

Voices in Education

Student Success: A National Focus

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Student Success: A National Focus

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Aims and Scope

Voices in Education is a scholarly journal that serves as a voice and resource for students, researchers, educators and the community. It contributes to the realisation of Bermuda College's vision by addressing "the diverse needs of the community through research."

The aim of this publication is to heighten awareness of current trends, to encourage discourse and practice, to challenge thinking, and to widen and strengthen the scope of research in education. *Voices in Education* serves local and global audiences in academia by providing peer-reviewed, multidisciplinary articles.

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Foreword

Phyllis Curtis-Tweed

Lynette Woods

Co-Editors

The theme of volume 3 is Educational Sustainability: Cultural, Economic, and Environmental. Sustainability is broadly understood through transformative structures that have lasting significance to current ways of being; through an examination of history, we understand our current status. By understanding current structures, like our aquariums and libraries, in an ever-changing and technologically-driven world, we can make changes to sustain their relevance. A critical review of selected autobiographical literature can provide insight into the long-term impact of childhood occurrences on character development. These areas, historical events, current structures, and literature, are often overlooked in the discussion of sustainability but are important to cultural, economic, and environmental growth. The authors' perspectives will engender a wider appreciation of Bermuda's past and present by immersing the reader in information relevant to understanding one's context. Such understanding is paramount to developing opportunities to shape Bermuda's future which will appeal to everyone - students and lifelong learners.

Simmons' editorial, which focuses on economics as his case study, examines the efficacy of formal education and the conceptual gaps between expectations that exist between teachers and society-at-large. He links expectations with quality uncertainty which may encompass student opinion, professional development, and teacher evaluation. He argues that the evaluation of these elements should be more scientifically-grounded.

Maxwell's article on the African colonisation of Bermuda delineates the Island's role and involvement in the slave trade during the seventeenth century. The article is a vivid account of human trafficking involving Central Africans. Maxwell describes the contribution of these early arrivals to the development of the Island through the application of their expertise in agriculture.

Bacon and Ziepniewski examine the importance of environmental education to inspire lasting 'appreciation and stewardship' of the environment. Throughout their article, they discuss the creative use of the aquarium facilities, involving children and adults, as their case study. They imply that environmental sustainability is dependent upon developing a sense of responsibility in local and global citizens.

Similarly, Alleyne discusses the importance of sustaining library systems for future users by ensuring that the library remains relevant. This means that LIS programmes must have a sustainability framework and keep up with information management changes, particularly changes in the use of technology. Libraries must have a competitive brand, be sensitive to changes in consumer needs, provide educational opportunities for librarians to encourage flexibility in thinking about library structures, and retool their skillsets.

Master's book review examines *A Fall from Aloft*, Burland's quasi-autobiographical coming-of-age story. This narrative presents the reader with a thoughtful view of 1940s Bermuda's divisions by class and race. These experiences had a lasting impact on Burland's life. This brief story depicts the journal themes of historical and environmental structures on an individual's development.

Townsend's poem is a meaningful and thought-provoking interpretation of historical references in Foster's *Hall of History* mural at Commissioner's House in Dockyard, Bermuda. Her poem will entice readers to view the mural, to undertake a more substantive digestion of Bermuda's past, and to think about those components that have been sustained through history to the current time.

The articles, book review, and poem, in Volume 3, provide a beginning to unpacking cultural, economic, and

environmental sustainability in Bermuda. The sustainability of technical education, past, present, and future, will feature prominently in volume 4 of *Voices in Education*.

Editorial

Skepticism and Economics Education

Craig Simmons

As a teacher, I have on occasion felt fraudulent about my profession. Part of my unease lies with the professionalisation of teaching because it can lead to fraudulent opinions about the causes of low student achievement. Following Taleb (2012), I define a fraudulent opinion as one with vested interests generalised to the public good. For example, an individual teacher has a vested interest in being well-paid and respected even if he is not effective in the classroom. Both effective and ineffective teachers have an incentive to lobby the government for better pay and work conditions. An ineffective teacher can blame low student achievement on poor working conditions, defective students, etc.—in essence, everything other than his own teaching quality. As a result, the ineffective teacher has a fraudulent opinion in respect to additional resources allocated to education. Therefore, professions invariably have tensions between self- and collective interests.

Another part of my unease lies with the observation that teaching suffers from an agency problem. In this regard, the teacher is an agent acting on behalf of a principal—society-at-large, the government, Ministry of Education, parents, and students. The agency problem arises because a teacher may have different goals than the principal: the teacher may wish to minimise teaching effort whilst pursuing a maximum financial benefit. Or, a teacher may have an informational advantage in respect to his ability and work ethic: a teacher knows how bad (or good) he is, but parents, students, and society-at-large are clueless as to a teacher's qualities.

Thus, there is no doubt of the intrinsic value of education, whether formal or informal. My issue is with the belief that a primary objective of formal education and teaching is to create human capital—the knowledge and skills that workers acquire through education, training, and experience—for the making of business and hospitality services that will increase economic growth. Education, however, like freedom and well-being, is valuable in and of itself.

My goal is to question the efficacy of formal education within the context of a self-interested teacher. I start by examining the tension that exists between the self-interested teacher and society-at-large. I then analyse this tension in an uncertainty model where the teacher has more insight into the quality of his teaching than society-at-large. I conclude with an observation of quality uncertainty in my own subject area and suggest ways of ameliorating that uncertainty.

Self-interest and the Collective

I benefit directly from education, especially when it is compulsory, without bearing the downside when I, or the system I work for fails to deliver promised benefits of a morally and intellectually improved sentient being. In this sense, I have nothing vested in the game, which can lead to me taking unethical positions in respect to educational policy making.

For example, would I be open to the suggestion that structured education is iatrogenic? I, however, take solace with the point made by Smith (1776), “It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest” (p. 18). In other words, self-interest and collective interest are one. Thus, by following my narrow self-interest, the collective interest benefits.

Arguably, the most serious problem with structured education is its domain-specificity: what students learned in the classroom stays largely in the classroom. Classroom knowledge lends itself toward ideas and ideal forms, and

the belief that what the teacher knows is worth knowing. The real world, however, is messy and largely unknowable and therefore beyond the understanding of the teacher.

More education does not appear to cause or lead to economic growth. Instead, the causation seems to run the other way: people spend more on education as they become wealthier. To some extent, Pritchett (2000) supports this notion. Using a standard Solow growth model (Mankiw, 2007), found that, on average across 91 countries, there is a *large* negative correlation between educational attainment and labour productivity. It is as if more education makes people lazy. Indeed, the latest OECD (2016) test results suggest that beyond a certain amount of spending per pupil—\$50,000 over nine years, student achievement does not increase. It would appear that there is a limit to the degree that formal education aids and abets economic growth.

Perhaps, structured education fails to take advantage of the fact that learning is fun. As such, a teacher should not have to follow established curriculum, but rather jump from one topic to another in a random yet rational manner taking advantage of new information and opportunities as they arise.

Further, extrinsic motivators, such as grades and the promise of an ever-growing pay-packet, may do more harm than good. As it relates to pay-packets, Kahneman and Deaton (2010) suggest that, beyond \$75,000, additional pay rises are neither the road to experienced happiness nor to the relief of unhappiness or stress.

Quality Uncertainty in Education

Another downside of education is that the act of teaching suffers from what economists call a principal-agent problem (Akerlof, 1970). The principal, as the term suggests, is the focus of the relationship, whilst the agent is supposed to act on behalf of or in the best interests of the principal. However, self-interest gets in the way of an efficient outcome because of incentive misalignment.

Here, the principal is the consumer or buyer of educational services, that is, the student and her parents. The agent is the teacher or school, the seller of educational services.

The problem: There are good teachers and bad teachers, but it is difficult to tell the difference between the two. The problem is exacerbated by the fact that there is an asymmetry of information between the principal and agent in respect to the quality of education delivered by a particular teacher. This difficulty in distinguishing between good and bad teachers gives rise to uncertainty about the quality of instruction among all teachers. Cooper (2007) makes the point that bad teachers have an unfortunate pathogenic effect on the entire education system.

Analogously, the market for apple tarts does not suffer from this problem: an apple tart consumer can determine with minimal effort whether a particular baker is good or bad. And, more germane, one bad apple tart does not spoil the whole bunch.

A second consideration arises from the fact that I know far more about my inability and unwillingness to produce good teaching than my students or their parents. This asymmetry brings into question uncertainty about the quality of my teaching and indeed the entire educational system; economists call this phenomenon market failure. Together, asymmetric information and quality uncertainty lead administrations to institute various measures to reduce quality uncertainty, such as external accreditation and branding.

Quality Uncertainty: The Problem with Teaching Economics

Nowhere is the dismal performance of teachers greater than in the dismal science of economics. Ferraro (2005) surveyed participants, largely with advanced degrees from top-30 economics departments, at an academic conference; most had taught economics. Survey participants were asked a standard four-option multiple choice question on a central idea in economics: opportunity cost. Only 21.6% of participants got the question correct—a dart-throwing chimpanzee would have a better chance of getting the correct answer. A separate experiment

conducted on undergraduate college students reveals that students without any economics background answered the opportunity cost question correctly more often than students who had completed at least one economics course.

Clearly, one has to consider if economics education suffers from iatrogenesis: harmful unintended side effects. The biggest source of harm emanating from introductory courses could well be that they cover too many topics. By focusing less on coverage and more on learning, teachers could improve economic literacy by focusing on the application of economics to a student's personal, professional, and public life. To paraphrase Kahneman (2011), the test of learning economics is whether your understanding of situations you encounter has changed, not whether you have learned a new fact.

Hansen et al. (2001) suggest that students can learn facts about theories or case studies about an interesting economic event, such as the recent failure of price controls in Venezuela. The Venezuelan government imposed price controls on basic goods resulting in shortages of these key items. As a result, Venezuelans are either buying on the illegal market or crossing the border into neighbouring Colombia to purchase these same items at market prices that are higher than the controlled prices in Venezuela. Despite this adverse outcome, Venezuela's government maintains its belief in price controls. In other words, it is difficult for economic models to trump beliefs.

Similarly, in the aftermath of a hurricane, most people believe that the government should prohibit businesses from raising prices on batteries, portable generators, slate, tarpaulins, and other essentials. But, such prohibition flies in the face of a basic economic principle: prices send signals and provide incentives to buyers and sellers. High prices provide incentives to buyers to conserve and to sellers to supply more. Economists, thus, disapprove of such price controls because markets are usually better at getting hurricane supplies into the hands of those who can make the best use of them. But despite having completed an economics course, most people approve of price controls. It would appear that learning economics does not help you avoid the pitfalls in everyday decision-making.

It is not that teaching economics is a waste of time. An individual without any knowledge of economics is at a disadvantage to someone with some knowledge. But, it is difficult to believe that an individual in our society could have no knowledge of economics. Most people have encountered many of the principles taught in an introductory economics course. Students in their everyday lives are often at an advantage over their teachers who suffer from theory-induced blindness: once you have accepted a theory and used it as a tool in your thinking, it is extremely difficult to notice its flaws (Kahneman, 2011, p 277).

For example, all students have faced a trade-off between competing ends—whether to go to a movie or a concert—and evaluated those ends in terms of opportunity cost—the net benefit of choosing one end over another. Teachers of economics often suffer from *lecturing birds how to fly* syndrome (Taleb, 2012). They assume that students have no knowledge of the subject and consequently try to teach that which the student already knows from the most effective of learning styles—trial and error.

So, how can we avoid fraudulent opinions around student achievement? As a start, we could acknowledge our limited understanding of how brains learn and base our teaching styles on how people *actually* learn. Such recognition would help educators avoid unscientific and naïve interventions into the learning process. General acceptance of the learning-styles hypothesis is a case in point.

Secondly, teachers need regular feedback about their effectiveness. Golman, Hagman and Loewenstein (2017) point to active information avoidance of student opinion surveys (SOS) as one of the barriers to improved teaching methods, notwithstanding the systemic problems associated with SOS. Active informational avoidance could take the form of physically ignoring SOS or filtering out the negative comments. Narrow self-interest would appear to be the culprit: the anxiety and stress associated with discovering that one's long-held teaching methods are working against student achievement maybe more than most can bear. As such, active informational avoidance is an example of confirmation bias. A faculty member may rationalise poor SOS results by attributing them to flawed students.

Another source of feedback is regular evaluations by peers and supervisors on the quality of instruction. Feedback could take the form of biweekly informal emails, written notes, and meetings rather than a reliance on annual or semi-annual formal observations.

The field of education is still in its infancy. Pedagogy and curriculum that rely more on anecdote and tradition than empirical and scientific foundations will inhibit the field's evolution. Recall that it was not long ago that doctors routinely used bloodletting as a cure for illness and disease. The field of education is, arguably, at a similar evolutionary stage; it is in need of empirical and scientific disruption in the way that teachers are hired, professionally developed, and evaluated. For this reason, I remain optimistic about the future.

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Before the Akaniba: The African Colonisation of Bermuda, 1616-1680

Clarence V. H. Maxwell

Abstract

To a large extent, the demographic developments caused by the macro- Atlantic-wide human trafficking enterprise of the seventeenth century appeared in Bermuda: the dominance of Central Africans among African-born entrants and that of Lower Guinea populations during the eighteenth-century (the so-called Lower Guinea Shift). This discussion re-examines this first period in the African colonisation of Bermuda.

KEY WORDS: *Bermuda, Africans, Colonisation, Demography*

Introduction

For Bermuda, historians Heywood and Thornton (2007) have clearly demonstrated that like elsewhere in the western Atlantic colonial world, the island had Central Africans forming the earliest of enslaved arrivals. Heywood and Thornton have utilised the term of Ira Berlin in calling them the ‘Charter’ community of Africans, characterising them as ‘foundational’ and argued that they dominated the local African demography, from at least 1617 to the end of the seventeenth-century (Heywood & Thornton, 2007). These early Africans were essential to the cultural construction and continued sustainability of the Bermuda colony for their time.

The Charter Group in Bermuda: An Analysis of African Beginnings

The story of black presence began three years before, with the arrival of Captain Daniel Tucker as governor of Bermuda (*Bermuda under the Sommer Islands Company*, 2005, vol. I). Bermuda had just (1615) come under the management of the Somers’ Island Company and he had just arrived on the island as the new governor with a Commission. That Commission, among other things, demanded he order a ‘Mr Wilmott’ to “go to the Savage Islands and trade there for things fit for England as for the Plantation, such as Cattle, Cassava, Sugar Canes, *Negroes to dive for pearls, plants*”[italics added] (*Bermuda under the Sommer Islands Company* 2005, vol. I, p. 5). It was the first reference by the Company of a need to find specialised black labour for its newly-acquired operations in Bermuda.

But it was, however, another captain, George Bargrave of the *Edwin*, who would make history when he left Bermuda in June 1616. He returned in August of that year with a variety of tropical items—sugar cane, figs, plantains, pineapples, and lignum vitae. But he also returned with “one Indian and a Negroe,” the latter of which a later governor, Nathaniel Butler declared was “the first thes Ilands euer had” (Craven, 1990, p. 91; Packwood, 1975, p. 2; see also Butler, 2007, p. 11). If Bargrave had carried out what Tucker’s Commission had commanded of Wilmott, as his other items seem to suggest he had, these two individuals were probably pearl divers and, thus, given the journey of about two months probably originated from the nearest pearling stations in the Americas: the La-Margarita/La Cumana operations off the coast of Venezuela (*Bermuda under the Sommer Islands Company*, vol. I, 2005; Andrews,

1978; Craven 1990; see also Heywood and Thornton, 2007; Jarvis, 2010; Maxwell, 1999; Packwood, 1975).

Unlike Virginia and eventually Bermuda, these colonial ventures ultimately failed. Thus, while other early English colonial forays into the Atlantic World brought in African captives, this black Venezuelan pearl diver inaugurated 400 years of continuous African presence in English North America (Bernhard, 1999; Heywood & Thornton, 2007). But he would not be, as much as we know about him, the first African-born person in Bermuda. That would happen within a year of his arrival.

The tide would turn from purchasing black labourers to re-kidnapping them from Iberian vessels, as part of the slow shift of the English charting from privateering and plundering the then-united kingdom of Spain and Portugal, to illegally establishing colonies on their American territories. Before the end of the 1620s, at least four ships brought in Africans taken off trafficking vessels, and probably began in 1617 when a Captain Powell arrived with what were called “good store of Negroes” (Heywood & Thornton, 2007, p. 27).

Then came another group of 14 ‘Accidental Negroes,’ of whom Governor Miles Kendall offered a strange and incomplete explanation for their presence, which partly accounts for the name: “14 negars flotinge on the sease” who “accidentally happened upon our Coast here” (*The Rich Papers*, 1984, p. 123). A pirate had re-kidnapped them and then, upon arrival in Bermuda, bartered 14 of them in exchange for supplies; then interim-Governor Miles Kendall took possession of them. It was this group that Kendall’s successor Nathaniel Butler described to Somers Island investor Sir Nathaniel Rich as “accidentall Negroes” of whom “fortune cast upon my selfe by all due” and added “[i]f it were not for [them]... I wer not able to rayse one pound of tobacco this yeare for the defrayeing of any publicke worck” (*The Rich Papers*, 1984, p. 229)—a strong suggestion of the skills these ‘Accidental Negroes’ possessed.

The true nature of their arrival—a probable attack by Kirby of an Iberian vessel and their re-kidnap—offers yet another possible indication that they were individuals en route to the Americas, previously kidnapped or captured in Central Africa. Governor Nathaniel Butler ‘confiscated’ them from Kendall, who promptly and angrily took his case to the Somers’ Island Company and his cousin, Sir Edwin Sandys (*The Rich Papers*, 1984, p. 229; Butler, 2007, pp. 196-7; see also Heywood and Thornton, 2007, p. 28).

However, the most infamous, notable and prominent in the histories of these privateering/piratical adventures occurred in 1619 through the English captain Daniel Ellffryth on his ship the *Treasurer*. Ellffryth was in the company of a vessel called by a man named Youpe, described by Governor Butler as “a Dutchman, who had bin abroad in thes partes” (*The Rich Papers*, 2004, pp. 188-9). Heywood and Thornton have identified ‘Youpe’ as John Colyn Jope, a captain of the *White Lion*, one of ‘two English ships’ operating under a Dutch letter of marque—the other ship, of course, being the *Treasurer*. Both of these vessels, acting in concert, pounced on a Portuguese slaver, *São João Bautista*, which had apparently departed from Angola in 1619. Ellffryth brought 19 ‘Negroes’ to Bermuda as a result of that encounter. The rest, on Jope’s ship, were the “twenty and odd Negroes” who became those “traditionally described as the founders of African presence in English America” (Heywood and Thornton, 2007, pp. 5-7).

It is perhaps becoming obvious that privateers based in Bermuda were specifically preying on slave ships—or as Butler put it, taking advantage of what “fortune cast upon” them—plausibly as part of this bid to find tropical agriculturalists; if this was not their intention, they recognised and exploited this aspect of their expertise upon their arrival in the colony. English planters, as historians have well discussed, recognised their skills in tobacco cultivation and curing, even though tobacco was an American and not African, plant (Heywood and Thornton, 2007; Jarvis, 2010; Packwood, 1975). The man who was expert in growing and curing it arrived in 1617 on the *Hopewell*, a privateer ship captained by John Powell and hence occasioned this oft-quoted statement by Robert Rich, then the local factor and manager of the Rich Interests in Bermuda in 1618: “procure mee a neger whose name is Francisco. Hee is one [of] the general; his judgement in the cureing of tobacoe is such that I had rather have him than all of the other negers that bee here” (*The Rich Papers*, 1984, p. 59). He mentioned that Francisco was on ‘the Generall:’ public land on the Island of St. George’s sequestered by the Somers Island Company for larger colonial

use and not private exploitation. This is especially clear in the full statement made by Governor Butler about them in connection with the Kendall 'Accidentals,' and is especially interesting as a clue to what else African colonists were doing for the island plantation during this period:

If it were not for the accidentall Negroes (a fortune cast upon my selfe by all due), I wer not able to rayse one pound of Tobacco this yeare for the defrayeing of any publicke worck. Cap: Kendall pretendeth an interest by waye of gyft of 14 of them and I have give waye unto it until I heare from the Company. But the truth is, that it wer fitter that he wer rewarded (if he deserved any) some other waye. For thes Slaves are the most proper and cheape instruments for this plantation that can be, and not safe to be any wher but under the Governours eye (*The Rich Papers*, 1984, p. 229).

Vernon Ives, in a footnote, adds that the "lack of men in the 'generall' pool for the public was still troublesome," and noted that Butler's predecessor, Governor Daniel Tucker had attracted considerable abuse for the drafting of colonists for public works projects. "Butler proposes to use slaves," Ives states, and Butler clearly did before transferring them from the 'Generall' to private work—in fact he had suggested that that was the public works was their appropriate and best employment (*The Rich Papers*, 1984, p. 229).

The most significant contribution Africans made to the cause of Bermuda colonisation occurred in agriculture. This is unsurprising as these West Central Africans brought with their experience tropical colonisation, knowledge in tropical agriculture. The most cited is tobacco cultivation, but it is not clear, at least in the early stages of black settlement, how many blacks were skilled in tobacco cultivation—an American plantation activity. Returning to Francisco, one recalls the statement by Robert Rich made about him (*The Rich Papers*, 1984). Butler himself had made the point that not all of the enslaved Africans in 1621 knew how to cultivate tobacco (*The Rich Papers*, 1984, p. 233). It is not impossible to believe that this plant was not widely cultivated at this point or at least in the regions where these other kidnapped Africans had lived (Jarvis, *In the Eye of All Trade*, 2010).

Nonetheless, the broader contribution of Africans to agriculture, beyond this, was probably crucial at the beginning of the colonial enterprise, especially in the production of staples. Long before Bermuda's colonisation, as early as 1516, yams and plantains had arrived in Santo Domingo. Eugenio Fernández Mendéz, however, had given Fray Tomás de Berlanga credit for their introduction (Mendez, 1971). The Portuguese encountered yams and plantains during their 15th Century travels in West Africa: two out of a number of crops they saw growing there:

As the Portuguese made their way southward along the African littoral, they encountered diverse agricultural agropastoral food systems. Along the coast of Upper Guinea, they found rice, millet, sorghum, the cow pea, and abundant livestock herds. Toward the equator, root crops (yams, plantains, and taro) pigeon pea, and the Bambara groundnut (*Vigna subterranean*) dominated indigenous food systems. (Carney and Rosomoff, 2009, pp. 15-18, and 47)

Carney and Rosomoff added: "Most of these African food staples were entirely new to the Portuguese. The subsistence staples were all loaded on slave ships, along with the transplanted Amerindian domesticates, as provisions for the enslaved Africans the vessels carried" (Carney and Rosomoff, 2009, pp. 15-18 and 47). It seems that some of the items noted by Carney and Rosomoff were growing in Bermuda, and possibly introduced by or after the *Edwin*'s journey to the 'Savage Islands' (Butler, 2007). The *Edwin*, as noted, *did* return with plantains among his other 'West Indy' plants among the *Edwin*'s cargo, along with the alleged pearl divers (Butler, 2007). Although mentioned earlier in his *History*, Butler described the variety of agricultural products existing in Bermuda, at least by the time of his tenure:

Now besides these natural products of the earth, providence and work have, since the settlement of the plantation, brought several other types of seeds and plants which the soil had eagerly welcomed and fostered. As a result, *there are at present* [i.e., no later than 1622] a great abundance

of fig trees, wild olives, a profusion of mulberry trees, fine tobacco, and a supply of corn (that is, Indian corn, for the European species of grain crops have not as yet proved successful since the rough ground is over-run with grass). Besides these there are many other profitable roots, such as an endless quantity of white, red, and orange-coloured potatoes [i.e., sweet potatoes and yams] sugar cane, indigo, parsnips, very large radishes, the Americans bread-fruit, cassava, Indian pumpkin, water melons, musk melons, and the delicate pineapple, and in short, whatever else of this sort may be wanted to satisfy either necessity or pleasure. (Butler, 2007, p. 26)

Perhaps this was why Bermuda had avoided the horrid starving times that beset the Virginia colony during this period; that there was an advantage in to having men and women from Africa fully knowledgeable in the ‘work’ of how to grow them; and this might provide a context for Butler’s other statement, mentioned above, about his skilled African captives, worth quoting again: “For thes Slaves are the most proper and cheape instruments for this plantation that can be, and not safe to be any wher but under the Governours eye” (*The Rich Papers*, 1984, p. 229).

He was, again, arguing about the retention of “thes Slaves” on the ‘Generall’ employed, as noted earlier, in various public works projects that the English colonists tried to avoid doing. But one of those public works projects was the construction of the State House, in 1621 and it is worth quoting one transcribed version in full:

When Paget’s Fort had been improved, the Governor began to build a fine new house of cut stone in the town; he constructed this with a flat roof, like the ones he had seen in similar countries, and he built the roof of stone as well, hoping to set an example and encouragement for others to do the same. This type of construction seemed most appropriate for the nature and climate of the islands, because of the tightness against the violent downpours of rain, and for strength against the wind and sudden hurricanes, as well as for coolness, due to the thickness of the walls and the shape of the roof. Most of all, it was best to use stone for the construction so as to save and conserve timber, which had been used wastefully until now and would soon become very scarce and of poor quality. Yet timber would continue to be the necessary material for all sorts of things, such as carriages for mounting guns and for building boats. (Butler, 2007, p. 26)

Butler’s linguistic skills—French, Italian, Spanish, and Latin—if not his education, certainly reflect some experience with the Mediterranean as another transcribed version of his *Historye* notes: “to erect a new fayre house of hewen stone at the towne, the which he makes with a flatt rooffe, after the fashion *which he had seene in other countries in paralell with this...*” [italics added] (Craven, 1990, p. 104). It is strongly tempting to wonder if his corps of African labourers on the ‘Generall’ were especially helpful due to possible earlier experience with adapting Mediterranean styles to Atlantic architectural construction in West Central Africa: or even if the idea originated with them (Heywood and Thornton, 2007).

There had been nearly two centuries of such construction in the Angola-Kongo region. Long before the State House the *manikongo* (monarch of Kongo) Nzinga a Nkuwu, in 1485, had requested Portuguese carpenters and stonemasons to “build a ‘house of prayer’ as these were in Portugal”—the latter country very roughly parallel to Bermuda. His successor Affonso I “restricted stonemasonry and carpentry to churches and the houses of a few Kongolese nobles.” (Heywood and Thornton 2007, pp. 60, 61). By the 1600s Kongolese architects had long since incorporated Portugal’s Mediterranean architectural elements into Kongo’s African-Atlantic architectural heritage. “In 1584 Mbanza Mbamba, a modest country town and parish seat, had a spotless church with a well-painted retable behind it”(Heywood and Thornton, 2007, p. 66).

Conclusion

African arrivals into Bermuda during the 1600s were fundamental to the success of the fledgling colony. Long involved in the Atlantic World as contributors, they brought centuries of experience to the island. If sustainability is viewed as providing support and viability to Bermuda’s agricultural and cultural heritage, one historical instance

emerges in the African contribution to a sustainable and viable Bermuda colonial project: the provision of necessary foodstuffs to stave off threats of a 'Starving Time;' effective colonisation and agricultural management of tropical/sub-tropical spaces, and introducing an over-a-century-old African Atlantic experience to Bermudian colonial activity. Such valuable *and* valued African contributions would continue to contribute to the success of the Bermuda colonial project long after the late seventeenth century, when human trafficking intensified in Lower Guinea and those populations increased their contribution to the demography of the island.

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Environmental Education: The Need, The Challenges, and What We've Learned

Jamie P. Bacon and Cathy Ziepniewski

Abstract

*Bermuda's fragile environment is under threat. Rising sea levels due to global warming, ocean acidification, invasive lionfish, plastic debris and locally generated water pollution are just a few of the issues that should concern all of Bermuda's residents. Now, more than ever, **environmental education** should be a critical part of every child's education. Adults also need to be made aware of these issues and appropriate courses of action.*

*In response to this need, the **Bermuda Zoological Society (BZS)** has developed several programmes utilising experiential education and designed to increase environmental awareness and appreciation. Each of our week-long summer Aqua Camps for preschool to senior-one aged **children** addresses different natural history themes. Our "**Kids on the Reef**" programme provides middle-school students with a life-changing, two-day reef ecology, snorkeling and free-diving experience. Our "Schools Programme" free classes and field trips dovetail with the Cambridge Curriculum and teach the material using engaging, hands-on activities. And our Bermuda Natural History Course provides adults with stimulating lectures and field trips given by the island's experts. Through these efforts our hope is to inspire appreciation and stewardship of Bermuda's fragile environment.*

KEY WORDS: *Environmental education, children, adult education, Kids on the Reef, experiential learning, sustainability, Bermuda Zoological Society*

The Need

As global leaders, scientists, environmental groups and concerned citizens try to grasp how human activities are harming the environment and develop solutions to mitigate these effects; consequently, the need for environmental education and increased environmental awareness is now more necessary than ever. With Bermuda's fragile environment in mind, this article discusses why environmental education is particularly critical for Bermuda's residents, what programmes the BZS has developed to address this need, the challenges and successes the society has had in implementing these programmes, and what BZS has learned in the process.

The rotating red-and-green splotch on the television screen grows. Its single malevolent black eye appears to focus on Bermuda. We watch its inexorable progress with fear and fascination. We know hurricanes; we know what to do. We clear our yards, close shutters, board up large windows, stock up water, fuel, and provisions. Then, we hunker down and wait in the dark, protective caves we have created. When the fury has passed, we venture out to assess damages and to check on neighbours. Life returns to normal and we forget our fears. We do not consciously connect a monster storm with environmental change, with global warming, with human behaviour. Yet, we should. Our future depends on understanding how our environment is being threatened and what we can and should be

doing about that threat (Glasspool, 2008).

Bermuda is particularly vulnerable to current environmental woes (Stuart Hayward, personal communication 2016; Glasspool, 2008). A small island surrounded by the Atlantic Ocean, Bermuda suffers not only from the action or inaction of its inhabitants, but also from the actions of mankind globally. Rising sea levels due to global warming threaten Bermuda's shores; locally, sea levels have risen 15 cm (6 in.) in the past 80 years – quite a huge rise (David Wingate, personal communication 2016).

Furthermore, the coral reefs which protect us and are vital to the food chain may be weakened by ocean acidification; a warmer ocean also causes coral bleaching and stronger storms (Glasspool, 2008). Coral reef fish populations are at risk, owing to over-fishing and the introduction of non-native predatory species such as lionfish. Additionally, ocean-borne plastic debris leads to the death of marine animals through ingestion and entrapment. For example, brought to the Bermuda Aquarium Museum and Zoo (BAMZ) are sea turtles that have starved to death because their stomachs are full of plastic or their shells are badly damaged as a result of long-term entanglement in fishing gear. Plastics and synthetic fibers are now being found in even fish and shellfish targeted for human consumption (Rochman et al., 2015). How can individuals not be concerned?

Changes in Bermuda's terrestrial environment are also threatening the health of local wildlife and humans (Bacon, 2012a; Bacon, 2012b). We are affected by the pollution we in Bermuda have inherited and continue to add to. Pollution's effects on Bermuda's wildlife are some of the worst reported globally (Fort et al., 2015; Douglas Fort, personal communication 2011). Local studies of toads, pond fish, and terrapins have revealed an alarmingly high incidence of physical deformities, suppressed immune function and endocrine disruption (altered reproductive hormone levels) directly linked to pollutants (Bacon et al., 2013; Fort et al., 2015; Fort et al., 2016). Moreover, the safety of our fresh water – that precious commodity in Bermuda – is now problematic, owing to pollution. For example, drinking well water is now illegal because nitrates from our many cesspits have seeped into the water lenses. We must also be concerned about what pollutants are in our water tanks as they can produce effects similar to those produced by polluted pond sediments (Bacon, 2012a). These issues are all very serious. Obviously, we cannot afford to be ignorant of our environment.

Environmental dangers to physical well-being can be seen and measured. However, another challenge to our welfare, Nature Deficit Disorder – the effect of “the loss of children's free-ranging exploration of ‘wild lands’ in cities and suburbs” – faces us (Chawla, 2015a, p1). Children and adults need to connect with nature for their health. In speaking with teachers, parents and students, BZS educators hear that many children and adults spend little time, if any, outdoors in nature. Therefore, they do not reap the benefits of lower blood pressure, less depression and stress, and improved concentration (Chawla, 2015a). They also do not connect to the environment and the ocean as their forebears did and, therefore, do not appreciate the importance of the natural world.

The Challenges

It is difficult to teach the values of conservation and preservation to persons who do not appreciate the natural world around them or who are afraid or loathe to venture into it (Chawla, 2015b). Traditional classroom techniques or interpretive signage do little to change such attitudes (Chawla, 2015b). However, hands-on, experiential environmental education can lead to heightened awareness and ultimately action. Thus, one of the major challenges we faced and still face as educators for the BZS is how to develop environmental awareness, concern, and ultimately, passion that leads to action. How do we convince Bermudians that they can make a difference, that action rather than apathy is what is needed?

Another significant challenge for our “Schools Programme” was getting our staff, as well as local and visiting experts, in touch with Bermuda's students. Public school teachers must contend with a very tight Cambridge curriculum. When we revised our Schools Programme four years ago, many teachers told us that they felt they did not have

the time for a field trip to the Aquarium or a visit to a local nature reserve. In addition, we found many teachers' backgrounds in science and ecology were not well developed and that opportunities for professional development in the areas of biology, ecology and natural history were needed.

A further challenge we currently face at BZS is finding how to reach the general public –people who are not members of the BZS or other conservation organisations. Members are converts. How do we convert individuals who remain ignorant of the environmental issues that face us (in the sense of not knowing, not that they cannot learn)?

Internationally, conservation experts are recognising these challenges and seeking solutions. Zoos and aquariums, especially, recognise the need to change what they are doing (Chawla, 2015b; Clayton, 2015; Wong, 2015). In the past, they merely provided information assuming that would change people's attitudes, but that approach has been proven to be ineffective. At the 2015 San Diego Zoo Global Conference entitled "The Future of Informal Conservation Learning Symposium," hot topics for discussion groups included "transforming zoo visitors into conservation advocates" and "building a conservation movement through visitor engagement" (San Diego Zoo Global, 2015). The BZS and BAMZ are fully aware of this need and are working to convert Bermuda's residents, particularly Bermuda's youth, into conservation advocates who will appreciate and care for their island environment.

What We Have Learned

Although much remains to be done, some exciting progress in environmental education is quietly taking place in Bermuda. The BZS and BAMZ are playing a leading role in local environmental education, research, and conservation efforts by reaching out to students and adults alike. We now have new and promising ways of creating local campaigners for conservation.

The value of camps

We have learned that our camps can have a significant impact if we can get children doing things that make them interact with nature – not just young primary school-aged children, but teenagers as well. In 2016, a record number of 625 preschool through secondary school-aged children attended our Aqua Camps. Aqua Camps are held weekly each summer and are predicated on experiential learning. Each camp is themed so that students experience a different natural history topic each year and the camps are conducted by motivated, passionate educators. The themes include Mangroves, Ponds, Beaches, Sea turtles, Coral reefs and more. Parental feedback about our Aqua Camps has been extremely positive; last year 95% of the 88 parents who responded to our survey either strongly agreed (59%) or agreed (36%) with the statement "your child has gained a greater appreciation of Bermuda's natural environment".

"Thank you so much for the very organised and educational week. Love the photos, and we will definitely be back next year!" **Aqua Explorers Parent**

Camps designed for middle- and senior-school students are now based on Trunk Island, our amazing 'living classroom', rather than at BAMZ; the island is ideal for inspiring older students to connect with nature. They learn how to complete fish surveys around the island, identifying and counting members of various species, and how the effects of over-fishing are threatening fish stocks globally. And we have recently created a week-long residential camp – "Aqua Conservationists" – for M3 and S1 aged-students to give them the opportunity to learn about and participate in local (Bermuda-based) conservation projects. For example, in addition to numerous snorkeling experiences, the campers examine the origin of the plastic octopus pots used to catch octopuses that wash up on Bermuda's beaches, install Longtail igloos to create much needed nest sites for these charismatic birds, and participate in an evening survey of adult toads, noting their various deformities. The students also get the opportunity to volunteer in BAMZ's zoo and aquarium sections to see if they might wish to apply to our Junior Volunteer Programme. And they become aware that they can make a difference.

"This camp was incredibly awesome, and I loved every single moment of it. I learned so much about myself and what I want to do with my life, like how much I actually love the ocean and how much I want to protect it for generations to come." **15-year-old Aqua Conservationists Camper**

Another venture is the Nonsuch Island Natural History camp in Castle Harbor, a joint venture with the Bermuda Audubon Society. The camp is usually attended by a dozen students aged 15-18 for eight days. Making daily field trips to a variety of habitats such as Spittal Pond, Paget Marsh, North Rock and Harrington Sound allows them to see first-hand the unique nature of Bermuda's varied habitats and their inhabitants. Continuing the emphasis on hands-on learning, they are introduced to the methods, challenges, and personal satisfaction associated with scientific fieldwork. In the evenings, students work in the Nonsuch lab and participate in presentations on Bermuda's environment by local scientists.

"Nonsuch Camp provided an amazing platform to immerse myself in Bermuda's Natural History with other like-minded people. It was one of those special moments in life from which you take away lasting, powerful messages that infuse your subconscious and affect everything you do and the decisions you make. One of my passions these days is to ensure young Bermudians can benefit from similar experiences, which in turn will help conserve and protect Bermuda's environment. Nonsuch Camp did that for me!" **Dr. Ian Walker, Principal Curator and Veterinarian, BAMZ**

Total immersion with Kids on the Reef

A unique and exciting environmental education initiative that the BZS provides during the school year is the "Kids on the Reef" programme. A part of the I Am Water Foundation, the programme was introduced to Bermuda in 2013 in partnership with the BZS, supported by XL-Catlin Bermuda. Dr. Alex Amat, the programme coordinator and a BZS educator, explains, "Kids on the Reef" is all about taking kids out of their comfort zone, giving them the tools they need to be confident in the water and to learn about Bermuda's coral reefs" (cited in Simpson 2015, n.p.). Targeting public middle-school students aged 11-13, the two-day workshops literally put students into Bermuda's waters. Students are first briefed in a classroom about coral reef ecology and the need to protect our oceans and reefs. Yoga instruction also helps them to learn and practice breath and body control. Then they have the ultimate experience of snorkeling around Gibbet's or Trunk Island and free-diving on the outer reef at North Rock. Participants have included students from all the island's public middle schools.

"Kids on the Reef" participants come face to face with the wonders of Bermuda's marine environment. Hanli Prinsloo, CEO of I Am Water, a conservationist and South African free-diving champion, believes the experience is also life-changing (I Am Water Foundation, 2014). Many of these young people, although living on an island surrounded by marvelous reefs, have never snorkeled and have no concept of what lies under the ocean's surface. First and foremost, they have to overcome their fears, but once in the water, something magical happens. Videos posted on U Tube and the I Am Water website (I Am Water, 2014) reveal the impact on these students; their enthusiasm is palpable. When questioned about the best part of the adventure, their comments are revealing.

"I saw some fish!"

"I got up close to a fish."

"I saw real coral."

"I saw things I never saw before."

All of them seem to exude a new confidence in themselves and to reflect a new appreciation of the ocean.

"Swimming with barracudas has allowed my students to challenge common misconceptions and misplaced fears. Students who have struggled to perform well in the traditional classroom have transformed into confident, passionate explorers upon their first glimpse of life below the water's surface. Witnessing coral

bleaching and pollution has allowed young people to better understand the challenges our reefs are facing. There are numerous benefits to the 'Kids on the Reef' programme. By increasing environmental awareness, these fun-filled workshops help students to become responsible citizens and ocean stewards." **Akinyi Apopa, Middle School Teacher and "Kids on the Reef" Volunteer**

The BZS Schools Programme- Linked to the curriculum

Classroom instruction is still needed, but we have learned that altering modes of instruction can make a big difference in its effectiveness. BZS educators have witnessed how using live animals to demonstrate topics such as adaptations or pollution's effects can help children care and make the topic come to life. Having students do meaningful hands-on activities whenever possible takes them from being passive witnesses to a lesson to being partners in the learning process. During the 2015-2016 academic year, BZS educators provided for students over 7,100 of what we call "educational experiences," including guided visits to nature reserves, classes at BAMZ, and in-school visits/demonstrations that connect students to their environment (Table 1 and Table 2) (Bermuda Zoological Society, 2016a). Thanks to the generosity of our members and donors, we are able to provide these classes free of charge to all of Bermuda's students.

Table 1: Number of educational experiences given by the BZS Schools Programme during the 2015-16 academic year by age group.

School Year 2015-2016	
Bermuda College Students	106
Senior School Students	635
Middle School Students	1,919
Primary School Students	2,655
Preschool Students	1,591
Homeschool Students	283
Total number student educational experiences	7,189
Public School	4,802
Private School	2,387

Table 2: Schools that participated in classes or field trips conducted by BZS 2015-2016 academic school year

Preschools		Middle Schools	
<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>
Devonshire Preschool	Bloomfield	Clearwater Mid. School	Bermuda High School
Lagoon Park Preschool	Bright Beginnings	Dellwood Middle School	Saltus Grammar School
Lyceum Preschool	Building Block Academy	Sandys Middle School	Somersfield Academy
Southampton Preschool	Chatterbox Nursery	TN Tatem Mid. School	Victory Christian Academy
St. David's Preschool	Once Upon a Time Chapter 1	Whitney Middle School	
St. George's Preschool	Once Upon a Time Chapter 2		
Victor Scott Preschool	Play with a Purpose		
Warwick Preschool	Saltus Foundation		
	Warwick Academy Foundation		
Primary Schools		Senior Schools	
<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>
Dalton E Tucker Primary	Bermuda High School	Berkeley Institute	Bermuda High School
East End Primary	Mount Saint Agnes Academy	CedarBridge Academy	Mount Saint Agnes Academy
Elliot Primary	Saltus Grammar School		Saltus Grammar School
Francis Patton Primary	Somersfield Academy		Warwick Academy
Gilbert Academy	Warwick Academy		
Heron Bay Primary			
Northlands Primary			
Paget Primary			
Port Royal Primary	<i>Public continued</i>		
Prospect Primary	St. Georges Preparatory		
Purvis Primary	Victor Scott Primary		
Somerset Primary	West End Primary		
St. David's Primary	West Pembroke Primary		
		Other	
		Bermuda Homeschool Association	
		Bermuda College	

Our BZS "Schools Programme" classes are now linked closely to the Cambridge Curriculum, meeting its biology schemes of work objectives, and we have worked to develop strong relationships with numerous teachers. We have learned that we can accommodate the time constraints of that curriculum (and others) in our offerings and that we can help teachers achieve their curricular goals while engaging their students and delivering conservation messages. We have also learned to be mentors for both teachers and students; our classes and field trips show both groups how to interact respectfully with nature without being afraid. The BZS also regularly provides half-day snorkeling trips for several schools, providing these students with invaluable in-water learning experiences.

"For the past four years, three during my tenure as Primary Six teacher, we have attended classes hosted by BZS at the Aquarium, which has greatly aided students in knowledge and understanding of Science. We arranged for review lessons in the content areas of Habitats and Adaptations, Food Chains, Caring for the Environment, Characteristics of Living Things and, most recently, Skeletons and Muscles and Flowering Plants. The lessons, experiments and hands-on assignments during class have allowed students to gain a deeper understanding of what was being taught by highly trained experts. This experience also afforded a unique learning opportunity

to be outside of the traditional classroom and in an environment where students can see first-hand the direct application of what they were currently studying. As a result of this amazing experience, we found that students demonstrated proficiency in understanding the concepts taught, with a class average of no less than 80% on MOED (Ministry of Education) Common Summative Assessments. This is further evidenced among students when taking (Cambridge Curriculum) Checkpoint exams as well as we often see results indicating that the Biology strand of the Science exam exceeds test level expectations. Alandra Kaliyma Swan, Primary 6 Teacher

Empowering adults through adult education and participation:

However, we recognise that we cannot and should not concentrate on Bermuda's children's education only; we must also reach out to the adults in the community. Our Bermuda Natural History Course is outstanding and we recently revamped it into two-week long modules rather than a five-week long commitment to make it more accessible for teachers as well as the public. The course features evening lectures by local experts with week-end field trips. The lecturers discuss Bermuda's wildlife, island geology, coral reefs, the impact of man and natural disasters on the island, and more (Bermuda Zoological Society, 2016b). Teachers of biology, geology, and social sciences who complete course modules receive professional development credit.

Bermuda's residents are also encouraged to participate in Reef Watch, our citizen scientist programme, which trains people to conduct surveys of different patch reefs annually, measuring coral and algal cover and fish numbers to take a 'snapshot' of the health of the reef. The programme actively engages the public in helping to collect useful scientific data for BZS scientists, and it empowers them to feel that their efforts can help protect and preserve our reefs by being able to warn researchers of reefs in trouble.

Conclusion

Where do all these efforts at effective environmental education take us? The hope is to create generations of good stewards of Bermuda's fragile environment. We cannot make people care, but by engaging their minds, breaking down barriers, and offering ways to take action, we can create a sense of responsibility, possibly even a passionate commitment. If they come to understand the intricacy of our environment, its inseparable relationship with the ocean around us, and how human well-being is tied to environmental health, they may come to recognise the benefits of conservation and preservation and become advocates and activists. We must all be both local and global citizens because our future and the future of our planet depend on our protecting the environment.

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Adopting a Sustainability Framework in Re-visioning Library and Information Science Education

Jiselle Maria Alleyne

Abstract

Ecological theory states that survival of a population depends on its fit with its environment, more specifically with its niche...the larger, more varied and more flexible a population, the greater its ability to spread to new niches (Wilson, 1992, para. 24, as cited in Van House, 1996). Nancy Van House, School of Information Management, University of California, in speaking about 'The Ecology of LIS Education' declares that the changing information niche necessitates LIS schools become more varied and extend their borders into new information niches. The theory continues, "The larger, more varied, and more flexible a population, the greater its ability to spread to new niches species with narrow ecological niches and/or an inability to change risk extinction as their niches disappear." (Wilson, 1992 as cited in Van House, 1996 para. 27). The correlation is that for LIS schools to escape extinction, there must be a strategic plan to diversify.

*This paper seeks to showcase strategies employed by LIS schools in adopting a **sustainability framework**, through such practices as competitive branding, internal mergers, curriculum restructuring, and developing new programmes. Nicole Cooke agrees with this view as she states, "We have to make sure students are adaptable. . . we have to continue learning and growing" (Cooke, 2016 as cited in The Future of LIS Education para. 11).*

KEY WORDS: : Sustainability framework, LIS education, re-visioning

Introduction

Adopting the tenets of competitive advantage has become an imperative for the survival of any entity. Library and Information Science schools (LIS) have not been exempt from this trend, as this is seen as integral for developing new information for professionals. A definition of competitive advantage states, "Competitive Advantage is when an organisation possesses some advantage over its rivals in a given sector or market, making it more profitable or sustainable than other organisations" (Erbe, 2014, p. 236). By adopting an acumen of competitive advantage, LIS schools ensure sustainability and adaptability because they would be investing in developing sustainable, hard-to-replicate information professionals (Abrams, 2008). Linda Smith, Professor and Associate Dean for Academic Programmes at the School of Information Sciences at the University of Illinois, Urbana Champaign, spoke about remaining competitive and producing information professionals who are viable. She said, "We are committed to keeping LIS education viable...LIS professionals must not only be aware of diverse information needs, but ensure those needs are met. As educators, we need to equip our students with the necessary skills to build supportive and broad information services" (Smith, 2016 as cited in The Future of LIS Education, para. 3).

Why should Library and Information schools be concerned with adopting a sustainability framework? This switch in focus is necessary since the very organisations that train information professionals must be able to translate their major product ‘information’ into one that is sustainable for current and future populations. Bowler (2012), from the School of Information Sciences, University of Pittsburgh, supports this view as she states, “Sustainability, therefore, is not just about recycling and using fewer resources, it is about ensuring that libraries and their services, collections and ideas are kept alive for future users. . .and so librarians need to learn about sustainability so that they can create libraries that will meet the needs of present library users without compromising the ability of future generations. . .” (Bowler, 2012, para. 1).

Literature Review

Current Environment

One of the indicators that prompted LIS schools to be adopters of a Sustainability Framework was the demands of accreditation that would ensure the quality of their programmes. A few accreditation criteria included admissions procedure, curriculum, faculty development, teaching and learning methodologies, student performance and alumni reach. The American Library Association’s accreditation system is viewed as a symbol of quality assurance for LIS programmes; however, the future of accreditation and the impact on the sustainability of LIS programmes are being reviewed. A white paper on the value of the ALA accreditation asked the following questions:

- Are the same standards used to ensure accreditation able to ensure the sustainability of the programme?
- What is the value of an ALA accredited Master of Library and Information Studies degree to industry?
- What aptitudes, competencies and abilities do MLIS holders possess that are unique?

As a result, LIS programmes are in a state of flux as they seek re-accreditation of their programmes. The main concern is whether these traditional standards of accreditation ensure sustainability or if they are stifling innovation by maintaining the status quo in an era that requires expansion.

In recognising the need to restructure the accreditation process by making it more relevant, the American Library Association Office of Accreditation sent its members a short survey, which indicated a shift in the type of ‘education’ Library and Information professionals should receive.

Two questions should be noted:

- Given the dynamic and transformative nature of the field of library and information science, what do you believe will be the most important skills and/or competencies needed by future librarians and other information professionals?
- Given the dynamic and transformative nature of the field of library and information science, do you feel there is a current disconnect between skills taught in current curricula of LIS programmes and what will be needed by future librarians and information professionals (Granger, 2016, para. 5).

These two questions show a shift by accreditation agencies in their assessment of the needs of the LIS industry and in the understanding of the needs and requirements of sustainable education. This shift also warrants an understanding of what should be the measure or standard by which to attain sustainable education, as well as what is necessary to produce industry-ready professionals.

Competitive Branding

Another indicator of the necessity for the adoption of a Sustainable Framework is the realisation of the need to maintain a competitive brand in the information environment. According to Tom Storey, “Re-inventing or repositioning a brand involves marketing activities designed to give an existing company, product or service a

new position in customers' minds in an attempt to change a product or company's market potential..." (Storey, 2006, para. 8). Applying this concept to LIS schools, two questions must be asked: Will the library and information professional continue to be a necessary and desirable occupation? and What can we do to attract future professionals to our schools? In industry, in order to ensure brand quality is sustained in a product, the needs of the customer are seen as priority and incorporated into the market strategy. The same rule applies to LIS Schools and the use of competitive branding. The first result of this strategy is seen with the name change or re-branding from School of Library and Information Science to the I-School. The re-branding sought to address two issues: firstly, the profile of academic programs and the graduates entering the job market, and secondly, the graduates' influence on the way in which the information environment evolves (Lorenz, 2014).

Certain characteristics of I-Schools make them more appealing and relevant to the sustainability framework: firstly, schools' multidisciplinary or inter-disciplinary composition allows students to explore new subject areas in addition to the traditional 'library' courses; secondly, is the diversity of the faculty; and thirdly, the modality of these programmes – mainly online – appeals to the needs of the consumer. Dr. Michael Stephens, Assistant Professor in the School of Information Studies at San Jose State University, agrees that the objectivity of sustainability in education can be achieved only with the exploration of new modalities of teaching and learning. Stephens states, "Libraries and librarians are faced with a technological and societal wave of change that is ever increasing as we move farther into the 21st century. Preparing new graduates to deal with constant change, to use current and emerging technology tools to further the mission of their institutions, and to meet the needs of communities of library users while never losing sight of our foundational values and principles are of utmost importance to me as an LIS educator. . ." (Stephens, 2016, para 1).

Another component of re-branding is removing the word 'library' from the name of the school. For example, my Alma Mater, the Dalhousie School of Library and Information Studies, changed its name to the Dalhousie School of Information Management. This change gave the school a stronger standing in attracting potential students who may not necessarily work in a libraries but still within the information field (J. Makani, personal communication, November 3, 2016).

Curriculum Restructuring

Developing a LIS curriculum that would 'keep track of the latest trends in the market as well as advance the competencies needed in the work world' has received the lion's share of attention in any LIS school's bid to adopt a sustainability framework (J. Makani, personal communication, November 3, 2016). If one uses the Dalhousie School of Information Management as an example, he will discover that a full restructure of the curriculum has taken place to include courses focusing on emerging areas like open data, data management, digital creation, digital preservation, information security and information risk management (S. Toze, personal communication, November 3, 2016). A review of market trends reveals that there are fewer jobs in traditional library and archive settings and that LIS education needs to change in order to prepare students for new opportunities working with data. As a result, the Dalhousie School of Information Management has embedded into the curriculum restructuring the introduction of new degree programmes, such as the 2015 Master of Information Management degree option, which seeks to support the focus on working with data.

A similar restructuring of curriculum took place at the School of Information Studies, Charles Sturt University, Australia. According to Hider et al. (2011), the courses were redesigned to:

- address the long-term sustainability of the courses and their abilities to respond to the professional landscape;
- allow them to maintain their relevance to the school's established librarianship market, while developing significant application to other information fields;
- acknowledge the changing knowledge and skill requirements of the employers; and

- produce a graduate not dependent on libraries only for employment, but one confident in handling information in the online world (Hider et al 2011, para 1).

Sustainable Partnerships

Another implementation of a sustainable framework for LIS Schools is the merger with other schools. The question being answered is, “How would a different organisational structure affect the competitiveness of Library Schools?” (Helregel, 2013, para. 2). Some notable examples of mergers include:

- Catholic University of America merged their I School with the College of Arts and Sciences.
- Indiana University merged with the School of Informatics.
- Drexel University merged three entities: The College of Information Science & Technology, the Department of Computer Science, and the Department of Computing/Security Technology.

The above-mentioned mergers represent the ideology that the new entities would allow training of the information professional to be gleaned from the broadest context of Information Science. The merger at the University of Pittsburgh, with the creation of the School of Computing and Information, is one to observe. The intent of this merger is that it “will create a dynamic, multidisciplinary environment that supports discovery, innovation and entrepreneurship driven by data and technology. . .” (Beeson, 2016, para. 3). There are clear benefits that far outweigh the relinquishing of turf by the library school. One such benefit is to expand the research capabilities of LIS students by giving them opportunities to conduct studies in new areas, and thereby add to the body of LIS literature.

Another advantage of these mergers is that the new entity can not only benefit internally from the expertise of faculty from the merged schools, but also target and recruit instructors with specific market specialisations (J. Makani, personal communication, November 3, 2016). At the Dalhousie School of Information Management, one of the latest faculty recruits specialises in ‘geospatial information, visualisation and mental imagery, and multimedia representation of information and cognition’ (APLA Report, 2015, para. 3). This sort of diversity is needed to create the type of graduate for the new information environment.

Emerging Information Societies

The necessity to adopt a sustainability framework has not escaped emerging information societies such as those within the Caribbean region. The progress of these emergent organisations may be considered basic, but shows the ability of these societies to embed sustainability into their agendas. In a reference to the Department of Library and Information Studies at the University of the West Indies, Mona, for example, Mark Shane-Scale, in a presentation entitled, “Adapting to Changes,” states, “DLIS experiences in the Caribbean have been responsive to international trends in library education and manpower requirements...upgrading and restructuring programmes to meet demands” (Shane-Scale, 2009, para 2). The programme has now introduced dual modalities, face-to-face and online, for its Master’s in Library and Information Studies and, in response to the market needs, has also included a Master of Arts in Archives and Records Management. The DLIS programme is still in a unique position as the sole instructional course to train Library and Information professionals in the Caribbean region. However, the instructors should not allow this position to lull them into a false sense of security, as potential students are being drawn away by the options available to them via North American institutions, where programmes are more versatile.

Conclusion

Advocating for the adoption of a sustainability framework in LIS programmes can only intensify as the information environment changes. To achieve sustainability in the educating of LIS professionals, ‘a change of educational

culture must be achieved, one that embodies the theory of sustainability as a transformative paradigm...’ (Sterling, 2008, para. 4). A concerted effort must also be made to measure sustainability, by looking at alumni, the changing job specifications and alternative career paths of graduates; continuing education and professional development must also be examined to assess whether graduates re-tool themselves within the LIS field. Bertot et al., state, “A credentialed information professional is an asset; there is no other professional degree programme that focuses on the combination of information, people, learning and technology...and this is the core of sustainable education” (Bertot et al, 2016, para 55).

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A Fall From Aloft

Robert Masters

Brian Berkeley Burland was born in Bermuda in 1931 and became Bermuda's most famous and prolific novelist. He published eight novels and a much-acclaimed children's book, *St. Nicholas and the Tub*.

A Fall from Aloft is Brian Burland's first critically acclaimed novel and one of his most popular. This term, 'A fall from aloft', used to describe a fall from a great height, usually from a masthead or high rigging on a sailing ship figures significantly in Burland's novel. 'Aloft' can also mean 'overhead' or 'in the air' as demonstrated by trainees on modern-day sail-training vessels who are taught to climb aloft from the main mast in order to release the main topsails.

Like many first novels, *A Fall from Aloft* is 'quasi-autobiographical' and, as such, exhibits many of the hallmarks of such novels, including the coming-of-age story and the evocation of a particular time and place. Burland tells the tale of 13-year-old James Berkeley's 'voyage out' and is grounded in Burland's evocative rendering of his own birthplace and childhood home, the island of Bermuda.

Although *A Fall from Aloft* is not set in Bermuda, and there are no Bermudian characters, as such, the island is evoked through the reveries of the main character, the 13-year old James Berkeley, who is sent on a wartime convoy ship across the U-boat infested North Atlantic in January 1942 to his English boarding school during World War II. This dramatic story is based on Burland's own experience as a young teenage boy being sent from Bermuda to England during this war.

On board the *Empire United*, the officer in charge disregards James' stateroom ticket and billets him in the seamen's quarters. James pretends he is at least 16-years-old and is expected to sleep and work with the all adult crewmen. The merchant seamen regard this unexpected and, for the most part, unwelcome addition to their company with a mixture of amusement and contempt. He is called 'Little Lord Fauntelroy' by some of the crew members.

For his part, James, shy and self-conscious, is repelled by the casual vulgarity and raucous behavior of the merchant men, from whom he has no privacy below decks, not even to move his bowels. Thus begins James' wartime passage across the North Atlantic, a passage which, with its initiation into an adult world, is very different from the one he has left behind. This will precipitate his personal passage out of the narrowness of his privileged childhood and into a much wider world.

However, James is desperately homesick and often wonders why he has been abandoned by his parents? Secretly, he know the reasons: he is guilty of lying, stealing, Jew-baiting, not working in school, being over-sexed and a juvenile delinquent! He feels guilt and remorse for these acts.

James has vivid recollections and images of enjoyable times in Bermuda, including sailing on the 'Longtail', a boat loaned to him during summers. "He sailed every bright summer inch of Bermuda's azure harbors and inlets; he sailed out and around the Great Sound and sometimes all the way to Somerset...He stopped and lunched on deserted islands where no man's foot had set before" (p. 83). All these happy memories are overshadowed by the reality of war into which he has been thrust. James also has an obsession with dying on the ship, either by torpedo from a German submarine or by falling into the angry seas surrounding the ship.

There are, however, two particular recurring images in *A Fall from Aloft*. The first, and central image, is that of 'the fall' indicated in the novel's title. Burland's title is taken from a tombstone in the Royal Naval Cemetery at Ireland Island in Bermuda. The grave is that of thirteen-year-old midshipman, James Cumberland, killed by a fall from aloft on May 23, 1777, while serving aboard H.M.S. *Immortalite*. The image of 'the fall' is suggested initially in James'

desperation to escape the ship, since to do so he must jump (fall) “awfully far down” into the water (26). Once at sea, his fear of perishing on the voyage expresses itself in his fear of falling overboard. After an actual fall on the deck which very nearly puts him over the side, he is haunted by the idea of falling silently to his death into “a chasm of darkness” below -- and below that, the ocean (p.84). The second image is that of the ocean itself, the vast rolling “unfathomably deep” sea of which James is so afraid. To drown in the sea, he thinks, “would be a horrible death: down down down . . . to suffocate in that ghastly, cold vastness” (p.32).

Burland’s compelling tale of a boy who has to cope in a difficult adult world is written in a style of realism, capturing various sounds on the ship (klah-klah-klah-klah: the ship shuddering) (p. 58) and the accents of the crew (“Cor love a duck, what uv we got here?”)(p. 19). These vocal utterances make the atmosphere more authentic and real. Burland writes so descriptively about the ship and elsewhere that the reader can distinctly imagine the scene. His descriptions of Bermuda are also vividly appealing. Burland has a special talent for writing in the vernacular which, at times, causes the reader to struggle with dialectical, regional slang and vulgar swearwords.

Despite the popularity of his books around the world, Burland was unsuccessful in his home country of Bermuda, mainly because he discussed unpopular topics regarding race, culture, and class that impacted close to home. Many readers found offence with the swearwords and the open discussions of sex. Remembering that Burland was writing in the 1960’s and 1970’s during the Woodstock, hippie generation, one can perhaps understand the influence it most likely had on his writing.

Aspects of class and race appear frequently in this novel, whether it is the black nanny, Ruth, or the other references to ‘coloured’ Bermudians. Being from a white and privileged background, James looks down on the seamen, describing them as “...lower-class, rotten, filthy, stinking oiks” (p. 77). He talks about coloured people, Portuguese and white trash, people with which white family members should not associate.

Burland writes about a subject that made a great impression upon him as a young teenager. He explores the physical trials of crossing the ocean, as well as the psychological aspects of a child who is conflicted by the fears and fantasies of self-doubt. James tries to live up to his father’s ideal of bravery but is often faced with the reality of being torpedoed or of falling into the sea. At the end of the novel, James is no longer the child his father had put aboard the tender in Hamilton Harbour; he is now a young man with a mind of his own. With the world “still rolling and pitching” and the sea washing over everything, he turns his face to the window to hide his tears as the rails echo the fear that has dogged him for so long: “Lost-at-sea, lost-at-sea . . .” (p.179).

Burland develops the novel by making it immediate and vivid, forcing the reader to confront the realities of the moment. He grounds the narrative in a realism in which colloquial language is the norm. He is a master at writing descriptive passages that keep the reader riveted and wanting more. I can confidently recommend reading Burland’s *A Fall from Aloft* because it relates to and captures the phobias of teenage-hood, as well as the fears, fantasies and self-doubts that exist in males as they grow and mature.

As a Bermudian, I am excited by the descriptions and tales of Bermuda from an era long past. These give the reader significant insights into what Bermuda was like in the 1940s. For students of Bermuda history and anyone delving into Bermuda’s past, this book is an invaluable resource into the culture of Bermuda during this period.

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index of a Sycoraxian islet drowned by wind, rocked by reef and bone of blood borne humanoids (part 1)

Yesha Townsend

Afeared, 1609

bodies flung on salt washed sand, the muscle worked through seas of uproar
like steed, such stalwart youth, adapting from starboard to wreck - to haunted isle this
vexed, this be-deviled - dithering their blood, and skulls and chests

Basset, Sally, 1730

baked the sun herself, oh chile, so hot the sun sweat buckets and swum to
sky in decay - but Sally, they say, a pyre of flesh, body made bloom of ash and
blistering light

Cahow, 1612

housed the devils that prey on the ships, that spiral the tempests (counterclockwise)
that howl, like owl but haunt, that witch the bewitching twilight - such docile beasts are
these that tame to the touch - there aren't enough here to finish

Crab, 199 (something)

last time they click clacked cross South Shore Road the powers that be were still trying to stitch the hole in
the sky - it won't be too long now (on this burning globe) till the crabs are gone and not like the last time
they, by the dozens came to home cross the street breaching law and sea level

Gombey, 1831 (or so)

wave, dip, slide, bend, jump, skank boy, black boy skank. pull arrow through bow, snug
tomahawk to neck, skip and twist (by own means) to roots under crisp white Chuck
Taylors. that sound of junkanoo and carnival and sway of the stilt walker - ain't no still
when you come by boy - snare, nanny goat drum and whip

Salt, 1806

sent our Mary - *full of grace* - to rake the salt on the Turks - our Lord with thee - in boils
roiling under achilles and his lacking talus - our Mary a dead sea, floating all of our irons
in her blood, on her back, she had the rheumatism (bearing us) us with our flavors
tart and running and **f r e e** with all the salt we need

Note: This poem is an interpretive response based on the *Hall of History*, a mural created by Bermudian Graham Foster, located in the Commissioner's House at the National Museum of Bermuda in Dockyard, Bermuda

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PHYLLIS CURTIS-TWEED, PhD, graduated from Emory University and then pursued postdoctoral training in psychology in the clinical research training programme in social psychiatry at Harvard. She was a psychology instructor at Harvard Medical School and taught at the Harvard Graduate School of Education, Simmons College and at Harvard-affiliated hospitals. She is a referee for the Journal of Moral Education and executive board member and treasurer of the Association for Moral Education. She has published and presented at national and international conferences on psychology and education. Dr Curtis-Tweed joined the faculty at Medgar Evers College of the City University of New York and served as director of the freshman year programmes, assistant provost for assessment and associate provost. She then joined the staff at Oakland Community Colleges as academic dean. In January 2014, Dr Curtis-Tweed returned to Bermuda and became the seventh principal of the Berkeley Institute. In August 2017, she will join the administrative staff at Bermuda College as Vice President of Academic and Student Affairs.

ROBERT MASTERS was a Manager in the Trust and Estates Industry in Bermuda for 25 years. Because of his interest in research and helping others, he decided in 2007 to go back to university to pursue a Masters' Degree in Library and Information Science. He has worked at Bermuda College Library since 2008 becoming Reference and Bibliographic Instruction Librarian in 2010 and Library Director in 2012.

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