comparison of CPM & BRC Mathematics Textbooks: MOE, Peace Corps, Principals*

| <u>Preferred Textbook</u>                     | <u>MOE</u> | <u>Peace Corps</u> | <u>Principals</u> | <u>Total</u> |
|-----------------------------------------------|------------|--------------------|-------------------|--------------|
| a. <u>CPM</u>                                 | 3          | 0                  | 2                 | 5            |
| <u>Reasons</u>                                |            |                    |                   |              |
| 1. Quality of print                           | 2          | 0                  | 2                 | 4            |
| 2. Follow MOE curriculum                      | 3          | 0                  | 2                 | 5            |
| 3. More challenging                           | 1          | 0                  | 0                 | 1            |
| 4. Better prepare students for national exams | 2          | 0                  | 2                 | 4            |
| <b>Sub-Total</b>                              | <b>8</b>   | <b>0</b>           | <b>6</b>          | <b>14</b>    |
| b. <u>BRC</u>                                 | 1          | 3                  | 3                 | 7            |
| <u>Reasons</u>                                |            |                    |                   |              |
| 1. Many practice exercises                    | 1          | 2                  | 1                 | 4            |
| 2. Affordable                                 | 1          | 3                  | 3                 | 7            |
| 3. Less emphasis on measurement               | 0          | 0                  | 1                 | 1            |
| 4. Provide free teachers' guides              | 0          | 2                  | 1                 | 3            |
| <b>Sub-Total</b>                              | <b>2</b>   | <b>7</b>           | <b>6</b>          | <b>15</b>    |
| <b>Total</b>                                  | <b>10</b>  | <b>7</b>           | <b>12</b>         | <b>29</b>    |

#### **Discussion:**

##### **6.4.2.1 MOE**

The same MOE respondents who preferred the Nelson reader also preferred the CPM textbook for some of the same reasons, such as print quality and following the MOE curriculum. Moreover, there was serious concern over preparing students for the eventual writing of the national exams (BSNE) at the end of their elementary school years (2 respondents). Looking at differences in measurement and, most particularly word

problems, between the two mathematics textbooks. one respondent emphasized, "leaves no room for choice" when selecting a mathematics textbook. These are the areas that are "deficient" in the BRC mathematics textbook.

The same MOE respondent who had no preference for either of the reading textbooks was hesitant to state a preference for either BRC or CPM mathematics textbooks. However, he concluded that BRC mathematics textbooks are more affordable and have more practice exercises than the CPM textbook, which in his view "might mean more children are doing math". The idea follows that if textbooks are less expensive, more students will buy them, and thus be practicing their math more often. However, BRC needs to "better prepare students for the BSNE" by adding more required topics to its math textbooks.

#### ***6.4.2.2 Peace Corps Volunteers***

The Peace Corps respondents preferred BRC mathematics textbooks. Their reasons were similar to their reasons for preferring BRC reading textbooks: affordability and teachers' guides. In addition, the number of practice exercises was a positive aspect in the BRC mathematics textbook.

During the interviews with the Peace Corps respondents, it became apparent that, although they stated that they preferred BRC mathematics textbooks, they would like to see some changes. One respondent stated "there is still plenty of room for improvement." Some improvements focused on the approach.

They [BRC math textbooks] have students doing a lot of seatwork. There is some use of manipulatives, but not enough. Efforts could be made to use a more active learning approach. That way they might interest more students.

Another Peace Corps respondent discussed her observations of a Year 3 class with a broad range of abilities. "I witnessed a class where a group of about five were much faster than the others. They simply didn't want to keep doing the same thing [exercises] over and over again." The BRC teachers' guides have limited suggestions for students who work and learn fast, believing they can work on their own (p.4). As a result, the limited scope of BRC textbooks is a source of debate among educators.

Solutions to addressing a wide range of abilities are difficult to come by. What is apparent from the responses is that the CPM textbooks are more challenging than BRC mathematics textbooks. However, there are more practice exercises in the BRC mathematics textbooks (refer to the section on content analysis). The data indicate that each appears to respond to different student requirements: CPM covers more material and is thus for stronger students and BRC offers extensive practice exercises and is thus for weaker students.

#### ***6.4.2.3 Principals***

This observation is confirmed by the reasons put forth by principals, who again provided a variety of answers. With regards to CPM textbooks, the print quality, following the MOE curriculum and preparing students for the BSNE, were reasons for preferring the CPM textbooks.

Similar to other respondents, BRC mathematics textbooks were chosen for their affordability and number of practice exercises. In addition, one respondent found the free teachers' guides and there being less emphasis on measurement in the BRC textbook than the CPM textbook advantageous to students in this particular district. "The teachers in

Toledo [District] don't always have training...We find the teacher guides good sources for them with examples and ideas." During the interview, the mathematics abilities of students in Toledo District were summarized as being "well below national averages". This is confirmed by the results from the BSNE (refer to Appendix B). As a result, this particular respondent also noted presentation of fewer concepts was an advantage to BRC mathematics textbooks, with "...Not so much on word problems and more on basic math concepts." Basic math concepts referred to addition, subtraction, multiplication and division.

#### ***6.4.2.4 Summary of Comparison of CPM & BRC Mathematics Textbooks***

The data reveal that the different reactions to the reading and mathematics textbooks stem from belief systems about who is to be educated, as well as to the purpose of a textbook. This is due to the different categories of respondents and their differing professional concerns and perspectives on textbooks. Some respondents focused more attention on the learning requirements of the brighter students, while some concentrated on the weaker students. Several respondents considered textbooks to be a tool for preparing students to write national exams, while others regarded them as a tool for student mastery of very basic concepts.

Differing views regarding the physical quality of the textbooks also were expressed. On the one hand, several respondents indicated that the use of colour and a professional appearance were important elements to consider when choosing a textbook. The ideal physical qualities of a textbook resemble what we would expect to see in

developed countries. Using a 'western style' textbook, however, is costly. The educational benefits of using a "professional looking" textbook are questionable.

On the other hand, those respondents indicating that western style textbooks are not necessary in Belize did so primarily because the price of imported textbooks eliminates poorer students from owning required textbooks. The negative possibility of not possessing a textbook is clear. The academic repercussions of not possessing a textbook act as an indirect filtering process. This is not to say that possession of a textbook guarantees academic success. Rather, high prices may act indirectly to filter out the poorer students in the educational process, thus creating an educated elite.

## **6.5 Teacher Perception of BRC Reading and Mathematics Textbooks**

Teacher responses to a questionnaire provided information on the relative effectiveness of BRC textbooks in the classroom. There was a wide range of comments. The affordability of textbooks emerged as the most pressing concern. Several of the comments indicated that there is also concern about the relevance and meaningfulness of the content of the textbooks.

Data for Table 34 on page 189 were drawn from six interrelated questions: five open-ended and one close-ended:

- #15. Do the BRC textbooks present any or all of these essential elements (referring to the previous question which discussed fundamental elements in a textbook)? If so, which elements?*
- #16. What is the most outstanding feature of BRC textbooks?*
- #17. If you could, what aspect of BRC textbooks would you change?*
- #19. Do BRC textbooks respond to the educational and cultural needs of Belizean elementary school children? Please explain.*
- #20. Do you have any other comments, either positive or negative, about BRC textbooks concerning for example, content, cost availability, durability, graphics, etc.?; and one close-ended question:*
- #13. Why have you chosen BRC textbooks? If you check more than one answer, please number the order of importance: BRC textbooks...*
  - were chosen by my principal*
  - respond to the educational needs of Belizean children*
  - respond to the cultural needs of Belizean children*
  - provide sufficient practice exercises*
  - are more affordable than imported textbooks*
  - use a methodology conducive to my philosophy of education*
  - other \_\_\_\_\_*

The open-ended questions were designed to encourage teacher respondents to express in their own terms what they liked or disliked about BRC reading and mathematics textbooks. However, several of the responses appeared to repeat the ideas presented in the questions used in the questionnaire. This may indicate a lack of critical analysis on the part of teachers concerning what textbooks are effective in their classrooms. Or this may be due to the teacher respondents' limited language skills.

Table 34 presents data on teachers' perception of positive elements of both BRC reading and mathematics textbooks.

*Table 34: Teacher Perceptions of Positive Elements of BRC Reading and Mathematics Textbooks*

| <u>Positive Element</u>                            | <u>Total</u> |
|----------------------------------------------------|--------------|
| <b>General</b> (both Reading & Mathematics series) |              |
| 1. Affordability                                   | 17           |
| 2. Teachers' guides provided                       | 4            |
| 3. Easy to understand                              | 5            |
| 4. Promotes knowledge of Belize                    | 4            |
| 5. Availability                                    | 1            |
| 6. Cater to slower learners                        | 2            |
| 7. Familiar content                                | 3            |
| 8. Motivates students                              | 3            |
| 9. Appropriate level of difficulty                 | 1            |
| 10. Allows for sufficient practice                 | 16           |
| <b>Sub-Total</b>                                   | <b>56</b>    |
| <b>Reading Series</b>                              |              |
| 1. Local stories                                   | 1            |
| 2. Phonetic approach                               | 5            |
| 3. Quality of educational information              | 2            |
| 4. Culturally appropriate language                 | 4            |
| 5. Facilitates reading                             | 1            |
| <b>Sub-Total</b>                                   | <b>13</b>    |
| <b>Mathematics</b>                                 |              |
| 1. Many practice exercises                         | 3            |
| 2. Positive impact on learning math concepts       | 1            |
| 3. Useful concepts are presented                   | 1            |
| <b>Sub-Total</b>                                   | <b>5</b>     |
| <b>Total</b>                                       | <b>74</b>    |

**Discussion:**

The affordability of BRC textbooks and the quantity of practice exercises in both reading and mathematics textbooks were two positive elements stated by teacher respondents from both districts. "They are more affordable for parents" was a typical comment. Teacher-respondents also indicated that BRC textbooks were "easy to understand". However, it was not mentioned if this is true for teachers or students (or both).

Responses dealing with the reading series varied, but the phonetic approach was stated the most frequently (5) as a positive element. Four respondents limited their comments on the reading series to three elements: the quality of educational information, the use of culturally appropriate language and the facilitation of reading.

Similar to previous comments, the provision of sufficient practice exercises was noted. Another interesting comment, "that useful concepts are presented", could imply that less useful concepts are presented in other mathematics textbooks, although this comment leaves much room for interpretation.

Overall, the responses appear to indicate that the affordability of BRC textbooks is their most important asset. This was closely followed by the provision of sufficient practice exercises.

*Table 35: Teacher Perceptions of Negative Elements of BRC Reading & Mathematics Textbooks*

| <u>Positive Element</u>                             | <u>Total</u> |
|-----------------------------------------------------|--------------|
| <u>General</u> (both Reading & Mathematics series)  |              |
| 1. Improve production quality: durability           | 1            |
| 2. Improve production quality: graphics             | 2            |
| 3. Improve production quality: print                | 2            |
| 4. Approach: more child-centred                     | 2            |
| 5. Give explanation with new materials              | 1            |
| 6. More freedom to determine method of presentation | 2            |
| 7. Focus on faster students                         | 1            |
| <b>Sub-Total</b>                                    | <b>11</b>    |
| <u>Reading</u>                                      |              |
| 1. Text is too repetitive                           | 2            |
| 2. Present fewer concepts                           | 1            |
| 3. Less emphasis on phonetic approach               | 2            |
| 4. Less emphasis on oral drilling                   | 1            |
| 5. Encourage use of writing skills                  | 2            |
| <b>Sub-Total</b>                                    | <b>8</b>     |
| <u>Mathematics</u>                                  |              |
| 1. Fewer concepts presented at one time             | 3            |
| 2. Change in topics is too rapid                    | 1            |
| 3. Too many practice exercises                      | 2            |
| 4. More chalkboard examples for teachers            | 2            |
| <b>Sub-Total</b>                                    | <b>8</b>     |
| <b>Total</b>                                        | <b>27</b>    |

**Discussion:**

The data are drawn from the same questions used for determining the positive elements about BRC textbooks. The open-ended nature of the questions provided some interesting results. Explanations offered by some teacher-respondents revealed more critical analysis concerning issues of effective textbooks. For example, one respondent stated that in the BRC reading and mathematics textbooks, "There are a lot of typing errors and some questions are unfinished. This brings confusion in the children's learning." Comments from other respondents similarly offered more detailed information on negative elements about BRC textbooks. "Give teachers a little more freedom to use their own initiative when the 'Method Given' in the Teachers' guide does not work with individuals."

It is logical to assume that the cumulative experiential knowledge of some of the more veteran teachers gave them a greater basis of comparison as to which textbooks work well and why. However, the six most experienced teachers remained divided on which textbooks they preferred (3 preferring BRC textbooks and 3 preferring imported textbooks), finding both positive and negative elements for all textbooks discussed. Therefore, as a group, the most experienced teachers had no strong preference for one particular textbook.

Comments on 'general elements' from all 29 teacher-respondents revealed that production quality, approach, and more freedom to determine the method of presentation were areas in need of improvement for BRC textbooks. Under 'reading', respondents noted most often that the text was too repetitive, there was too much emphasis on phonics, and that writing skills were not encouraged sufficiently. The three most often

stated elements about BRC mathematics textbooks were: fewer concepts should be presented at one time, too many practice exercises were given, and more teacher examples should be given. No one factor is significantly repeated.

In contrast to the negative elements found in BRC Reading textbooks, the Nelson textbooks do not possess any of these perceived negative elements. Instead, they offer a superior quality of production, the use of the 'see and say' approach encouraged by the MOE, and almost no explanation of method of presentation. As for the three most often stated negative elements in BRC math textbooks, there is one element that the CPM textbooks do not present: too many practice exercises. The other two negative elements in BRC math textbooks are also to be found in CPM textbooks: too many concepts presented at one time; and not enough teacher examples are given.

Some negative elements stated in Table 34 on page 189 contradict other positive elements stated in Table 35 on page 191. For instance, some respondents value the phonetic approach, while others stated that there was too much emphasis on phonics. Moreover, some respondents value the numerous practice exercises in mathematics, while others stated that there were too many practice exercises.

Although it is difficult to establish a set of elements with which teacher respondents are in agreement for improving BRC textbooks, the ensemble of comments dealing with 'improvement of production quality' appear to form one area for which there is some degree of consensus (a total of five comments). This means that the quality of print, paper and graphics are in need of improvement.

In summary, the wide range of teacher responses helps to define a variety of positive and negative elements in BRC reading and mathematics textbooks. The

affordability of BRC textbooks is its greatest asset, while the poor production quality is its greatest flaw.

### ***6.7 Summary of Data Presented in Chapter Six***

In this chapter, further evidence is presented to demonstrate the differences between imported and indigenous textbooks. The data indicate that the differences in perception of educators on the appropriateness of either source of textbook is based on differing views on the role of textbook and education in general. Some educators preferred BRC textbooks for the affordability, Belizean content, phonetic approach, academic level and practice exercises. Some of these characteristics, however, form the basis of criticism about BRC textbooks. Some argue that the two imported textbooks used in this case study better meet the needs of Belizean children. Therefore, interview data indicate that there are divergent views on the educational needs of Belizean children and how these needs should be met, as well as what are important elements in textbooks and whether or not BRC textbooks possess these elements. The struggle between the imported and indigenous textbooks is symbolic of the struggle over education as reproduction or contestation of knowledge.

There is a considerable gap between the MOE officials' aim of maintaining high standards and the aim of BRC, that of educating the slower students. The MOE respondents generally remained focused on educational results leading to the successful writing of the national exams. Furthermore, that the imported textbooks are sanctioned by the MOE officials is further evidence of the hegemonic relations that persist. The alternative that indigenous textbooks present is viewed as an obstacle to maintaining control of textbook selection, notably the selection of established imported textbooks.

Conversely, BRC's focus on the educational needs of students is apparent most particularly in responses from the Peace Corps officials. If the considerations that go into choosing a textbook comprise a microcosm of the forces that are at work in education institutions, governments and the society at large, then the evidence presented here indicates that elite educational standards are the primary driving force behind MOE decisions and that perceived basic educational needs are the primary driving force of the BRC Textbook Publishing Project. A question that comes to mind is: are the concerns of the MOE and BRC so incompatible? It would be beneficial for both parties, but mostly MOE officials, to develop a system which would

1. Ensure the selection of affordable textbooks;
2. Encourage indigenous content;
3. Encourage a needs-based approach to teaching.

The data also indicate that the issue of textbook selection and adoption does not dominate participants' pedagogical concerns. Most of the responses concerning general educational needs do not recognize the role textbooks play in the schooling process. The data demonstrate that the political equation of textbook selection that is intended to answer the question of who should be educated? is not considered a primary source of conflict for Belizean educational administrators and teachers.

## CONCLUSIONS:

### **7.1 Conclusions**

In this thesis, the general research question was:

As reflected by the introduction and use of primary school textbooks, is education a system of reproduction or contestation of legitimate school knowledge in Belize?

The research question was guided by the following sub-questions:

1. What are the pedagogical differences between indigenously published textbooks and imported textbooks?
2. What are the indicators of cultural differences between indigenously published textbooks and imported textbooks?
3. What are the differences in perception of educators on the appropriateness of indigenous versus imported textbooks?

In attempting to answer these questions, I have discussed the effects of the international knowledge system through its control of knowledge dissemination, the largely internal mechanisms which influence textbook selection, and the justification of indigenously published textbooks as a viable alternative to imported textbooks. In general, the differences in content and approach of indigenous and imported readers and mathematics textbooks used in Belize helps dispell the illusion that there is agreement on a particular body of knowledge, content and approach.

Specifically, the data show that there are differences between Nelson's and BRC reading textbooks, and between CPM and BRC mathematics textbooks.

### Typology of differences

|                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>BRC readers:</u></b> <ol style="list-style-type: none"><li>1. Use a phonetic approach to language learning</li><li>2. Present fewer words</li><li>3. Provide a teacher's guide to explain textbooks</li><li>4. Focus on ESL students</li><li>5. Cost less than imported readers</li></ol>                                                                                                            | <b><u>Nelson readers:</u></b> <ol style="list-style-type: none"><li>1. Use a "see &amp; say" approach to language learning</li><li>2. Follow MOE language curriculum</li><li>3. Present a large number of words</li><li>4. Use of one on-going story with no titles</li><li>5. Use colour illustrations</li></ol> |
| <b><u>BRC Mathematics</u></b> <ol style="list-style-type: none"><li>1. Present fewer concepts presented per lesson</li><li>2. Propose large amount of practice exercises</li><li>3. Focus on mastering basic math concepts: addition, subtraction, multiplication, division</li><li>4. Limit the scope of difficulty for some students</li><li>5. Provide a teacher's guide to explain textbooks</li></ol> | <b><u>CPM textbooks</u></b> <ol style="list-style-type: none"><li>1. Correspond to MOE curriculum</li><li>2. Provide a limited number of practice exercises</li><li>3. Present many concepts per lesson</li><li>4. Provide a challenging programme for students</li></ol>                                         |

The cultural content of the reading textbooks differs. The Nelson textbooks, while presenting many 'generic' illustrations and stories, do not offer any Belizean content. These textbooks embody one vision of legitimate knowledge where no Belizean culture is presented. Conversely, the BRC readers present Belizean illustrations and content. They embody another vision of legitimate knowledge where Belizean culture is present. In addition to cultural differentiation, there is also a difference in the amount of repetition and levels of difficulty of vocabulary between the two series of readers, where Nelson readers present more words with less repetition than do BRC readers.

The data indicate that the CPM textbooks respond to MOE guidelines, whereas the BRC mathematics textbooks focus on practising basic concepts. The mathematics textbooks differ primarily on their basic aim, which dictates the amount of math concepts and practice exercises each contains.

The data also indicate that where obvious differences in perspective were observed to exist among the three groups of interview respondents and the one group of questionnaire respondents, many issues central to learning in Belizean classrooms surfaced. Through discussion of these issues, the different perspectives concerning textbooks reveal a lack of shared understanding by administrators and educators as to the role that textbooks play (or should play) as an educational tool. These differences in understanding generally center on two questions: *who* is the client to be served in the education system? and *what* is the content of textbooks to teach? In the first instance, one group of respondents view the clients to be those who orient themselves to writing the national exams, an elite group of students, whereas the other group of respondents deem the clients in the education system include the entire student population. As for the second question, one group of respondents stated that what textbooks teach should correspond with MOE educational objectives, whereas another group stated that textbooks should correspond with common 'grass roots' educational objectives.

The data also reveal that the MOE officials' responses tend to lack detailed classroom-based observations, but were clear on the importance they attached to following MOE guidelines. This is in view of writing the eventual national examinations. Accordingly, they preferred the Nelson readers and the CPM textbooks. The responses of the Peace Corps officials, on the contrary, reveal in-depth explanations

for the textbooks they prefer, which are the BRC readers and mathematics textbooks. The principals and district manager re-affirm some of the administrative concerns (eg. following MOE guidelines) of the MOE officials, as well as some of the instructional concerns (eg. the importance of practice exercises) of the Peace Corps respondents. The greatest difference in response comes from the teachers. The data indicate that the role textbooks play in the educational process is viewed as only one of the many school inputs that has an effect on student learning.

At the very least, all administrators and educators in this study commonly agreed that the academic success of Belizean children needs improving. Just how they intend to do it is less apparent. Although it is widely known that textbook provision and the content of textbooks make a difference in developing countries (Heyneman & Farrell, 1978), there is little consensus on the role of textbooks in improving academic achievement. Based on this research, a concern for factors determining the content of textbooks is ultimately a concern for educational quality. However, MOE officials, and approximately half of the principals and teachers, are much less concerned with the content of textbooks than they are with other factors, such as financial issues and teacher training. As such, they do not attempt to answer the question "Are the selected textbooks responsive to the characteristics, needs and interests of students who read them?" If such an interest were to be heightened and developed, this would require more time, greater expertise and more political will than is available on the part of the MOE officials.

Providing alternative indigenous textbooks, likewise, should be equally scrutinized for their educational quality and the kind of contribution they make to the

cultural connection between students and the school system. In Belize, what makes BRC textbooks interesting is not only the differences in educational and cultural content, but also how the BRC experience contributes to the story of the dilemma of textbooks in developing countries. The BRC struggle is symbolic of the political conflict over the hegemonic control of knowledge in a developing country. The BRC textbooks are both a statement of a particular ideological perspective in a political debate over legitimate knowledge (an outcome of the struggle of “whose knowledge, in what form, how it is selected and by whom”; Apple, 1987), as well as the material expression of a different educational approach and content.

The ideology that stands behind alternative choices of textbooks often creates conflict that goes beyond the boundaries of the school system. Moreover, issues of textbook policy, economics and selection do not stand alone, isolated from the other conflicts and compromises over power and control. The pedagogical decision of imported or indigenous textbooks is framed by the social, historical and political climate

How something becomes “official knowledge” is always a political process. If we are to understand how the primary carrier of such official knowledge - the textbook - evolved and if we are to understand how to alter it, we cannot afford to ignore the historic politics of social movements. History has a way of not always remaining in the past. (Apple, p 22 ,1991)

For various reasons, including lack of educational and publishing infrastructure, many developing countries, such as Belize, continue to rely on former colonial powers for educational expertise and guidance, as well as the production and selection of educational materials, most notably textbooks. This dependency on Western industrialized or ‘centre’ countries for the production and dissemination of knowledge

(commodified in textbooks) was firmly established during the colonial era. It has been further reinforced by the international knowledge system, which forms a complex web of political, economic and cultural factors. Added to this the influence of multinational publishing firms and the conditions of international copyright laws, the process by which textbooks move from publisher to student is exceedingly complex.

School knowledge as commodified in textbooks is a rich source of discussion. As is evident in the BRC case study, divergent perspectives exert different influences on the development of educational systems throughout the world. The structural functionalists contend that school maintains social equilibrium by presenting school knowledge that is neutral. In line with this perspective, but differing slightly, is the 'human capitalists' view that school knowledge provides the economy with a skilled labour force. Underlying both perspectives are the notions of egalitarianism and equal opportunity, where everyone has the opportunity to make social and capital gains. The BRC study demonstrates that the MOE ideology is consistent with these two perspectives. However, the data show that there are differences in opportunity based on academic results (refer to Appendix B) for different regions in Belize. Therefore, the MOE ideology, that of egalitarianism and equal opportunity, is a false ideology.

The obvious inequalities of the schooling process form the framework for reproduction theory, where the educational process reproduces class structures. Key to this perspective is the ruling elite's ability to reproduce itself by securing recognition of its legitimacy through the 'apparent' neutrality of school knowledge. Neither school knowledge nor textbooks are neutral knowledge. Moreover, as part of the international knowledge system, neither do imported textbooks present neutral knowledge nor are they a

neutral entity. At BRC Publishing, indigenous textbooks were an attempt to acknowledge the realities of social stratification and conflict that the MOE ideology negates by providing textbooks for the slower learners. The symbolism of textbooks, either indigenous or imported, as the embodiment of a certain way of thinking about the world and its people is a powerful educational tool. In this study, the struggle between imported and indigenous textbooks symbolizes the conflict over the education system as one of reproduction or contestation of legitimated school knowledge.

Essentially, from publisher to student, textbooks move through a political world. In order to understand the internal dynamics of national educational systems, it is important to understand that the political elite found at the head of these systems is bound together by a set of assumptions that tends to favour Western structural functionalist and human capital paradigms of knowledge. The continued use of Western imported textbooks, while problematic, is partially explained through historic ties, but is also an example of continued Western dependency for a definition of valid knowledge. This is the case in Belize where the same imported textbooks are in use as those used in pre-independent Belize. Yet, in Belize, the struggle of an alternative textbook organization challenges the ideological assumption of egalitarianism, and contests the approach and content of school knowledge sanctioned by the MOE by acknowledging social stratification and conflict. Here, as elsewhere, the textbook is essentially the product of a political process of reproduction and contestation over school knowledge.

The BRC case study also reveals the dynamic aspect of the educational process. The hegemony of the MOE cannot fully control the dynamic aspect of 'curriculum-in-action', where key participants in the educational process interpret, accept or reject

dominant ideas. For instance, the data reveal that there are teachers using an approach different from that promoted by the MOE, as well as teachers and principals whose students use BRC textbooks, which are not sanctioned by the MOE. Such an example of 'deviance' demonstrates that teachers (and principals) may subvert the MOE approach and ideology, as well as dominant cultural messages, through their own choice of textbooks.

Other key participants influence the acceptance or rejection of school knowledge found in textbooks. How students act on knowledge is surely linked to their lived culture. Moreover, culture is an important source of identity. When specific culture is omitted by using 'generic' culture, as in the case of Nelson's textbooks, there is a lack of identity. How students react to overt and covert messages of identity is an essential area of research that would contribute to a better understanding of what happens in the 'black box'. This also indicates that beyond the debate over politics and ideologies, it is an imperative for education aimed at self-reliance to encourage indigenization.

Although there is no universal best solution to indigenous textbook publishing, the diversity of pedagogical, administrative and cultural concerns of educators and administrators' participating in this study, as well as the literature review, demonstrate that textbook selection in Belize is surrounded by issues of reproduction and contestation over legitimate knowledge. Consequently, this thesis addresses the research question: As reflected by the introduction and use of primary school textbooks, is education a system of reproduction or contestation of legitimate school knowledge in Belize?

Issues of reproduction and contestation involve different views about education and society. The parable of the blindmen and the elephant relates the importance of perspective in understanding something. Each of the blindmen described the elephant

according to the body part they touched. Hence, each blindman described a very different animal since each had only partial knowledge of the entire elephant. Likewise, education is what administrators, teachers and politicians, etc. believe it to be, where each is deeply concerned by what they consider education's essential role. From this viewpoint, education has many essential roles whose importance depends on the distribution of power among those making decisions. In Belize, while the distribution of power in the education system remains a function of the MOE, the MOE's power is heavily compromised due to a decentralized system, thus allowing subordinate groups, such as BRC Publishing, to voice their view. Therefore, issues about the reproduction and contestation of legitimate knowledge are necessarily about who holds or *should* hold power in directing the educational system.

Power relations surrounding textbook selection do not allow an easy answer to the question of whose knowledge is in the text. Critical shifts in the process and politics of textbook production due to indigenous publishers offer insight into a particular country's schooling process. In Belize, BRC textbooks underscore the value of indigenous content and the need to effectively evaluate students' academic abilities, among other issues. What is desirable is a careful assessment of the ways in which textbooks are conceived, developed, manufactured and distributed. To do this requires that previously held assumptions – for example that Western textbooks are superior in content and printing quality – be questioned. It also requires that the textbook selection process be open to scrutiny and professional debate. Within this debate, the impact of new technologies should be scrutinized. While these technologies have the potential to aid textbook development in developing countries, they also beg the question What alternatives besides

the textbook can be used as a primary instructional resource? The educational impact of alternatives, such as computers, will require further research in order to assess their motivational and educational potential. Yet even if such dramatic alternatives were to occur, it is doubtful the issues surrounding the legitimation of school knowledge will diminish.

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## Appendix A

### Questionnaire

Name of school:

School District:

Grade(s) Taught:

Subjects Taught:

Years of Experience:

Indicate which BRC textbooks you use in your classroom:

BRC Basic Math Series

BRC Language Series

1.a. Are you a qualified teacher? Yes/ No (please circle one)

b. If yes, where did you receive your teacher training?

c. Name of certificate:

2. Please indicate which approach to education you mostly use in your classroom:

Teacher-oriented, e.g. where the teacher gives instruction and the students do seat-work.

Child-centred, e.g. where each child has their own individualized programme

Learning centres

Small group activities

Other, please explain briefly:

3.a. Do you receive help (curriculum or programmes) and in-service training with the approach you mostly use? Please circle: Yes / No

b. How much help do you receive?

Please circle: none / a little / a fair amount / a lot

If yes, is the help through:

teachers' guides (local or MOE)

in-service training (local or MOE)

special workshops (local or MOE)

student textbooks (local or MOE)

or other educational materials (local or MOE)

Please check which one(s) and circle whether it/they are from the local school administration or from the Ministry of Education (MOE).

Please rank in order of importance, where 1 is the most important, 2 is second most, etc. the basic cultural needs of Belizean children with respect to textbooks.

In textbooks, is there a need to:

See pictures and illustrations of every day life in Belize

Employ language used in daily life by Belizeans

Celebrate the customs of each particular ethnic group

Read stories about particular customs in Belize

Present the history of Belize and of the different ethnic groups

Present the geography of Belize

Provide practice exercises which are based on real-life situations

Other, please explain

6.a. Are the Creoles, Mestizos, Garifuna, Caribs, Chinese, Lebanese, East Indians, represented in the Mathemztics programme used in your school? Please circle: Yes / No

b.To what degree are these ethnic groups represented?

Please circle: none / a little / a fair amount / a lot

7. If you answered YES to the above question (6), which groups are represented on a weekly basis?

8. If the main ethnic groups are represented in the mathematics programme, how are they represented?

Please check the mean(s) of representing these ethnic groups:

Illustrations in textbooks which are used by the children on a daily basis.

Common problem-solving activities based on Belizean life.

Oral example used weekly

General graphics

Other, please explain

9. Are the Creoles, Mestizos, Garifuna, Caribs, Chinese, Lebanese, East Indians, represented in the English programme used in your school? Please circle: Yes / No

b. If YES, to what degree?

Please circle: none / a little / a fair amount / a lot

10.. If you answered YES to the above question (9), which groups are represented on a weekly basis?

If the main ethnic groups are represented in the English programme, how are they represented?

Please check the mean(s) of representing these ethnic groups.

Illustrations in textbooks which are regularly used by the children

Festivals celebrated in the school

Stories found in their regular language textbooks

Oral examples used on weekly basis

Other please explain

12.a. In comparing other textbooks to BRC textbooks, please rate both based on their relative effectiveness in the classroom on a scale of 1 to 5.

|                 |      |   |   |           |   |
|-----------------|------|---|---|-----------|---|
| OTHER TEXTBOOKS | 1    | 2 | 3 | 4         | 5 |
|                 | POOR |   |   | EXCELLENT |   |

|               |      |   |   |           |   |
|---------------|------|---|---|-----------|---|
| BRC TEXTBOOKS | 1    | 2 | 3 | 4         | 5 |
|               | POOR |   |   | EXCELLENT |   |

Please specify which textbook, either language or mathematics.

b. Briefly explain your response in 12 a.

Why have you chosen BRC textbooks? If you check more than one answer, please number the order of importance.

BRC textbooks...

Were chosen by my principal

Respond to the educational needs of Belizean children

Respond to the cultural needs of Belizean children

Provide sufficient practice exercises

Are more affordable than the imported textbooks

Use a methodology conducive to my philosophy of education

Other

What are three of the most fundamental elements in a textbook? Please indicate their order of importance by numbering answers.

Culturally appropriate language (language the children readily use and understand easily)

Quality of the written text (proper use of the English language)

Use of stories and example situations in which the students find themselves and their experiences

Quality of the printed material (paper, binding, use of colour, etc.)

Quantity of information provided (the transmission of knowledge)

The methodology used in the textbook (how the material is to be presented by the teacher to the students)

Do the BRC textbooks present any or all of these essential elements? If so, which elements?

Textbook

Elements

16. What is/are the most outstanding feature(s) of BRC textbooks?

If you could, what aspect of BRC textbooks would you change?

Based on your knowledge and experience, list the 3 to 5 most important educational and cultural needs of Belizean elementary school children.

Do BRC textbooks respond to the educational and cultural needs of Belizean elementary school children?

Do you have any other comments, either positive or negative, about BRC textbooks concerning for example, content, cost, availability, durability, graphics, etc.?

## Appendix B

### BNSE (1988) Average Percentiles by Districts and Urban/Rural

| DISTRICT    | URBAN | RURAL | TOTAL |
|-------------|-------|-------|-------|
| Corozal     | 62.0  | 46.3  | 54.1  |
| Orange Walk | 60.2  | 33.2  | 51.7  |
| Belize      | 67.3  | 35.2  | 51.2  |
| Cayo        | 61.2  | 39.0  | 50.1  |
| Stann Creek | 47.8  | 33.5  | 40.6  |
| Toledo      | 51.9  | 22.3  | 37.1  |
| NATIONAL    | 58.4  | 36.5  | 47.4  |

(Source: Government of Belize, 1987)

## Appendix C

### Enrollment and Teaching Staff by District

% of teachers who are:

| District    | # of Students | # of teachers | Trained<br>Certified | Untrained<br>Certified | Untrained<br>Uncertified |
|-------------|---------------|---------------|----------------------|------------------------|--------------------------|
| Belize:     | 12,488        | 517           | 62                   | 23                     | 15                       |
| City        | 9,847         | 386           | 71                   | 18                     | 11                       |
| Rural       | 2,641         | 131           | 37                   | 36                     | 27                       |
| Cayo        | 7,132         | 262           | 35                   | 30                     | 35                       |
| Corozal     | 5,684         | 231           | 37                   | 37                     | 26                       |
| Orange Walk | 6,035         | 233           | 37                   | 34                     | 29                       |
| Stann Creek | 4,025         | 150           | 44                   | 33                     | 23                       |
| Toledo      | 3,848         | 162           | 26                   | 30                     | 44                       |
| TOTALS      | 39,212        | 1,555         |                      |                        |                          |

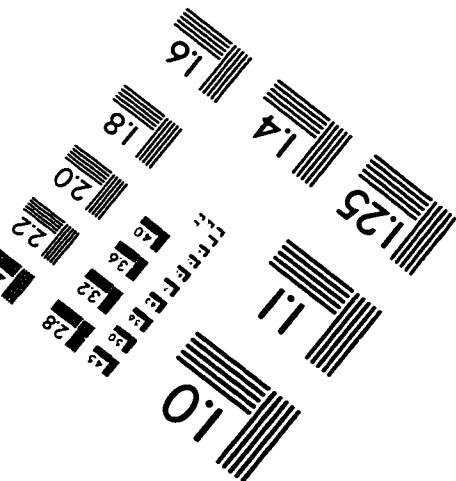
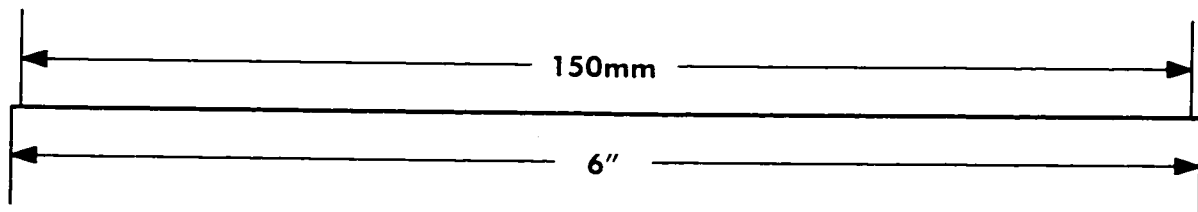
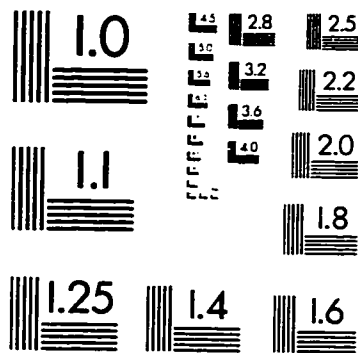
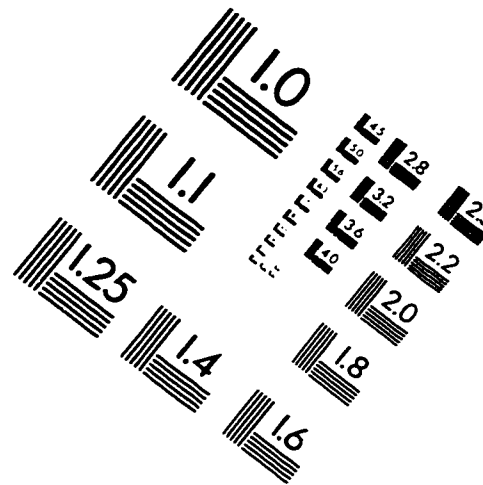
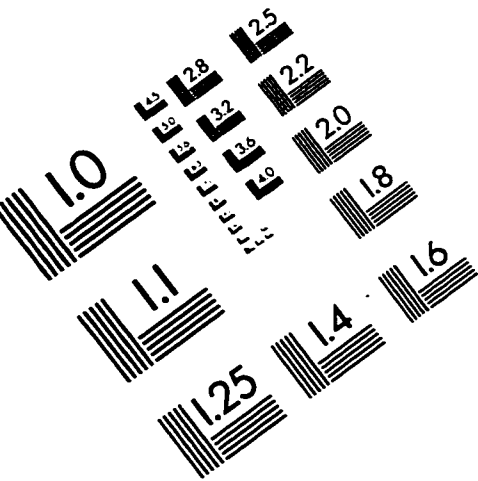
(Source: Government of Belize, 1989)

## Appendix D

### Map of Belize



# IMAGE EVALUATION TEST TARGET (QA-3)



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