

**GLOBALIZATION AND ITS EFFECTS ON EDUCATION:
With Special Reference to Barbados**

by

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INTRODUCTION

It is an honour for me to be here tonight to deliver the Third Annual John Cumberbatch Memorial Lecture. I was not in Barbados on that historic Monday, May 27, 1974 when teachers employed in the public sector in Barbados decided to leave the Barbados Civil Service Association and take the bold step of forming their own union. I was in Canada at the time pursuing doctoral studies at the University of Calgary, on my birthday! However, I had met John Cumberbatch in the early 1960s while he was a university student. I had decided there and then that his was one of the most brilliant minds with which I had ever come into contact and that he was destined for greatness. When in the 1970s I learned that John Cumberbatch was leading the **Barbados Union of Teachers (BUT)**, I knew that the **BUT** had a brilliant, fearless leader and would go from strength to strength.

Tonight the **BUT** celebrates its 25th year as a free and independent trade union. It does so with a record of which it can justly be proud. Writing in the current edition of **Outlook** – the organ of the **BUT** – the General Secretary of the **BUT**, Mr. Herbert Gittens, has saluted all those who gave of their energies, sweat and tears to ensure the growth and survival of the **BUT**. He has rightfully showered praise on John Cumberbatch, Carl Springer, Alfred Trotman, Marjorie Marshall, John Lovell, Stanley Mayers, and other **BUT** stalwarts too numerous to mention. He has drawn attention to such achievements of the **BUT** as the formation of the **Barbados Teachers' Credit Union**, the establishment of a **Group Health Plan**, the affiliation of the **BUT** to a number of reputable local, regional and international organizations, and so on.

In the same article, the General Secretary has drawn on a recent statement by **Education International** to make the point that like any other trade union, the **BUT** will face major challenges with the advent of the new millennium and the intensification of globalization. According to him, these challenges include changes in the organization of work, the emergence of new technologies, and the development of information, all of which will require a permanent capacity for adaptation. The General Secretary has gone on to observe that globalization will also be accompanied by at least the following: - movement of the individual among several different professions; greater geographical mobility for workers; periods of unemployment; the need to train and retrain teachers; and calls by decision-makers in education for contract work, the use of master teachers, summative evaluation, and so on.

At this juncture, I should state explicitly the areas on which I will be focusing in this lecture and how I propose to deal with them. Firstly, I will define the key terms “globalization” and “education” since I believe that rational discourse demands the definition of key terms. Next, I will say something about globalization and the trade union movement since this was implied in the letter of invitation which I received from the **BUT** in connection with this lecture. In this regard, I will pay particular attention to the concept of flexibilization of work and how trade unions in Barbados should respond to globalization. Thirdly, I will examine the effects of globalization on our primary and secondary schools, with special attention to **EDUTECH 2000** and the issue of the computerization of classrooms.

THE MEANING OF GLOBALIZATION

Hardly a day passes that we do not hear policy-makers, development planners and politicians everywhere talking about the need of small countries such as Barbados to prepare themselves for the challenges which globalization will pose in the new millennium. I am not sure how one prepares oneself for a millennium, if a millennium is still a thousand years! Nor am I sure what the policy-makers and planners mean when they refer to “globalization”. Some of them seem to be just throwing around an attention-getting term which is now in vogue. However, it would appear that when many people use the term they are referring to some kind of **economic phenomenon** and specifically to the increasing integration of national economies into expanding international markets. Indeed, this is how no less a scholar than Michael Todaro has defined the term in his well-known study entitled **Economic Development (1997)**.

I readily agree that globalization has to do with the increasing integration of national economies into expanding international markets. The scale of such integration has become simply awesome, with (a) US \$1.5 trillion being exchanged in the world’s markets each day, and (b) nearly one-fifth of the goods and services produced every year being traded. However, I agree completely with the United Nations Development Programme (UNDP) in its **Human Development Report (1999)** that globalization implies much more than the flow of money and commodities across the globe. As has

been pointed out in that Report, globalization refers first and foremost to the growing interdependence of the world's people. It is a process of integration involving not only the economy but also **culture, technology and governance**. Allow me to elaborate.

When one examines what has been happening in the area of economic integration at the international level, one cannot but observe the contribution which the **transnational corporations (TNCs)** have been making to global economic interdependence. This contribution is revealed not only by the sheer scale of activities of the **TNCs**, but also by the ways in which the largest companies have integrated their administrative and productive systems worldwide. An excellent example of this is, of course, the car industry. There is, to begin with, the actual car-making. However, there are also the goods and services associated with car-making, namely production and refining of oil, the building of petrol stations, hotels and motels, as well as highway construction. The car industry is one of the most globalized of all manufacturing sectors, and is dominated by a small number of large TNCs. This particular set of large TNCs has a centralized coordination of the various tasks which are carried out in many places and countries, a system which may be referred to as **vertical integration**. It may also be said that the changes taking place in the car industry are part of a global process of the **spatial reorganization of industry (UNDP, 1999)**.

Let us now move away from the subject of **economic** globalization proper and say something briefly about the globalization of the **media**. The so-called "global village" in which we live today is, in very large measure, a result of the fact that the communications

media are international in scope. The war in Kosovo, the almost unending bombing of Iraq, the violence in East Timor, or the plight of the people of Rwanda are shown on TV, and this helps to familiarize us in little or no time with places some of us had never heard of before. When we add to this the information we get from radio sets and video machines, we begin to have evidence pointing in the direction of a **world information order** (*Giddens, 1997*).

Much of the international news is transmitted throughout the world by Reuters, Associated Press, United Press International, and Agence France-Presse. Globalization is further revealed for the awesome force that it is when to the news media we add the cinema, television, advertising and electronic communication. We should recognize in the process, too, the enormous influence which IBM and Microsoft have over international information flow, particularly in the supply of computer resources. The locus of control over all of this information is definitely to be found in the industrialized countries (*Giddens, 1997*).

Most people who use the term globalization give the impression that we are dealing with a phenomenon which is completely new. This is not quite the case. Globalization dates back to at least two or three centuries when the Western influence started to spread across the world. At the same time, it should be recognized that globalization today is markedly different in some ways from what it was in the past. There are new markets, new actors, new tools and new rules (*UNDP, 1999*). The **new markets** include foreign exchange operations and capital markets that are globally linked and operate 24 hours a day. The **new actors** include:-

- the World Trade Organization (WTO), which has authority over national governments;
- the TNCs, which have more economic power than many states; and
- many other groups that transcend national boundaries. These other groups include the United Nations and its affiliated organizations (such as UNESCO), the European Community, which links states or other economic enterprises with mutual international interests, and so on.

The **new tools** include the Internet links, cellular phones, media networks and the like. The **new rules** comprise multi-lateral property. These agreements are backed by strong enforcement mechanisms, and are binding on governments to the point where they **reduce the scope for national policy**. In short, the world today is one in which people's lives are being linked more closely and more immediately than ever before through **shrinking space, shrinking time and disappearing borders** (*UNDP, 1999*).

Let us bring our opening remarks on the meaning of globalization to a close by making it clear that while those persons who argue that globalization has benefits may have a point, there are several important changes which must accompany this process if globalization is to be said to be helping to build a better world for all. The benefits associated with globalization today have included expanded markets for some countries, as well as the flow of ideas, knowledge and culture in general from those countries to the rest of the world. However, the opportunities and benefits of globalization have not been equitably distributed across the globe. The globalization which we have been experiencing has

been marked by increasing concentration of income, resources and wealth among people, corporations and countries.

Globalization must be made to work for **people**, not just for profits. If it is to accomplish this, it must come to include at least the following six things, as has been pointed out by the UNDP (*1999*):-

- less violation of human rights (**ethics**);
- less disparity within and between nations (**equity**);
- less marginalization of people and countries (**inclusion**);
- less instability of societies and less vulnerability of people (**human security**);
- less environmental destruction (**sustainability**); and
- less poverty and deprivation (**development**).

THE MEANING OF EDUCATION

Let us now make it clear what the term “education” is understood to mean in this lecture.

Education is social learning. Such learning can and does take place in **formal** settings such as schools, colleges and universities. However, we have been reminded by scholars such as Coombs (*1985*) that it also takes place in **non-formal** and informal settings.

According to Coombs and Ahmed (*1974:8*), as cited in Coombs (*1985:23*), non-formal education is a handy generic label covering:-

any organized, systematic, educational activity carried on outside the framework of the formal system to provide selected types of learning to particular subgroups in the population, adults as well as children. [It includes, for example, agricultural extension and farmer training programs, adult literacy programs, occupational skill training given outside the formal system, youth clubs with substantial educational purposes, and various

community programs of instruction in health, nutrition, family planning, co-operatives, and the like.

Informal education differs from both formal and non-formal education in that it is by no means organized. If we may quote Coombs and Ahmed again, as reproduced in Coombs, informal education refers to:-

the life-long process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment – at home, at work, at play; from the example and attitudes of family and friends; from travel; reading newspapers and books; or by listening to the radio or viewing films or television. Generally, informal education is unorganized, unsystematic and even unintentional at times, yet it accounts for the great bulk of any person’s total lifetime learning – including that of even a highly ‘schooled’ person.

(ibid)

In this lecture, our concern is primarily with the social learning which takes place within the **formal** setting. If such learning is to qualify as education, it should **not** include **indoctrination**, for indoctrination involves a lack of respect for the rationality of the learner (*Peters, 1970*). Nor is the social learning that qualifies as education to be equated with training. To quote Peters:-

‘trained’ suggests the development of competence in a limited skill or mode of thought whereas ‘educated’ suggests a linkage with a wider system of beliefs. A man with a ‘trained mind’ is one who can tackle particular problems that are put to him in a rigorous and competent manner. An ‘educated mind’ suggests much more awareness of the different facets and dimensions of such problems.

(1970:32)

Peters made his observation some three decades ago when it was acceptable to use unhesitatingly the male term to embrace the female. Today, feminists would probably insist that every time we use the words “a man” we accompany them with “or woman”. Be this as it may, I wish to state my agreement with Peters that (1) “training” lacks the

wider cognitive implications of education, (2) “education” implies that a person’s outlook is transformed by what that person knows, and (3) such knowledge must involve “ the kind of commitment that comes from being on the inside of a form of thought and awareness” (1970:31). With these definitional and conceptual matters out of the way, we can now move on to the next major matter with which we promised to deal, namely, globalization and the trade union movement in Barbados.

GLOBALIZATION AND THE TRADE UNION MOVEMENT IN BARBADOS

A useful way to begin the discussion of this particular matter is to refer to a speech which was recently given by Mr. Robert Morris, the Deputy General Secretary of the Barbados Workers’ Union (BWU)¹. The speech in question was actually the Ninth Education Month Lecture which was sponsored by the BUT. Mr. Morris highlighted the fact that the most negative impact of globalization in the Caribbean has been on agriculture, particularly sugar and bananas. He stressed that at the macro level, globalization has attacked the trade union movement through the weakening of the state, privatization, rising unemployment and general deregulation. We were also informed in the same lecture that the **International Labour Organization (ILO)** is facing an unprecedented challenge from resurgent capitalism and employers’ organizations that wish to reduce the role of labour standards in the world of work.

At the level of the workplace itself, the major threat to the trade union movement posed by globalization has taken the form of requests for **flexibilization** and **deregulation**

¹ The BWU is the oldest and largest trade union in Barbados. It was established in 1941.

(Morris, 1999). We do not have the time tonight to examine in detail all that this implies. However, we must devote some time to the matter of flexibilization since we stated at the outset that we would do so.

There are two variants of flexibility as this particular concept is being advocated by an increasing number of employers in the Region: functional flexibility and numerical flexibility. **Functional flexibility** involves multi-skilling, multi-tasking, job enrichment, and so on. The problem is that even if this can be shown to increase organizational effectiveness and competitiveness, it is something which cuts across basic rights such as the right to a job description. This is something that ought to be of great concern to trade unions everywhere.

The second variant of flexibility is the **numerical**. This variant is the one on which teachers and their union (s) really need to keep their eyes. According to the Deputy General Secretary of the BWU, it is being used by unscrupulous employers in an attempt to **reduce the power of workers and trade unions**. Here is the Deputy General Secretary on the strategies which are being used in the name of numerical flexibility:-

The strategies include workforce reductions, contracting out of services, outsourcing, individualized pay which is put at risk, leaner and meaner companies, the growth of associations in human resource management as a counter to unionism and direct union busting activities.

(Morris,

1999:7)

In the specific case of Barbados, attention should be drawn to a highly pertinent article entitled "Labour's pains" which recently appeared in one of the leading local newspapers,

the **Sunday Advocate** (*October 10, 1999:10-11*). In that article, the Editor of that local newspaper discussed what he referred to as “labour pains” in the local trade union movement. He described the trade union movement in Barbados as a “battered ship”, and Barbadian workers as the passengers on that ship, with the “howling choppy seas” representing the “powerful forces of globalization”. He observed that the Deputy General Secretary of the BWU is perhaps the only local trade unionist who has been addressing in public the critical issues of:

- 1) the implications of globalization for employment, and
- 2) the flexibilization of labour which is creeping close to Barbados’ doorstep from Latin America with whom Barbados is integrating in six years’ time under the **Free Trade Area of the Americas (FTAA)**.

The editor in question went on to make the following pointed comment on what he deemed to be the first significant battle of the globalization age between organized labour and capital on Barbadian soil:-

The first significant battle of the ‘globalisation’ age on Barbadian soil between organized labour and capital was fought in the Harbour Industrial Park over a year ago. The union, including the workers in question, ended up as the real losers. It is true that the Barbados Workers’ Union won recognition at Manual Life Data Services but it was a pyrrhic victory. Almost immediately the company started to downsize and quickly afterwards pulled out of Barbados. Next door at Offshore Keyboarding, despite all the huffing and puffing in the midday sun, what was really achieved? A key lesson from this episode is that Barbados is literally caught between a rock and a hard place; while Barbadians enjoy the constitutional right of freedom of association which some foreign companies may choose not to respect in specific relation to trade unions the fact is that they can readily find other host countries willing to take them in under the conditions they want.

(Eversley,

1999: 11)

Eversley also drew attention in the said article to the possibility that a “life or death struggle for the BWU” may be currently taking place in Barbados over the container handling dispute between the BWU and the Port Authority:

I am not going to comment on the current ‘container handling’ dispute between the BWU and the Port Authority, except to say that there is a bigger issue which so far has been overlooked in the debate. It is an issue tantamount to a life-or-death struggle for the BWU; if there is any major weakening of the union’s traditional stranglehold on the port, the BWU knows that it is in danger of becoming a toothless tiger. A major source of its power will be gone and it will no longer be able, to press its case in industrial disputes as it does sometimes, to order disruptive boycotts of companies with which it is at loggerheads.

(ibid.)

In a moment we will shift our attention from the trade union movement **per se** to the teachers themselves and their schools. Before we do so, however, I wish to return, as promised, to the matter of the contracting out of services, especially as this relates to education in our country. I support the idea of putting principals of our schools on contract. However, while we should remove as quickly as possible all school principals who are hurting our children, the teachers and the system generally, those principals who are doing a good job should be given every opportunity to continue their work on a longer-term basis and leave their mark on our educational institutions. I am not sure about the length of the contract which would be granted to principals in the latter category, but a term of at least five years keeps popping into my mind.

Let us wrap up this part of the presentation, which focuses on the trade union movement, by making a brief comment on the tricky but pertinent question of the amalgamation of the teachers’ unions in this country. In an age of globalization, of mega-blocs in trading, of consolidation and mergers in more and more areas of business endeavour, those who

claim to be speaking on behalf of the workers should come together and speak with a single voice on behalf of the workers, including a single voice for teachers. The **BUT** and the **Barbados Secondary Teachers' Union (BSTU)** have both been fighting hard on behalf of their members. However, the time has come for the teacher union movement in Barbados to move to a higher level which recognizes that unity is strength and that there is strength in numbers.

The membership of the two teachers' unions in question should not allow the process of amalgamation or merging to be delayed by those who would keep the unions weak through the practice of "divide et impera" (divide and rule). Mr. Dennis DePeiza, a past-President of the **BUT**, has observed in the current edition of **Outlook** that certain "subgroupings have emerged from within the walls of the union in recent times".

He continues:-

These subgroupings have justified themselves based on the provision of the laws of the land, but should this trend be allowed to continue it could pose a serious threat to the stability of the BUT during the first quarter of the 21st century.

(1999:11)

What I am saying is that school principals, for one, will need to decide whether they see themselves first and foremost as teachers and workers or as some ill-defined part of management whose interests may sometimes be **antagonistic or antithetical to those of teachers as workers**. I agree with DePeiza that while these newly-formed bodies may wish to think of themselves as Trade Unions within the field of Education, there may be good grounds on which to question their effectiveness as trade unions. If, however, the **BUT** and the **BSTU** were to merge, and the leaders of the subgroupings in question were

to put the national interest of teachers above empire-building, care would need to be taken to ensure that the enlarged single teachers' union did not become bureaucratized to the point where the activities and views of the union leaders would become distant from those of the members they are supposed to represent. Students of bureaucracy are aware that this is one of the fundamental elements in **Michel's iron law of oligarchy**.

THE SCHOOL AND EDUTECH 2000

Let us now put the spotlight directly on the schools. Our concern here is with the impact which globalization has been having on our schools in terms of the introduction of new technology. I am focusing here on the Education Sector Enhancement Programme, familiarly known as **Edutech 2000**, and especially on that aspect of **Edutech 2000** which has to do with the computerization of classrooms.

In the **Ninth Education Month Lecture**, mentioned earlier, Morris appropriately observed that in Barbados the industries which best exemplify the global market are telecommunications and the informatics areas. He correctly pointed out that in the informatics sector simple data-processing is on the way out, and that intelligent computers will retain much of the work that foreign investors traditionally expected labour in the Caribbean to perform. He stressed that we should therefore develop our **social capital**, and that in that connection he wished to applaud **Edutech 2000**.

I am completely in agreement with Morris that we should develop our social capital, assuming that by "social capital" Morris is not referring to "human capital" but to social

capital in the sense in which this term was used by Coleman (*1988*). I am also in agreement with Griffith (1999) of Bucknell University's Department of Economics that given the global trend toward a more highly skilled labour force in the production process, Caribbean governments must try to improve the pool of highly-skilled labour. Yet I must confess that I am not prepared to give **Edutech 2000**, and specifically the computerization of the classrooms in our schools, an unqualified blessing. I am sure that the Ministry of Education, the financiers of **Edutech 2000**, and the uncritical supporters of **Edutech 2000** would want me to defend this position, and I am happy to oblige. Let me start by providing a description of this programme.

Description of Edutech 2000

Edutech 2000 is a seven-year Education Sector Enhancement Programme which is being financed by the Inter-American Development Bank (IADB), the Caribbean Development Bank (CDB), and the Government of Barbados. The loan agreements were signed in Barbados in December, 1998, after the IADB's Board formally approved the loan application for US \$85 million and the CDB's Board supported a few days later the request for US \$31.5 million. As reported in the local press, the Government of Barbados is expected to contribute BDS \$117 million (US \$58.5 million) to **Edutech 2000**. Excluding the interest from the loans from the IADB and CDB, therefore, **Edutech 2000** is expected to cost US \$175 million, which makes it a very expensive project for a small, poor Developing Country.

In his presentation of the Budgetary Proposals for 1998/99, the Minister of Finance in Barbados (who is also the Prime Minister) stated that **Edutech 2000** would be the largest single project to be carried out in Barbados by the Government over the next decade and would be given top priority. He stressed that:-

What we are seeking to do, Mr. Speaker, is to take one of this Hemisphere's foremost educational systems and reconfigure it, redesign it, and restructure it to make it even more relevant to our needs in the 21st Century.

....Mr. Speaker, in the light of the strategic purpose this project is intended to serve in Barbados' future development EduTech 2000 will be the largest single project to be carried out by the Government over the next decade, and it will take priority over all others in our public investment programme.

....Sir, I am sure that you will agree that EduTech 2000 will come to be known as the most significant step, not only in education, but in our country's educational development since the introduction of free secondary and tertiary education almost half-a-century ago.

(1998:

20A)

The importance attached by the Government of Barbados to **Edutech 2000** is also borne out in the fact that the US \$85 million loan from the IADB will be the largest amount ever disbursed by that lending institution for any project in Barbados. The previous largest loan by the IADB to Barbados was the \$51 million for the South coast Sewerage Project. Moreover, the President of the CDB is reported to have said on the occasion of the signing of the loan agreement that the US \$31.5 million loan from that institution was the largest ever made in Barbados and the second largest ever made to a member-country *(Sunday Sun, December 20, 1998).*

The officially-stated primary goal of **Edutech 2000** is to increase the number of students contributing to sustainable social and economic development in Barbados. At the

ceremony to mark the signing of the loan agreements, the representative who delivered remarks on behalf of President Enrique Iglesias of the IADB observed that the Government of Barbados was ‘fully aware of the risks and opportunities associated with the massive infusion of information technology in education but was prepared to continue investing in the development of its human resources (*ibid.*). She has also been reported as saying that the efforts of the Government of Barbados in this connection must be seen as an important strategy for remaining competitive in the skill-intensive economy of the 21st century (*ibid.*).

The remarks made by the IADB Representative echoed those of the Prime Minister several months earlier at a breakfast meeting called to brief Cabinet Ministers, the private sector, and education stakeholders on **Edutech 2000**. At that meeting, Prime Minister Arthur expressed the view that the economic future of Barbados would be service-based rather than based on agriculture or industry. He went on to stress that with relatively few resources available to it, Barbados would have to adopt a “**knife-edge**” approach to its development, and that the educational system would accordingly be re-designed to make it relevant to the needs of national development. He insisted that:-

We want to develop a business ethos and a sense of entrepreneurship. One constant will be the mastering of information technology, helping to create a class of Barbadians who are not intimidated, but are excited by the march of technology.

(Daily Nation, March 31,

1998:5)

So what then specifically is it that **Edutech 2000** is supposed to achieve as globalization continues to affect life in Barbados and indeed the Region? **Edutech 2000** has two specific objectives:

- to increase the efficacy of the teaching-learning process by encouraging teachers to utilize available technologies in their classrooms; and
- to prepare students for life in a technologically advanced society by ensuring that all students who leave school in the 21st century have a good knowledge of, adequate skills in, and favourable attitudes towards the use of information technology.

The Government has insisted that these two objectives should not be separated from its fundamental concern with addressing areas of real need within the educational system and using that system to produce key skills and competencies needed in the future workforce. It sees the realization of this goal as requiring a major change in learning and teaching and in the educational environment, with Information Technology, if appropriately used, being the carrier of this comprehensive change.

Edutech 2000 has four main components: civil works; teacher training and technical assistance; strengthening of the Ministry of Education; and the procurement and installation of equipment. Together, the four components are supposed to ensure that all students leave secondary school with the basic skills and abilities needed to participate productively in an increasingly skills-and information intensive job market. Accordingly, students will be expected to use the computers throughout the day and throughout the school to perform the everyday tasks of learning: writing, drawing, finding information,

analyzing data, and sending and receiving messages. Subject-specific software will also be made available to students to review and practise the curriculum.

Edutech Already a Success?

The first tentative steps are being taken to introduce computers into the classrooms of a few “pilot schools”. Even at this very early stage, some advocates of the new technology have been calling the introduction of computers to the classroom a resounding success. Perhaps the most frequently heard of these advocates has been Mathew Farley, Principal of St. Mary’s Primary School, which to date has been something of a showpiece for the project. Farley has been asserting that the introduction of computers to the classrooms at St. Mary’s Primary has had a major positive impact on the attitude of the pupils to work and study. According to him, the pupils who showed the highest overall learning gains during the first term of the programme were those in the so-called “slow class”. For Farley, his school has benefited in no uncertain terms from the introduction of the new educational technology:-

..... It is the perception of the management that the introduction of educational technology at St. Mary’s Primary School has undoubtedly had a definite impact on school culture and ethos. More efficient and coordinated management has been affected [sic], record management has been strengthened, teacher competence with the technology has been significantly boosted, the methodological and pedagogical transition process has been speeded up, students have reached out and embraced the technology as a tool and the overall public profile of the school has been raised. As a result of the school’s participation in the research project the already high quality infrastructure and civil works have been strengthened. These developments augur well for the future of St. Mary’s Primary School, a pioneering elementary educational beacon in Barbados.

(1998:

3)

The rosy picture painted by the Principal of St. Mary's Primary about how the introduction of the computer has affected teaching and learning at his school may flatter to deceive. As with all things in life, things are not as simple with **Edutech 2000** as its staunchest defenders would have us believe. To develop this argument, there are four issues related to this project which I would now like to discuss. These four issues are: the philosophy of child-centred learning that is supposed to guide the project; the issue of cost; the presumption that the computerization of the classroom necessarily leads to improved student academic performance; and the matter of computer technology and the fragmentation of the child in the classroom. Let us begin with the issue of child-centred learning.

The Issue of Child-centred Learning

According to the Ministry of Education, Youth Affairs and Culture, **Edutech 2000** is guided by the philosophy of **child-centred learning** and the theory of constructivism. The philosophy of child-centred learning assumes that children are at the centre of the education process and that the teachers should function as facilitators of student learning. The theory of **constructivism** proposed that students act as “pilots, rather than passengers, on the journey of learning”.

A fundamental problem with the guiding philosophy and theory in question is that while Barbados is in the fortunate position of having universalized access to primary and secondary education, it has also had a long-standing tradition of having a school system which has been prestige-stratified at both the primary and secondary levels. Child-centred learning and constructivism stress the interests and needs of students, the **affective** aspects of learning. In official and non-official circles in Barbados, the type of student who has been held out as the example for other students to emulate has not been one with a rounded personality and who has excelled in areas other than the academic. Rather, it has been the student who excels in the Barbados Secondary Schools Entrance Examination (BSSEE), then goes on to excel in the Caribbean Examination Council (CXC) Examinations, and ultimately becomes that most idolized of all Barbadians, a **Barbados Scholar!** In short, the preoccupation has been with the cognitive, not the affective, in the context of maintaining, with relatively minor changes, the traditionally class-based social order.

As is well known, the idea of child-centred education is considered to have originated with Jean-Jacques Rousseau. Rousseau believed that creativity and freedom were essential to children's growth. Implicit in Rousseau's philosophy was the idea that it was necessary to leave the child to his or her own devices (*Sutherland, 1988*). Froebel and other child-centred educators later adapted or extended the principles put forward by Rousseau. They contended that education should be a happy experience for the child, that the child should be given the freedom to develop naturally, and that adults should avoid limiting the child's activity to what they believe to be good for the child. Learning by

experience and the use of ‘discovery methods’ became an important part of the child-centred ideology. So too did the call for a change in the teacher’s role of expert possessing knowledge which is to be passed on to the child. Instead, the call went out for the teacher to become a ‘resource person’ and retire to the background, simply supplying resources the child may need in the process of discovery learning and in following natural instincts in learning (*ibid.*).

The notion of child-centred learning is fashionable in educational circles, but there are at least four problems with it additional to the one already mentioned (*ibid.*). To begin with, it can be argued that when a teacher is thought of simply as a resource person it may very well be that it is really the teacher who is making the decision as to which resources are useful to the child. To the extent that this is happening, the child’s learning is being pre-determined, even if in a less direct way than was traditionally the case.

Secondly, letting children “discover for themselves” is something to be examined critically rather than taken as given since;

- a) there is always a great deal to discover, and
- b) some discoveries have already been made by people of exceptional ability.

It is a waste of time if the process of learning is not abbreviated by **telling** the child what has been discovered, instead of insisting that the child follow a long and slow path which may in the end prove not to arrive at the best possible outcome. Related to this is the fact that naïve observers cannot always see what is to be seen. When matters get very

complicated, the students need guidance from an expert who can draw their attention to what is important.

A third problem with the child-centred concept of the teacher's role is that other children **do** have an influence on the individual child. The big question is whether at the same time that the teacher is told not to try to determine too much for the child, there are to be no restrictions placed on the efforts of children to make up their minds and influence the behaviour of their peers. Clearly, the role of the teacher must include intervention by the teacher, as appropriate, to protect the child from the undesirable influences of the peer group and to shield the peer group from undesirable behaviour on the part of the individual. The presumption of the "child-centredists", if we may coin a term, that the teacher should be **neutral** is unacceptable because neutrality is **impossible**. Even when the teacher tries not to say anything which might influence the child's decision-making, children are still smart enough to examine the teacher's non-verbal communication (body language).

Fourthly, it is debatable whether child-centred education has actually been tried in practice, at least in pure form. Teachers whose style may be classified as purely "traditional" or purely "progressive" are rare. In the real world, teachers tend to use a mixture of methods, although it does seem that in the secondary school the less formal and more "child-centred" approaches are less frequent.

Computerized Classrooms and Improved Academic Achievement

The promoters of computers in schools have advanced a number of arguments in their campaign to computerize the school system, and one of these arguments is that computers improve student academic achievement. Reference has already been made to, for instance, the claims of the Principal of St. Mary's Primary School. However, Oppenheimer (1997) has made the following very pertinent comment on the push by the Clinton Administration to get computers into the classrooms in the United States and on numerous studies cited by the Presidential Task Force which have found that computers significantly enhance student academic achievement:-

Unfortunately, many of these studies are more anecdotal than conclusive. Some, including a giant, oft-cited meta-analysis of 254 studies, lack the necessary scientific controls to make solid conclusions possible. The circumstances are artificial and not easily repeated, results aren't statistically reliable, or, most frequently, the studies did not control for other influences, such as differences between teaching methods. This last factor is crucial, because computerized learning inevitably forces teachers to adjust their style – only sometimes for the better. Some studies were industry funded, and thus tended to publicize mostly positive findings. 'The research is set up in a way to find benefits that aren't really there', Edward Miller, a former editor of the Harvard Education Letter, says. 'Most knowledgeable people agree that most of the research isn't valid. It's so flawed it shouldn't even be called research. Essentially, it's just worthless'. Once the faulty studies are weeded out, Miller says, the ones that remain 'are inconclusive' – that is, they show no significant change in either direction. Even Esther Dyson* admits the studies are undependable. 'I don't think those studies amount to much either way, she says. In this area there is little proof.'

(p. 3)

*President of EDventure Holdings in the United States and one of the Clinton Administration technology taskforce's leading advocates of computers in the classroom.

I have cited Oppenheimer at length because even before **Edutech 2000** has got underway the Principal of the “Research School”, St. Mary’s Primary, has been claiming that academic performance at his school has improved, and that this improved achievement may be attributed to the introduction of the computer to the classrooms at his school. According to the news release, the School’s ranking in English in the Barbados Secondary Schools Entrance Examination in 1998 move from 69th to 33rd out of 77 schools, and there was an overall improvement in the School’s performance by 10.5%. The Principal conceded that factors other than the availability of technology could have contributed to the improved performance of his school, but he insisted that what he was fairly sure about was that among the many variables, the technology was the major one.

The Principal should be invited to give a public explanation for why his school’s position plummeted to 65th in this year’s BSSEE! In lauding his school and computer technology for his school’s performance in last year’s BSSEE, he did not mention the basis on which he came to the conclusion that technology was the major factor. This is unfortunate since the research at St. Mary’s Primary is not being done with the strict controls which are such a vital part of experimental research. Indeed, it is difficult to accept that what is being carried out at St. Mary’s amounts to **experimental** research even if it may qualify as some kind of **action** research. And yet, it is precisely experimental research which is required if the conclusion is to be reached that there is a **causal** relationship between computer-assisted learning and improved academic achievement. In the said news release, the Ministry of Education announced that it was pleased to see the correlation between exposure to the technology and the improvement at St. Mary’s. Still, it must be

said that correlation is never to be equated with causation, whether by intention or by default.

The Issue of Costs

We turn now to the second issue with which we promised to deal in relation to **Edutech 2000**, the issue of costs. We may start by conceding that the amount of money which the Government of Barbados plans on spending on this programme is tiny when compared with what some countries have been spending or plan to spend on the computerization of their classrooms. Let us take the United Kingdom, for instance. In January of last year (*1998*), the British Government launched Net Year with the goal of connecting all public schools in the United Kingdom to the Internet. At that time, some 6 000 schools in that country had already been connected to the Internet. The aim of Net Year is to increase that total to 17 000 by the end of 1998 and, in conjunction with the National Grid for Learning, have 32 000 schools on the Internet by 2002. At least £100 million is to be targeted at helping schools to gain access to the Internet, and with serious discussions with Microsoft Corporation well underway, the British Government is pulling out all the stops. Interestingly enough, Sun Microsystems and Cisco are helping the British Government with the connection of the schools on the Internet while Elite-the developers of the search engine- have contracted with that Government to provide free e-mail to all school children. The net is perhaps one of the biggest partnerships in education between the public and private sectors anywhere in the world.

In the United States, President Clinton has declared that all classrooms must be connected to the Internet by the year 2000 and that both students and teachers should be computer

literate. In 1997, \$5.2 billion was spent equipping public schools with information technology (IT) products, and President Clinton's plan called for an additional expenditure of \$2 billion in public funds. It is very important to note that in the United States, as in the UK, the private sector has been providing substantial assistance to government for the computerization of the schools. Reportedly, Microsoft has provided the US Government with over \$1 million while Oracle has pledged \$100 million.

Farther afield, in the Developing world this time, there is the very interesting case of Singapore. Singapore was out of the starting gate long before practically every country in the world when it came to introducing IT into the secondary schools, and its Government plans to spend US \$1.1 billion over the next five years on computers in schools. Coincidentally, just as the Government of Barbados has its **Edutech 2000** the Government of Singapore has its **IT 2000: Vision of an Intelligent Island**. However, **IT 2000** seeks to make Singapore the first country in the world with advanced nation-wide information infrastructure which will allow computers in any part of that island to be connected both to one another and to other computers anywhere in the world. Significant too is the fact that the private sector in Singapore is contributing millions to funding the computerization of the secondary schools.

The private sector in Barbados stands to benefit from the production by the school system of graduates skilled in the use of computers. There is no evidence, however, that the private sector has been providing the Government with much financial – or for that

matter material – support for the computerization programme other than the donation of the odd computer to a school or

two. At least one private sector organization is earmarked to collaborate with Erdiston College* in the training of teachers in the use of computers, but it expects to be paid for its training of some of those teachers. What is happening in Barbados, therefore, is that the computerization of the classrooms is to take place with money taken in part directly out of the public purse as well as with money borrowed at interest from the IADB and the CDB, in an economy marked by very high levels of open unemployment and underemployment and slow growth in real wages.

Furthermore, we cannot be sure what the final cost of **Edutech 2000** will be. It is one thing to purchase computers; it is another to maintain them. This is so whether one is speaking about a single computer for one's own private personal use or enough computers for the classrooms in an entire school system. Then there is the need for constant software upgrades and constant teacher training. All of these things amount to a financial burden which can be greater than the cost of the initial hardware and software combined. In cases where a school's computer system has been set up with support from private companies, such support often comes to an end once the system has been set up. What has been happening in countries such as the United States is that when this occurs schools must then look for handouts from other companies, enter the grant-seeking game, or delicately go begging in their own communities. Barbados is not likely to be able to avoid this kind of eventuality once the use of the computer becomes a vital part of the

landscape in the classroom, and it will be interesting to see how time spent on actual teaching and learning will be affected by this.

*Erdiston (Teacher Training) College is the sole non-university teacher training institution in

Barbados. It is owned by the government and has been in existence since 1948.

Fragmentation of the Child

Let us now examine the last of the issues to be dealt with in this lecture regarding the use of computers in the classroom. I am referring here to what Schwarz (*1997*) has called the **further fragmentation** that has come with the introduction of computer technology in the classroom. Schwarz has usefully observed that in the rush to embrace technology in education we may be creating the opposite effect from what we intend, and that we need to pause and ask about **technology' effect on the whole child**. She rightly contends that the digital age is undeniably here, but that since technology is never neutral and its effects are often unintended, we should make **informed decisions** about the place of technology in the classroom, especially as we consider the **whole child**.

The human implications of computer technology in the classroom are often played down by the advocates of the new technology, even though some of these advocates have not been able to close their eyes to the fact that more and more students who use computers on a regular basis are complaining of headaches, sore eyes, wrist pain, and the like. There has also been a playing down of, if not outright failure to mention, the fact that big business and the military, whom Schwarz has graphically referred to as the bastions of behaviourism/positivism and utilitarianism –have been key to the development of

computer technology. **UNIVAC**, the first stored-programme computer, grew out of military network developed during World War II, while the **Internet** grew out of **ARPANET**, the military network developed in the 1970s. It is well known that IBM, Apple, and Microsoft have exercised far-reaching influences in the field of technology.

The reference to the US military and the TNCs should make it clear that the computer was developed by such globalizing bodies to perform a particular function. Roszak's (1994:xxxv) comments on that function are instructive:-

The computer is inherently a Cartesian device embedded in the assumptions of a single intellectual style within a single culture of the modern world. The very metaphors that surround it bespeak a conception of the mind as logical machinery; the constant references to the 'productivity' that the computer promises endorse the values of the marketplace and the western ethos of progress.

(As cited in Schwarz,1997:34)

It is not to be denied that children with disabilities have consistently been shown to benefit from computerized instruction. Nor is it to be denied that computer technology can help a school to improve its efficiency in record keeping and bureaucratic management. It can be beneficial in offering better methods for keeping track of absenteeism in large schools, speeding up calculations of all kinds, giving access to a multitude of databases and sources of information worldwide, and so on. However, if we are genuinely interested in **educating** students, as distinct from **training** them, there are three **utilitarian** assumptions about educational technology which need to be examined very closely even though they happen to be fashionable among the proponents of the dominant variant of economic globalization, namely, the neo-liberals. Those three

assumptions are that: (1) information equals learning; (2) correct procedure and control are central; and (3) education and job training are, or ought to be, the same thing (*Schwarz, 1990*).

If we start with the assumption that information equals learning, we should question from the outset any notion that any subject can be learned simply by going on the Internet, or that all knowledge can simply be analyzed and stored on a computer disk. Such a conception of the learning process trivializes and distorts what genuine learning and the **social learning that we call education** are all about. Learning involves feelings, relationships, meaningful inquiry, and examining prior experiences. We are totally in agreement with Roszak that ‘The mind Thinks with ideas, not with information’ (*ibid: 34*). It cannot be overstressed that ideas grow from daily human experience, face-to-face interaction and reflection, and that machines are incapable of substituting for this.

In this lecture, we are far from being Luddites. We have already pointed out that there is a positive side to computer technology. However, we must resist vigorously the fashionable ideology which assumes the existence of a basic compatibility between computer technology and the education of children. We must ask the question posed by Stoll, and answer it as he does (*1995: 147*):-

What exactly is being taught using computers:Kids learn to stare at a monitor for hours on end. How to accept what a machine says without arguing. That the world is a passive, programmed place, where one click on the mouse gets the right answer. They’re learning transitory and shallow relationships from instant e-mail.

(As cited in ibid.)

It is simply wrong then, to equate information with learning or education. The focus of educational software has always been on skills and drills, and the computer can certainly provide instant feedback. However, genuine education often depends on human interactions that cannot be quantified or delivered in any sure and swift manner. The human mind is most definitely more than a logical data-processing machine that provides the right answers.

Computer technology is a vital part of the search by positivists for a mathematical model of absolute certainty. As is well known, positivists are ultimately concerned with predicting and controlling human behaviour. It is not surprising, therefore, that order and procedure are being made central to the teaching-learning process in the classroom with the introduction of the computer. There is, however, a danger of mistaking order, procedure, and measurable behaviour for genuine learning. Technology can become a tool for controlling teachers and students.

The third assumption is that education and job training are, or ought to be, the same thing. At issue here is whether it should be the major task of schools to prepare workers for jobs. Kane (1996: 3-4) has given the serious warning that “When children are abstracted and reduced into a mass of intellectual capital, there is no place for their actual educational needs and the fundamental ethical responsibilities of educators’ (*cited in ibid.* :35). When children are abstracted and reduced into a mass of intellectual capital, computer technology cannot teach them to be thinking, inquiring, lifelong learners who have the motivation to contribute to a vital democracy. Nor can it teach them to challenge

existing vested interests and imagine other ways of life that may be better than today's consumer society. And it is precisely this kind of learning that genuine education is all about!

CONCLUSION

We have now come to the end of my presentation, and I look forward to the discussion. No one – including myself – knows exactly what will be the final impact of globalization on any educational system. It seems that globalization has already been having a heavy impact on the economies of Barbados and the rest of the Region and has been having both direct and indirect impact on the educational system. Let us commit ourselves to continuing to examine, in fora such as this, the phenomenon called globalization. We need to have a clear understanding of what is happening in its name if we as a people, are to put ourselves in a stronger position to meet its challenges.

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