

Breaking the Apprenticeship Curse: A Critical Look at Information Technology Training in Belize

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Introduction

Initially, this paper focused on the anatomy of a Belizean Information Technology Training environment. It promoted a concept for a program that would be thoroughly organized, impeccably formalized, generously financed and legally recognized. It was the ideal to which I would have encouraged Belizeans to strive.

To set a foundation for the paper, I went looking for evidence of a semblance of the four pillars of discussion I had set out in my message (organization, formalization, sponsorship and recognition). What I found was chaos. IT training in this country had not been organized at its inception: indeed, there was no true inception. The people I thought would be able to pin down the information and timeline with regard to the introduction of IT training, could not agree on a date when events occurred in Belize. I could not find any formal acknowledgement of the commencement of IT training, in any form. With nothing formalized, there was relatively no way (or reason) for anyone to have worked toward attract funding for any IT training project and recognition of IT training programs was (and still is) comparable to pulling old molars from a tough gum.

What I did find was that IT training did start and that, for all intents and purposes, it was well on its way by the end of the 1980s. I found that there are more than 100 trained computer professionals in the country (about 15 hold the equivalent of a MSc. degree and about 45 hold the equivalent of a BSc. Degree). This number is small but encouraging. I found that there is a Belize Information Technology Professionals Association (BITPA) in the country. With a list of some 70 professionals and a membership of near 40, this association is a welcome step towards IT growth. I learned that a number of Belizeans have chosen to study this field but some have been convinced to stay away from this country because they would not be paid their worth if they stayed here. I learnt that others had started the dialog that highlighted our need for a proper training culture in this country. I learnt that monies were being invested in IT training both at home and abroad. I learnt that the picture though dim was not as dim as I had thought.

My most significant discovery was that, notwithstanding the difficulties caused by the presence of a monopoly on telecommunications, the IT industry was not growing because of the presence and prevalence of a training system that had been at work in our country long before any of us were born. That is, the apprenticeship system. While the system itself is not without its merits, it became very clear that the mind-set of Belizeans had been so affected by the success of this system, that apprenticeship was being regarded as the only way in which any kind of training could be adequately performed. It was even causing some to look at formal IT training as ineffective and even counterproductive.

The focus of this paper has changed. I wish to open the discussion (or argument) regarding the chaos that exists in IT training and instigate a drive to make some necessary changes. I will look at what is operating in Belize at this time, how the dependence on the apprenticeship program has become a curse, the evidence of the desire in Belizeans to move into maturity with a different, more effective system in place. I will offer my suggestions for a few practical steps we can take to begin the process of addressing this issue.

Breaking the Apprenticeship Curse

A critical look at information Technology Training in Belize

The word *apprentice* has its roots in the Latin word *apprendere* which means to apprehend - to seize, grasp mentally, to learn. According to Webster's Third New International Dictionary, an apprentice is one who learns, by practical experience, under the supervision of skilled workers, a trade, art, or calling. An apprentice then, is one who works for another, often without pay, in return for the opportunity to seize, grasp mentally, learn a skill or trade. The apprentice is a student, a client and an intern. S/he studies the actions of the master and when allowed, imitates those actions as nearly as possible. S/he regularly returns to the master to "withdraw" from the repository of knowledge the master possesses. As his competence improves, he "interns" in the presence of the

master until, at some point, he becomes a practitioner with permission (not certification).

The master and the apprentice are never equal and the apprentice is seldom, if ever, credited with the success of the task completed. To gain any true credibility, the apprentice must venture out on his own. He must combat the possibility of failure and strive for the possibility of success. He must endeavor to prove his competence by the quality of work he does and by his ability to mentor other people. He must take on his own apprentices.

An *apprenticeship* (Webster) is the prescribed period during which an apprentice serves his master at a prescribed rate. The term, therefore, implies that this is a stage. It signals that there is a time of completion.

The *apprenticeship arrangement* is a common-law relationship. It appeals to the immediate, visible and base need of the participants but seldom (if ever) makes provision for the prolonged, sustained need to create new things, to excel at new ventures, to develop self esteem and to propagate knowledge. It is a relationship in which the level of commitment is only as deep as the contentment level of the parties involved. Changing this relationship requires little and the consequences less severe than that of a committed relationship. This is not the best arrangement one can make.

History

Two of the dates that are etched in the history of the Caribbean and more specifically, Belize, are the legal abolishment of slavery in 1834, and the termination of apprenticeship in 1838. This apprenticeship was a measure taken by the authorities of the day to guarantee local slave owners that they would have a committed workforce for four years while the reality of freedom for the slaves worked itself into the fabric of the society. The benefit to the slaves was that they would be trained in a skill that would make them employable after the apprenticeship period ended. (Dobson, 1973). Although these dates appear in just about every account of slavery and apprenticeship in Belize (British Honduras at that time), it is clear that the benefits of those legal steps were not realized until 1854 when constitutional anomalies began to be resolved. Up to that point, a handful of British "Principal Inhabitants" constituted a white settler oligarchy that monopolized land, labor and commerce while controlling the government and administration of the settlement. It follows then that, though freed, slaves had been caught in a new form of domination that was orchestrated to "ensure that (slaves) ... remained a dependent labor force" (Bolland, 1988). Unfortunately, this form of domination continued well into the 20th century when in the 1930s some other changes began to take place as a result of labor unrest in the Caribbean. A new form of apprenticeship began to take shape. It was viewed more as a mentorship arrangement but had the same basic goal as the previous system: the solicitation of cheap labor for the promise of skill acquisition. It promoted the exaltation of the master, his skills, and his generosity while subtly keeping the newly "trained" apprentice dependent on the master and the system to which the master subscribed. This domination and control was so effectively practiced that its effects are still felt in the 21st century. This practice has carried over into present day Belize as a nagging, disturbing, demeaning sense of disdain and distrust in the skill of the local workforce. While other evidences of this effective scheme of domination is clear in practices observed throughout this country, what I found particularly alarming, is a mind-set that traps bright IT people (who often start their careers as apprentices) into believing that their only means of progress and development is to remain a dependent understudy to others. This, to me is a curse. This is what I am calling the *apprenticeship curse*. This is a curse that has made us seem lazy, unmotivated, incompetent and poverty-ridden in the eyes of our neighbors and the rest of the world. As deadly as the HIV virus this curse is a silent resident in the body of the Belizean populace. Moving through and growing in the blood stream of our society, it is seemingly benign and ineffective. It remains undetected long enough to lull the society into a state of careless calm and dangerous behavior. Then just as the society begins to embark on the implementation of its visions and dreams, this silent companion launches its all-out attack on our social immune system. By that time we are virtually incapable of effectively fighting off its onslaught. We are convinced that the outlook is dim and the likelihood of success nil. We started feeling helpless.

This multi-tentacled monster has made effective use of the apprenticeship system in Belize's Information Technology Industry particularly as it relates to our training and development programs. While alive in other professions, this curse seems to be vibrant in Information Technology training.

In Belize, IT practitioners (I use this term in an effort to identify with all the people who work in Information Technology) have traditionally been people who either (a) demonstrated interest in and ability to understand the work of IT professionals who came to us from abroad or (b) had been trained in areas that were deemed close to the IT field and therefore gave the practitioner the foundation for IT capability. These individuals were taken as apprentices and assigned tasks to perform that were easily supervised and readily correctable. What these people learned was often company-specific and limited to what the "master" was willing to teach and/or demonstrate. Extremely motivated apprentices sought out professionals, other than the master, to guide them deeper into the

study of this field. What they learned helped to bring them into more responsibility and quite often a move into more serious work with their institutions. A number of these practitioners became very competent at what they did but they were not free to demand the respect and compensation that should be due them because everything they knew could only be verified by what they could show.

That is not to say that benefits and development in the IT field was or is not possible. When a company has an opening for someone with the skills these individuals can demonstrate and the recommendation given to that company comes from someone who has actually seen the practitioner at work, the individual gets the opportunity to weigh the benefits and move to the "greener" pasture. The drawback is that IT people in this country often have to depend on the recommendation of co-workers to provide justification of the skills they claim to possess. Some are fortunate to have attended short-term training sessions after which certificates were granted. These certificates, while vital in verifying skill in a particular area, are seldom enough to dispel doubts and provide justification that the individual is capable of performing to a level that will impact a company positively. These qualifications take IT people from one company to the next each time building on an incomplete training program: each time placing them in a position where they are doubted and questioned to the point of disrespect.

IT people in Belize are well paid in comparison to other employees around them and are better paid than most other professionals. But *they* pay an often immeasurable price for the benefits they appear to reap. They are forced to sell their skill (themselves) at a price so high that they often lose the most important things in their personal lives and then might also lose the relationship with those to whom they had sold themselves. Many IT people work through nights and days without seeing their families. They labor through events that chronicle what should be the important parts of their lives only to end up with a poor relationship at home and in the work place. The rewards are monetarily good and the outlook is sufficiently bright that these people keep on with the work they do simply because they are convince that they are doing what they like (and most of them actually do like their work). The downside is that the IT professional who needs to leave Belize to live and/or work in any other nation is faced with the daunting task of trying to gain an opportunity to have his/her skills tested in an effort to secure a job. Being Belizean s/he will get a job but the indignity of stooping and begging can be minimized if only they had a way of documenting what they know. And so, these professionals seek organized training. However, even in seeking training, the dreaded monster (the apprenticeship curse) resurfaces. The Belizean is still not convinced that his education and training can be done at home. If he is not fortunate to travel abroad to be *properly* trained, he feels that he has not been trained at all. The monsters tentacles even reach the institutions and organizations that are charged with the task of educating and training these individuals. There, the problem lies in an inability to envisaging and implementing the programs and approaches to training that best address the training needs. This, these, have got to change.

Why do we have to change the path we are following? Why do we need to break this curse?

The apprenticeship curse must be broken if we are to develop national pride in the level of education and training we can provide in this area. This curse must not be tolerated if we want to get recognition for the hard work we do here at home. We cannot keep living under this curse if we wish to compete on a more level plane with countries in our region and be viewed as a country serious about the proper use of IT. A part of breaking this mindset will involve assuming our rightful place in the international arena as a country capable of supplying the world with men and women who can ably deliver technology services. We must also strive to become a country in which technological products are designed and developed. This is not far-fetched. This is not impossible. This is imperative.

In 1996, researchers from the Georgia Institute of Technology, published an article entitled "Indicators of High-Tech Competitiveness of 28 countries". The researchers had spent almost ten years studying the 28 countries and had written a number of articles about their discoveries. In this article, seven indicators of competitiveness were stated. These indicators were used to determine a country's ability to perform in IT and its capacity to maintain an specified level of performance. The indicators are useful guidelines for any country to use when measuring its level of competitiveness in IT. If Belize is to move into this arena, these indicators are great milestones to strive for.

- a. National Orientation : Evidence that a nation is undertaking directed action to achieve technological competitiveness
- b. Socioeconomic Infrastructure: The social and economic institutions that support and maintain the physical, human, organizational and economic resources essential to the functioning of a modern, technology-based industrial nation.
- c. Technological Infrastructure: Institutions and resources that contribute directly to a nation's capacity to develop, produce, and market new technology.
- d. Productive capacity: The physical and human resources devoted to manufacturing products, and the

efficiency with which those resources are used.

- e. Technological Standing: An indicator of a country's recent overall success in exporting high technology products.
- f. Technological Emphasis: An indicator of a country's relative emphasis on high technology products in its overall export mix.
- g. Rate of Technological Change: An indicator of how rapidly a country is improving its high technology export performance.

Looking at these seven indicators, I think of the difficulty this country would have in proving that any of these criteria can be met. However, to doubt one's ability to dream and to make that dream a reality is to accept yet another mindset that will destroy rather than build.

As I examined the indicators, and as I counseled myself to get out of the temptation to be discouraged, I decided to face what exist today and to look at the path we might be able to follow in order to lift ourselves from this mental pit.

The state of Belize

When Information Technology was introduced to Belize, many thought it was a field Belizeans would have difficulty grasping and would never conquer. The many were wrong. A lot of people saw this new field as the domain of the foreigner and the dream of the local. To them, it seemed we would never truly understand what this new innovation was capable of doing and we would never find out how to make it work to our advantage. The "lot" were wrong. The "many" and the "lot" were Belizeans who bought into a curse that blinded their vision. They were wrong. We were wrong. We learned that this innovation was a valued tool and a crucial element in our developmental process. Information technology soon became the key to our nation's growth and its preparation for e-age (electronic age). Soon this new technology became the goal to reach for, the profession in which to gain employment and the area in which to study.

"Computer people", as we called them, started to show up in Belize as if they were being born from some royal union. They were few, they were elite and they were revered. We knew little about what they really did but we knew it was important and that the rest of us could not hope to understand their work and much less ever hope to accomplish the level of expertise they had. We were not good enough. But that was okay. There was no need for very many of those professionals. We could rely on those who knew to remain in the knowing and we would be content to admit that "We didn't know about those things" or "We're not bright enough for that field". Yet another tentacle of this truly demonic mind-set.

As with other nations who "enjoyed" colonial upbringing, we soon were introduced to this electronic wonder by the geniuses who came to us from the fairy-tale lands afar. They had come with this new knowledge and as they worked they realized (or maybe more accurately were forced to acknowledge) the need to get locals involved with what they were doing. Local apprentices were identified to understudy these professionals. Little by little the apprentices began to be exposed to more of what was being done and to become aware of the scope of this venture. As is to be expected, the interest in the field began to rise as the apprentices saw the potential of the machine and realized that they too could master the use of this tool. Curiosity stirred the imagination of the apprentices and they started to ask questions and experiment with this new toy. As they experimented, as they discovered, they began to be regarded as experts in their own right. Now there was a number of not so elite and not so royal computer people. They were still revered but at least now they were familiar and a bit more approachable. We had known them before fame came their way and we felt we were safe to display our ignorance of the technology they had mastered. One would visit an office to make a query and would be told to see the "computer guy". It was a term of respect and admiration. He was the "man" who was "wicked" with the computer.

Business houses around Belize began to get wind of the fact that there existed these local wonder men who could make this new office equipment work in favor of the business and make work done in offices less strenuous and more efficient. Soon companies began to compete with each other for the scarce resources available through the men and women who were known to make the computer work. Computer professionals were offered attractive incentives to jump ship and make their way to seas of deeper blue and calmer sailing.

Something was wrong with the way this was progressing. Belizeans were breaking through the intellectual and skill barrier this technology poised to become locally recognized as experts. But the recognition did not go beyond Belize. Belizeans were not the true experts. They were not allowed to be the true leaders. They had been exposed to a skill but this exposure had not been organized and documented to promote regional and hemispheric recognition. As a result, Belizeans worked here in the country and attended workshops in and around the region.

But they remained relatively untrained and poorly prepared for the level of responsibility they were carrying. They were big fishes only in this small pond. They had been taken in to a field through an age-old system called apprenticeship and had remained in this system for most of their lives. They had been taught to honor this system and to promote it. They had been encouraged (maybe even forced) to depend solely on it. They had bought into the apprenticeship curse.

This is a curse we must break.

The ideal to work for

While it is not surprising that, as a nation, Belize bought into this curse, it is deplorable that we have stayed under it for so long. Pessimists among us might say that we cannot aspire to be as great or as advanced as the US. They might add that our training programs and facilities might never be as good as those in Japan. They might be right. But we need not compare ourselves with those nations. We need not look that far. We have neighbors who have moved up and are examples of what can be accomplished when a people purposes to make changes.

In Barbados, a growing income generator is the IT industry. Barbados has become recognized for its ability to supply other nations with professionals to do out-sourced projects. E-commerce is a strong part of the Barbadian economy and is a growing attraction to the island. In 1999 Barbados boasted of a strong linkage it had forged between the IT industry and the IT training facilities on the Island. Companies had been encouraged and assisted in developing arrangements with key educational institutions to provide high quality training programs for young people in return for a commitment to recommend the brightest graduates to work with these companies in local as well as international franchises. The result was (is) that quite a few Barbadian IT graduates are guaranteed a job before they leave school. They are being trained to work in a company while they are attending university. The spin-off of this arrangement is that those students who are not connected to big-name companies are encouraged to give their services to companies at home in an effort to compete in the global IT industry. Another strong emphasis is the move toward entrepreneurship. Of some twenty individual companies represented at a conference in Barbados in 1999, 12 of the CEO's or owners were Barbadian born men and women between 24 and 30. Three others were young islanders who had taken residence in Barbados. All presenters were college trained and most held a masters degree.

I am not Barbadian. This is simply what I have learnt about them and from them.

In Central America, a small state in Mexico presents itself as another great example. Colima is a state of about 541,000 residents. Its state leadership has been acknowledged as the most corruption free units in Mexico. It has also become an example of the practical uses and benefits of technology. The university of Colima and the institutes of specialized instruction have become the pride of its people and poster child of its government. Students in Colima are afforded multiple opportunities to develop their skills in the professions they choose. Students who choose to study IT are encouraged to hook up with a lab on campus to begin practicing the skills they acquire. Students in Colima create Educational CDs, web pages, instructional manuals and professional promotional documents for institutions in and around Colima. Colima's IT workforce is made up of young energetic men and women who have taken their training and exposure to a place where they are now an example to others around them. Recently Colima through a special unit of young men connected to Municipal Developmental Programs, developed a system that allows the regular citizen with no computer knowledge to request and receive a copy of major public documents in about 30 seconds. The system uses the ATM concept and allows villagers as well as the Governor of Colima to "withdraw" a birth certificate, a land title etc. as easily on Sunday as on a Monday AND no lines are involved. Colima has also moved its IT professionals into other service areas. A sophisticated dispatch system allows police and other essential services personnel to respond to emergencies within 5 minutes. The key to all this is rooted in the fact that Colima bases its progress in industry on the progress in education and training. What students learn is what Colima uses. Therefore, Colima keeps on preparing students to do those things Colima does not yet have.

I am not Colimense. This is simply what I have learnt about them and from them.

Nothing done in the two countries mentioned is impossible in Belize. As a matter of fact, much of what has been done in other countries is being done here. We are not promoting nor supporting these activities. We can do more. We shall.

The harvest is ripe: the laborers are few. The spirit is willing: the flesh is weak.

In the 1970s, 80s and a part of the 90s, we in Belize were privileged to have enjoyed the company of a man whose voice and personality we learned to love. Edison Coleman was one of the announcers on Radio Belize - the

only radio station in Belize for a long time.

He was proud of this "beautiful jewel of ours" and would remind us after every trip he took abroad that no matter what was being offered to him there and no matter what was happening here, this was home for him. He had a commitment to make his people grow through the services he could provide.

Mr. Coleman's commitment is shared by a number of other Belizeans who, even when offered more lucrative salaries abroad, came home to serve their people because they believed that there was a deep interest in learning here in Belize. That interest has not been lost. It has changed but it is not lost.

The information technology field is probably one of the fields where this interest is highly visible. None of our schools in this country is equipped to deliver an information technology curriculum in the way it is being done in countries in this region or in this hemisphere. But we are still delivering. We do not necessarily have the same student-teacher or student-computer ratio that other countries have, but we have creative scheduling and time on our side. We have been using those to a great extent to address the needs of our community. Students are being prepared for the Caribbean Examinations Council (CXC) examinations in Information Technology even though most of our schools are ill equipped to give students the ideal experience to ready them to perform effectively. High school principals and energetic teachers move around the country begging for people to donate space, equipment and expertise to the furthering of this field at their respective schools. There is change on the horizon as Belize prepares to make dramatic adjustments to its telecommunications license. We might see an increasing number of computers in schools and connection to the internet is envisaged to become commonplace.

Tertiary level institutions are taking on the challenge to training Belizeans to teach IT and to take on other roles in the IT field. At present three schools in Belize offer degrees in Information Technology. Together they serve approximately 400 IT majors. These are generally young people who, seeing the trend of development, have selected this field as the path to their success and their active involvement in society. The majority of these students are Belizean-born between the age of 16 and 26. The student body also includes professionals who are returning to school after many years away from the classroom, to certify themselves and prepare for a more competitive workforce. Another segment of the student population is the group of people who are coming to us from other countries seeking a combination of language training and skill development. These students are taking on the challenge of learning English and Computer Science in the same country and at the same schools. The vision and drive of the young people in our schools are both instructive and corrective. They have guided academics, who are willing listen and learn, to plan for the future of the classroom. They have also forced academicians to, after examining themselves and their institutions, admit that the structures that were, are no longer capable or adequate for the proper preparation of the workforce. The vision of our youth has reached the government of Belize who in 2000 commissioned the University of Belize to launch a Bachelor degree in Information Technology. Thereby moving our country closer to the place where our professionals will be locally trained to meet local employment needs.

Those involved in traditional educational institutions are not the only ones who have seen the need and have answered the call to train Belizeans. Historically, private citizens in Belize have pioneered the move toward providing training in the IT field. Long before there was a computer program in the high schools and longer before the tertiary institutions took on the challenge, IT training centers began to surface in the country. At present, every district in this country has at least one unit of computer specialists who are offering training services to the community. These professionals provide hands-on training aimed at making the computer and telecommunications a true complement to the lifestyle of the locals.

In an informal survey of three local companies whose business depend largely on the efficient use of IT, it was determined that an average of seven consultants visit this country annually to provide services that are connected to the IT field. These consultants are largely males between 25 and 50 who hold, on average, a bachelor degree in Information Technology and a master degree in a business related field (often Manage Information Systems). One company noted that apart from formal degrees, their consultants are often trained separately for specialized tasks. Of the seven consultants (on average) that come to this country annually, only 3 are generally from countries other than the US, Canada and England. This group of three is from places such as India, Japan, Taiwan, Germany, Jamaica, Nigeria and a few other places (one local company indicated that in a two year span they contracted work to 7 local consultants). The comparison of the level of training and exposure between consultant and local counterpart is shameful. The average computer professional in this country has an Associate degree in Mathematics, Physics or Business Administration. The work they do is attributable to professionals holding at least a Bachelor degree in an Information Technology related area (computer science, information science, computer engineering, etc.). A few have only a high school diploma complemented by a host of short terms certificates. More recently, this workforce has been complemented with a few individuals with Bachelor degrees in Mathematics

and Computer Science. This has been a very positive step toward improving the level of training in our personnel, but is far from adequate. IT personnel in the various companies are now seeking to gain university credit for expertise they have developed. A number have and are actively campaigning to get assistance from their establishments to enroll in courses that will provide knowledge, training AND college credit. They are encouraging their establishments to create a budget category specifically for IT training. They are participating in the breaking of the curse.

Benefits of Training IT professionals

- a. Belize would be in a position to send technical assistance to countries where this assistance is needed.

Very often countries in alliance offer assistance to each other when there exists a need for skilled work that one country has and the other lacks. Belize has benefited tremendously from the generosity of more developed nations. We benefit annually from a constant supply of volunteers, semi-volunteers and consultants who come to this land to render service in areas we are deemed lacking. The question to ask is why we are deemed to be lacking and who was in a position to decide we were lacking.

We are deemed lacking because we have not demonstrated that we have the appropriate people in place to carry out tasks to the satisfaction of local companies particularly those who work in concert with larger establishments outside the country. The people who decide that we are lacking are generally individuals who are cognizant of (1) the method(s) necessary to bring a task to completion, (2) the training and competence of individuals who must become involved in the process and (3) the level of credibility the process and its outcome is intended to receive. These decisions makers often choose to parcel the work out to foreign entities, even if they actually work locally, because they are acutely aware of the mindset of Belizeans with regard to locally developed products. They are equally aware of the greater level of acceptance they can garner if they can claim that the tasks were completed by people of a nationality known for doing exceptional work. Proper training of IT professionals can stop that kind of behaviour in its tracks and can open the door to Belize's participation in technical teams sent to alleviate needs of nations in crises.

We have done it in other areas. It can be done in IT. We have sent our security personnel to Haiti to assist in maintaining order during elections. Our local tour guides have been used in places abroad to add to the flavor of the tourist industries in those countries. We have also sent teachers to work in various countries as exchange educators adding to the exposure pupils have to cultures and peoples. We have started to share with the world the expertise that we have cultured in this land. It is time to work on projects in this region and in the world.

- b. Belize will be able to participate in conferences where innovations are discussed and be more than a participant

Belize has long been a faithful presence at conferences and workshops locally, regionally and globally. We have insisted that our people become exposed to what is happening in the region and the hemisphere. We encourage collaboration between local agencies and their counterparts in other countries. We are interested in being where the best is being discussed and demonstrated. But it has most often been in the role of an observer and not as an active participant. This has to change. High school behaviour is over for us. We (as a country) are now twenty and the time for active participation in what molds us and prepares us, is now at hand. It is time to document the challenges faced by the local technician and the innovative steps they take to rise in stellar fashion to meet those challenges. This documentation must then be made into a man-on-the-ground manual of steps to take in the time of crises. We have arrived at a time, such as this, so that the mechanisms put in place by local network administrators to ensure that their companies and clients remain active and productive even when the necessary hardware and/or software are not available in the country and will not be for two or more days, can be documented and promoted as recognised safety nets and backup systems. It is time that our band-aid solutions get documented as, at the very least, a three-finger salute (ctrl+alt+del). AND it is time that we start proudly sharing our experiences and refrain from using ourselves as our own worst examples. It is time we recognize that, while we have not arrived, we are a far cry from where we started. It is time that the world pays attention when the name of this country is pronounced in any mixed gathering. It is time for us to stop having to explain where we are on the map. It is time to be known as more than drug users and pushers. It is simply time for people to get to know us.

- c. Belize would be able to compete for contracts to execute IT projects and perform IT tasks at home and abroad

It is remarkable how often people of various professions are bypassed in this country for people of other

lands who, though properly trained, are no more knowledgeable of the issue that needs addressing, and no more prepared to deal with it than the locals. In IT the record of this time of disrespect is alarming and the justification provided, as in all other fields, readily available. IT professionals are often partnered with imported talents and skills to work on projects that are aimed at addressing a local need. The locally skilled personnel is shouldered with the responsibility to make the project work within the context of the language, climate, and cultural norms of the land. That this person is IT efficient, is an asset. The contract to do work is very often given to an external body and the resident experts are then 'tacked on' to make the project "come together" well. This has got to stop. We must work to transform the minds of Belizeans so that the prophet can be accepted in his own country. That is, the local expert can be trusted to deliver the right results.

With training and certification, IT professionals at home will be able to attract work throughout the world because the currency of certification will be comparable with those of any other professional. The days of feverishly seeking people to justify that one can do what one claims to be able to do can be put into our past.

- d. Belize would be in a position to participate actively in information transfer and verification; in systems design, organization and implementation; and in other IT activities that are crucial to world order and, more closely, activities such as the fight against terrorism

We are truly living in a global village. In 1994 it was mind boggling to think that about 90 countries and some 25 million computer users were connected to the internet (Elmer - Dewitt, 1994) in 2001 that number has increased to include some 200 countries and almost $\frac{3}{4}$ of the world's population. Businesses and governments now communicate at a faster pace and information is transferred from one group to the next almost instantaneously. Belize must be a part of that electronic traffic. We must be a part of the flow of information that will guarantee our staying abreast with all the developments taking place in our world. It must become commonplace that a fugitive from the law in Mexico can be positively identified and apprehended in Belize not only because we happen to detect inconsistencies in his paper work, but because we recognize profile due to vital information shared by neighboring and cooperating countries. This will lead to our being more vigilant in our pursuit of culprits. We must have systems in place that will marry the knowledge of our best minds with the skill and precision affordable through the best technology available. We must position our people to give active and valuable participation in the design, development and implementation of any system that is considered for use within our region. The off-the-shelf, made-for-all systems must be replaced or at least complemented by home sown, home grown and locally developed applications that uniquely address our needs. This in turn must be made sufficiently broad in scope that we can share it with our neighbors.

Ways in which training can be done

The tone used throughout this paper might lead readers/listeners to believe that I am not the greatest fan of the apprenticeship program. That would be correct: I am not the greatest fan of the apprenticeship program I have observed here in Belize. I am, however, not totally against the use of an apprenticeship arrangement to address training needs that are immediate and whose period of tenure is reasonable.

The IT industry in Belize has gained the little focus and stability it has because of the apprenticeship approach to training. I applaud those who took the initiative to learn to manage and, harness the capabilities of this field. I celebrate those who then shared their knowledge with others who demonstrated an interest in the field. I thank those kind (and not so kind) men and women from abroad who came and, whether willingly or reluctantly, started the ball rolling and in so doing gave us enough time to decide that we indeed wanted to take on this challenge.

Now we must move beyond the starter kit (apprenticeship) and graduate to the true workman's tool kit. We must now prepare to charter our own destiny. Traditionally schools and businesses have dodged the challenge of training because it is costly and time consuming. But this is truly never been a reason for not training people; it is an excuse. It is a cop-out.

There are many ways in which an institution can relieve itself of the stress of training personnel and still ensure that trained employees will remain committed to an institution.

Arrange for localized training

It is admirable to send people to workshops and even to formal classes at the various local computer houses or even to the University. But more can be done. Companies can liaise with the University as well as other agencies,

to bring the training into the institution and to "tailor" the training to address, readily, the needs of that institution.

Free employees to attend training sessions for specific periods of time

When an employee is given time off from work for specific periods to develop him/herself, the employee learns to value his relationship with the company and takes ownership of his own "training" because it is immediately seen as instrumental to personal as well as institutional betterment.

Make training stimulating and valuable

The most apathetic employee, who is chosen to be trained for a new activity or post, can be motivated to rise to the occasion. If the training is stimulating the employee learns the material and learns to motivate him/herself to seek further development. Making the specific period of training a part of a larger picture or plan for personnel development will encourage personnel to continue to look forward to training sessions.

Provide employees with incentives to accept training

Employees respond positively when their work is adequately rewarded. We are prone to think of reward as only monetary. It is a large part of any incentive program but it is far from being the most important. If trained personnel are respected for their level of expertise and recognition is given for exceptional accomplishments, the response to challenges is much more positive than any of us will be able to measure.

Set goals for the number of trained personnel you will aim to acquire

A company should be dissatisfied to report that any of its employees has remained untrained. In IT it is critical that the personnel are trained and retrained. The global IT industry experience changes almost daily. To keep a company current, its personnel must be constantly updated on the changes in the field. Companies need to strive to provide national and international certification for their personnel.

Actively seek to expose personnel to situations where they must demonstrate their skill

When an employee is encouraged and assisted in demonstrating his/her skill, confidence develops and recognition for the employee as well as the company is built. If the demonstration is to an international audience, the country gains recognition.

As a people, we will not break this curse if we do not first recognize the many and varied ways in which it affects our society. My focus is IT training but this is by no means the only area in which this malady affects us. We need to have a vision of progress that is so big that the problems that hinder progress can be placed in proper perspective. Each challenge to IT training must be seen as just that: a challenge. A challenge to rise as, John Mencias so eloquently admonished us, "Out of the eye of the storm and over the prevailing winds that constitute the second wave (of a hurricane)". It is a challenge to recognize that, having had our wings damaged by the onslaught of the storm's first wave, we will not be able to soar but we can steel ourselves against the new onslaught. In the end we would have proven the strength of our resolve and the value of our workmanship.

If we are contented to live within the scope of a vision we can achieve all on our own, we have not truly dreamt and our minds eye has not been truly opened.

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Other Resources

1. Inez Sanchez (MSc.) - Lecturer of History UB-Belmopan
2. John Mencias (MSc.) - Computer Scientist, Manager Business Services Network
3. Belize Information Technology Professionals Association (BITPA)
4. National Association of Colleges and Employers (NACE WEB)
5. 1996 Indicators of Technology-Based Competitiveness of Nations (National Science Foundation July 1997)
6. Scott Stirm (Rev.) - Jubilee Fellowship

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