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Abstract	Children in developing countries are not exposed to a lot of technology. There is no stimulation for them to maximize their creative abilities and talents so as to foster personal and community development. Developing countries, particularly in Africa, are yet to realize the importance of creativity and innovation. Yet it is through such creative industries, among others, that countries such as Botswana can achieve development. The onus of this investigative study is to find out how creativity and innovation through new technologies can be of use in Botswana's early education. The study will primarily focus on early childhood education. It looks at how to encourage/nurture creativity and innovation through the use of new media technologies to children in a small developing country called Botswana. It will first qualify the importance of building the creative industry within the learning strata in Botswana. This part also constitutes an assessment of the economic benefits of the creative industry, especially given the current challenges of lack of diversification. In order to accentuate the case, the study gives comparatives from Japan and the United States of America, wherein the author assesses the value and integral role of creative industries. Thus the core arguments revolve around the findings regarding present policy and paradigm shifts in Botswana's education system and feedback from the creative workshops that were conducted in Botswana by the researcher. The acme of this research will be a rigorous focus and analysis of the base structure that has to do with creative thinking as well as its link to technology. It builds further on how the base structure can be cultivated into a technology-based and interactive learning environment.
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Master's Thesis

Creative Leap Botswana: Encouraging creativity and innovation in Botswana children through digital storytelling and usage of new media technologies

GRADUATE SCHOOL OF MEDIA DESIGN, KEIO UNIVERSITY

Maiwa Motsamai

July 2012

Creative Leap Botswana: Encouraging creativity and innovation in Botswana children through digital storytelling and usage of new media technologies

A Master's Thesis

submitted to Graduate School of Media Design, Keio University
in partial fulfillment of the requirements for the degree of
MASTER OF MEDIA DESIGN

at

KEIO UNIVERSITY

Maiwa Motsamai

Thesis committee:

Professor Adrian D. Cheok (supervisor)

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Abstract of Master's Thesis of Academic Year 2012

Encouraging Creativity and Innovation in Botswana Children through Digital Storytelling and usage of New Media Technologies

Abstract

Children in developing countries are not exposed to a lot of technology. There is no stimulation for them to maximize their creative abilities and talents so as to foster personal and community development. Developing countries, particularly in Africa, are yet to realize the importance of creativity and innovation. Yet it is through such creative industries, among others, that countries such as Botswana can achieve development.

The onus of this investigative study is to find out how creativity and innovation through new technologies can be of use in Botswana's early education. The study will primarily focus on early childhood education. It looks at how to encourage/nurture creativity and innovation through the use of new media technologies to children in a small developing country called Botswana. It will first qualify the importance of building the creative industry within the learning strata in Botswana. This part also constitutes an assessment of the economic benefits of the creative industry, especially given the current challenges of lack of diversification. In order to accentuate the case, the study gives comparatives from Japan and the United States of America, wherein the author assesses the value and integral role of creative industries. Thus the core arguments revolve around the findings regarding present policy and paradigm shifts in Botswana's education system and feedback from the creative workshops that were conducted in Botswana by the researcher. The acme of this research will be a rigorous focus and analysis of the base structure that has to do with creative thinking as well as its link to technology. It builds further on how the base structure can be cultivated into a technology-based and interactive learning environment.

Children are the future leaders of Botswana as they are still in their learning process, still exploring/ curious. They also have a lot of potential to change the future of the creative society in Botswana as they are still not yet corrupted/ bended to a certain direction hence the need to nurture their creative skills at an early age. The Creative Leap workshops allow children to think freely, come up with new ideas and enjoy what they are doing while learning new skills, more of an informal education.

Key Terms: Creativity, Innovation, Developing economies, Children, Creative Workshops, Creative industries, Education

Graduate School of Media Design, Keio University
Maiwa Motsamai

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Dedications

This paper is dedicated to Ms Lelentle Moratwa Motsamai, for she is the reason I am here, my motivation for wanting to do well in life, to set a good example and path for her. To also be able to afford her all the opportunities I have had and better. Mommy loves you.

Chapter 1

1. INTRODUCTION

Botswana is reputed for having one of the fastest growing economies in the world for over a period of thirty-two years[1]. It was also noted for the peaceful environment and good fiscal management that culminated into a good pattern of economic growth. Botswana also avoided many pitfalls that besieged other developing countries such as "the Dutch disease", excessive corruption, fraud and mismanagement. This distinguished Botswana from many of its African counterparts. However, what is lacking in the development story is how Botswana managed to embark on such a development path through its founding civil service corps, which ipso facto underscores the role of education in development.

Development and education are intertwined. Studies suggest that there is a correlation between development and human capital development[2]. Among the nation builders that were first educated abroad were the founder of the republic Sir Seretse Khama, third president of the republic Mr. Festus Mogae; former legislator and tycoon Mr. David Magang; former Attorney General and current Minister of Foreign Affairs Phandu Skelemani; long-serving Governor of the Bank of Botswana Linah Mohohlo; and former permanent secretary and finance minister Mr. Baledzi Gaolathe[3]. The legacy of such stalwarts in Botswana's development is chronicled albeit sparingly and sporadically in a number of studies[4]. In order to maintain this legacy the Botswana government provided

1 African Economic Outlook: http://www.africaneconomicoutlook.org/en/countries/southern-africa/botswana/

2 Dean T. Jamison, Lawrence J. Lau and Jia Wang, (2010), "The Contribution of Health and Education to Economic Growth in China", in eds Gordon G. Liu, Shufang Zhang and Zongyi Zhang, *Investing in Human Capital For Economic Development in China*: World Scientific: Singapore and London, pp.19-42

3 See, David Magang, (2008), *The Magic of Perseverance: the Autobiography of David Magang*

4 Refer to the series which can be found in its entirety at the following link: http://www.mmegi.bw/index.php?cx=013898198313188046271%3Aaom_e9odviw&cof=FORID%3A11&q=icons+of+botswana&sa=Search&siteurl=www.mmegi.bw%2F&ref=

free education since the mid-1980s. This approach is also encapsulated in the Vision 2016 wherein it is stated that Botswana shall become an “educated and informed nation”. This underscores the role of an educated society towards achieving development.

The novelty of this study was to encourage/nurture creativity and innovation through the use of new media technologies in workshops to children in Botswana. As a comparative study, it was also to bench mark on how developed countries have succeeded in encouraging creativity. To address this, the researcher conducted creative workshops in one of the primary schools in Botswana for 100 kids aged 9-11. Where they were introduced to digital story telling using new media technologies under the theme Botho (humanity). The researcher chose to focus on the theme of humanity as children today are being exposed and consume a lot of foreign cultural material thus affecting their knowledge of their own cultural expectations. These workshops were a creative way of letting the children use their imagination freely and nurture their creative thinking, basic computer/technology skills while gaining societal moral education through digital stop animation.

The point of departure of this study is that learning should be digitized and also be targeted at the younger generation. Botswana is not immune to increasing global challenges such as the needed universal education. Despite whatever progress that has been made in this regard, this study holds that a conventional approach is insufficient. This study argues that learning in the classroom environment should not only be digitized but be interactive. This would stand in contrast to what is perhaps the greatest learning initiative in Africa, where lower primary pupils are using video conferencing and e-readers in their learning exercises. This study will also provide recommendations regarding an indicative road map that can be used in Botswana in order to achieve such a goal. The antecedent that informs this study is that should the learning environment be digitized and interactive it shall infuse and cement the role of technology and creativity in the society, which will eventually lead to innovation, business and result in better economic development. This is maybe where one can say Globalisation of Botswana

comes in, for the creative industry will enable Botswana to compete globally and be able to get Botswana some recognition internationally without having to depend on other nations.

1.1 BACKGROUND TO BOTSWANA

BOTSWANA

Figure 1.1: Map of Africa; Botswana

Source: http://www.worldatlas.com/webimage/countrys/africa/bw.htm

The Republic of Botswana is a land locked country situated in the Southern Africa. It is bordered by South Africa, Namibia, Zimbabwe and Zambia. It was a former British protectorate, before gaining independence in 1966. Although Botswana was not an outright colony it did not escape concomitant cultural influences evinced by the fact that English is the official language and that the modern lifestyle in urban towns and "urban villages" is heavily Western by most standards. These have such eminence over the

Setswana language as well as the sanctity of the Setswana culture, which somewhat only exists in name and nostalgic recollections during patriotic holidays such as Independence Day, Sir Seretse Khama Day (1 July), and President's Day.

The demographics and geographic features of Botswana are somewhat of a conundrum. Despite a land mass of 600,370 km^2 (231,804 sq mi)—which is about the size of Texas—the human population only amounts to about 2 million. According to the Central Statistics Office-Botswana:

> *A close analysis of the results shows that it has taken 28 years for Botswana's population to increase by one million. At the current rate and furthermore, with the current conditions prevailing, it would take 23 years for the population to increase by another million - to reach 3 million*.

The Economy

Botswana is a story of "ashes to riches" because at independence it was among the poorest countries in the world[5]. The discovery of diamonds deposits in the 1970s turned its fortunes. Thus Botswana was the fastest growing economy in the world for over a period of thirty-two (32) years[6]. However, the economy relies on three major contributors: mining, tourism and beef exports. According to the CSO Botswana's annual GDP increased by 19 % from BWP 101, 257.8 million (around US $14,857) in 2010 to BWP120, 540.5 million (US $17,679) in 2011. The mining sector revenues have declined since 2007 due to global recession, which curtailed diamonds markets. This incited economic diversification.

Botswana's economic management resulted from an amalgam of trained locals and expatriates. Like in most newly independent African states, a number of British or European experts were asked to remain behind to train the locals. They worked alongside

5 Hanson, Stephanie. (2008). "Botswana: An African Success Story Shows Strains", Council on Foreign Relations, Ref. http://www.cfr.org/botswana/botswana-african-success-story-shows-strains/p15108
6 Ibid. same as above

neophyte locals. As a result, Botswana's human capital development has grown over the years with a significant fraction being trained to qualify for manufacturing, civil service, business services and other labor aspects of the economy.

The Education System

Education has always been a priority with the government of Botswana hence providing free education to all its citizens, until Tertiary level, however it is not compulsory, parents choose whether to enroll their children or not to. The school system is divided into three main parts, that is seven years of primary school, followed by three years of junior secondary school and if the student passes their final Junior Certificate Examinations, they are then enrolled into a senior secondary school for two more years. Education is provided in English language except the one subject of Setswana, which is compulsory from primary education to senior secondary education. The Ministry of Education offers scholarships for tertiary education to students who performed well in their national senior secondary examinations (BGCSE) but the students have to apply to their University/college of choice. Botswana has a lot of students attending both local and international universities all over the world especially in English speaking countries.

Creative Society in Botswana

Batswana (citizens of Botswana) are very talented, as for many years they have done a lot of painting, crafting, weaving, molding and many others for personal usage. However Batswana consider these talents as a hobby and not something to make a living out of. Very few young people have joined the creative industries in Botswana and most young people are discouraged to join these as it is not easy to get a job or make a living out of. Also the society and government have not made it easy for these professions to thrive in the country. But due to the country's economy not being stable, the country is forced to look at other ways to keep the economy going and the answers are pointing to the creative industries. Only recently schools like Limkokwing University of Creative Technology, National Institute of Information technology (NIIT) opened campuses in Botswana, giving young people the opportunity to join creative industries. Despite all

these Botswana still does not have enough creative and innovative people and has a long way before building this group of people. Some people still do not know what creative industries are and many do not consider it as something that can inject money into the economy, what they can do for them and the country.

1.2 THESIS OVERVIEW: Summary of Chapters

Chapter two: Background to the study and Literature Review

Chapter two of this research gives a clear background to the research, why there was need for the research to be conducted in Botswana, what the current situation is and also an analysis of literature available on creativity, innovation and new technologies. It serves as the backbone and supporting arguments for the researcher and explores what has been done and what has not been done and also a basis for arguments presented in other chapters. This chapter first covers the motivation of this research. It also presents the researcher's findings on national policies of Botswana including primary school education as the paper deals with children, to see if the government has good enough initiatives in place to support the research and what it is currently doing to insure that children are afforded opportunities regarding creativity, innovation and technology. The chapter also covers other national policies like cultural policies and the country's vision 2016 and policies available in Botswana. Secondly it analyses and reviews present literature on children, digital storytelling, creative industries, creative society, ICT and developing worlds, how these can affect countries like Botswana, giving case studies of countries that have developed due to technology, innovation and creative thinking. Finally the chapter covers related works that have been done internationally by both developed and developing worlds.

Chapter three: Research Design

Chapter three deals with how the research was conducted, the methodology used. This involves clearly stating the statement of the problem, target audience of the project and research significance. It also looks closely at what was done and why, that is how the creative workshops were designed step by step, the planning process before the actual

work was conducted, what transpired during these workshops and the challenges experienced during the fieldwork.

Chapter four: Findings, Discussions and Evaluation

Chapter four. It goes on to look at the stake holders' opinion on the issue, that is articles

by experts and people in the industry in Botswana. It also presents results from a public survey that was conducted by the researcher to gather the public's knowledge and opinion on creativity, innovation and children. Finally the chapter analyses and presents the findings that were collected through the researcher's observation of the participants' reactions, expressions and outcomes of the workshops, included is also information from post workshops questionnaires to the participants and their teachers.

Chapter six: Conclusion and recommendations

Finally chapter six provides the researcher's conclusions of the research, was the research a success according to the findings, both positive and negative and her recommendations on what should have been done, what needs to be done to address the issues outlined in the paper. Lastly the chapter also looks at potential future works.

Chapter 2

2. BACKGROUND TO THE STUDY AND LITERATURE REVIEW

2.1 THE CREATIVE SOCIETY AND BOTSWANA (MOTIVATION)

In spite of Botswana's phenomenal economic growth, technical skills are seriously wanting. The economic stability does not correlate with economic development. Thomas argues that there is a difference between economic growth and economic development[7]. While economic growth is an innate part of mineral sales revenue (as is with diamonds), economic development is achieved through technical skills through various sectors of the economy. These cannot be achieved with current economic maledictions evinced by high rates of unemployment which stands at 17.8 %[8]. One of the primary reasons why there is such unemployment is due to constricted diversity of skills. The technological aspect is in appalling scarcity. Yet this is due to the absence of creative innovation and technology in the learning process. Factors such as a small population and higher costs of living and production inhibit FDI, hence it is needful to explore the extent to which creative innovative technologies can be of benefit.

In Botswana, the potential of creative and innovative technologies to reduce poverty is yet to be explored. Youth who could be potentially talented in this regard never get the chance to explore their talent. Even the use of technology in society is sparingly applied and sporadically identifiable. The absence and scarcity of creative technology is apparent in the learning system, services, communications and production processes. It is thus safe to submit that the creative industry in Botswana is almost nonexistent. Even in the case of upcoming talent since the establishment of Asian universities such as Limkokwing University of Creative Technology, National Institute of Information technology (NIIT), there is still minute employment alongside massive unemployment because the wholesome economy is not ready for them. It is against this background that this thesis

7 Michael Torado and Stephen C. Smith .2006. *Economic Development*, UK: Pearson Education Limited

8 Central Statistics Office-Botswana : http://www.cso.gov.bw/index.php?option=com_keyindicators&id=115

holds that the early learning process should be digitized and interactive so as to foster a vehement and widespread technology-laden society and economy.

2.2 Creative Class

According to Florida, a creative class is a socio economic class identified as a key driving force to economic development[9]. He argues that the creative class's relevance is in its members' ability to spur economic growth through innovation or new meaningful forms. This society includes scientists, engineers, professors, designers, education, music, architects, arts and entertainment. Their role in the economy is to create new ideas, new technologies and/or creative content. These people do not follow the old tradition of working or doing things, they create new approaches to problems that the society is facing.

> "*The key to economic growth lies not just in the ability to attract the creative class, but to translate that underlying advantage into creative economic outcomes in the form of new ideas, new high-tech businesses and regional growth"*[10]

It is only imperative that Botswana should have such a society in order to boost its economic profile. This means not only an increase in such jobs but a wide-reaching infusion of creativity and technology into the society. There is thus a keen anomaly in starting with the learning process. It is safe to argue to that for all societies that have adopted such practices; there was a similar approach wherein technology and innovation became the lifeline of the education system. What follows are comparative cases of the creative society from Japan and the USA.

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9 Florida, Richard, 2002 "The Rise of the Creative Class" New York

10 Florida, Richard, see the artcle by the washington post on the Rise of the creative Class: http://www.washingtonmonthly.com/features/2001/0205.florida.html

2.2.1 Comparative Cases: Creative Society in US and Japan

Due to the working relationship with countries such as Japan and America, and their contribution in helping Botswana and other developing countries with development and technologies, the researcher found it easy and necessary to compare and bench mark from these countries.

The USA has one of the longest working relationships with Botswana, being one of the major partners in the development of the sub Saharan country since its independence. With many Batswana students attending universities in the country through Botswana government and US scholarships , mostly in Engineering, ICT, medicine, mining, media and many more that Botswana local universities were not offering for a long time.

Japan on the other hand has just recently started relations with Botswana. Despite the new working relationship, Japan is already contributing to the country with numerous projects such as the set up of the new Botswana educational TV (Betv) which is funded by the Japan Broadcasting Corporation (NHK) and Botswana government. This initiative was set up in 2011, in hope to enrich and supplement formal education, modernise teaching methods and develop new teaching material, as well as improve the society's access to education in Botswana[11]. It is said that it was with these kind of television productions that Japan's economy improved to become one of the biggest economies in the world since world war II.

Botswana has also always taken and adopted most of its technology from countries such as the U.S and Japan, hence it is with this back drop that the researcher felt it justified to compare the two countries.

United States of America

The US is believed to have been the first country to recognize these groups of people in the 1960's[12]. Their mainstay was information technology[13]. Europe followed suit by

11 Mmegi newspaper (2010). " Education TV to be launched", available at http://www.mmegi.bw/index.php?sid=1&aid=7259&dir=2010/December/Friday10

12Ibid. same as page 20

13 Ibid. same as page 20

adopting a similar approach and consequently had a strong creative society that resulted in the growth of several economies within the EU bloc[14]. Creative society brings creative economy. Growing and attracting the creative society in a region/country will generate jobs, tax revenues, entrepreneurship hence alleviating poverty and the society's dependence on government[15]. It encourages individuals to be independent. This is what is needed in Botswana. A similar approach would provide enough stimulus for economic development.

Japan:

Japan presents a much more convincing case where the creative society has grown alongside other core economic sectors. One could say that the success story has some similarities to that of Botswana somehow, from being poor post WWII to being the 2nd largest economy in the world and now third.[16] It is an island with no natural resources yet an epitome of the efficacy of creativity and innovation. It has resulted in pluralized financial and economic revenues, which also resulted in the building and boost of the economy[17]. Japan is renowned for its technology. This was the nucleus of most of its popular culture in the 1980s and 1990s; through manga, anime and other entertainment bases which were available across the cyberspace[18]. Although it is difficult to argue that newer technologies have proliferated from the conventional, the horizontal proliferation encapsulated in the scope of usage is all the more apparent. New ideas, conceptual innovations are also resident here at Keio University-KMD. It is only a fraction of what is happening in the Japanese society.

There above cases warrant a diversified change in Botswana's creative landscape. There is potential in that area. Botswana must induce and nurture this indispensable class of people. Young people will build the economy if they have these skills from an early age.

14 Jason, Potts. (2011). "Creative Industries and Economic Evolution", UK&USA: Edward Elgar Publishing, pp.142-9

15 Ibid. same author, pp.33-40

16 The Japanese economic miracle : http://spice.stanford.edu/docs/122

17 Ibid.

18 W.J. McPherson. (1987). *The Economic Development of Japan*, UK: Cambridge University Press, pp.1-5 & 64-69

Creativity is important for the new generation of Batswana, to develop creative thinking, innovation, self-dependence, entrepreneurship, inventions and hence development of the society and country.

Botswana's impending approach would need to follow a simple path. Florida posits that in order for a country—including Botswana—to attract or nurture the Creative Class, it must possess "the three 'T's": Talent (a highly talented/educated/skilled population), Tolerance (a diverse community, which has a 'live and let live' ethos), and Technology (the technological infrastructure necessary to fuel an entrepreneurial culture). This is where students and creative workshops come in. Their purpose is to build an innovative and creative society. This can be achieved by an early introduction to new media technologies, with the assumption that it would make them think freely and "outside the box". They would thus find these useful in terms of personal and professional capacity.

2.3 REVIEW OF BOTSWANA POLICIES CONCERNING CREATIVITY, INNOVATION AND NEW MEDIA TECHNOLOGIES

Botswana is somewhat better than other African countries in many regards yet this does not excuse a lethargic approach to creative innovation and new media technologies. The need to nurture the aforementioned cannot be any more expedient than now. The following subsections provide an assessment of Botswana's education policy. They also concern themselves with the facets and opportunities within the education policy where creative innovative industries can be injected and nurtured through new media technologies. This does not leave out concrete and clear applications as to how that can be achieved.

2.3.1 EDUCATION POLICY:

Education is a fundamental human right in Botswana. It is considered so vital because of its role towards social and economic development.

> *Education is the foundation of any modern society. Botswana can never hope to achieve sustainable development without education. It is now well acknowledged that knowledge, and not capital per se, is the most important resource and ingredient for socio-economic development. Investment into human development can reduce poverty and enhance the economic well-being of a nation*[19].

Education from primary (elementary) to secondary is free for all citizens. The government also awards tertiary scholarships for top and mediocre performers. Exceptional ingenuity, which often correlates with scarce skills and advanced academic programs, is awarded with scholarships abroad in countries such as the UK, USA, Canada, Australia and New Zealand. The overall educational aims are consummated as follows:

> *To promote the all-round development of the individual; foster intellectual growth and creativity ; enable every citizen to achieve his/her full potential; develop moral, ethical and social values, cultural identity, self-esteem and good citizenship; prepare citizens to participate actively to further develop our democracy and prepare citizens for life in the 21st century*[20]

Basic education takes about ten years: seven years of primary education and 3 years of junior secondary school. Although there are plans for all students to complete high school regardless of their performance at junior high, the opposite as has been the norm.

i. Primary education policy

The imperious of primary education lies in its coincidence with the formative stage of child development. Thus it can foster a child's interest in education, which helps determine their future aspirations, based on their talents, abilities and capabilities. It is a

19 The Botswana Federation of Trade Unions, A Manifesto, 2007: iii

20 Republic of Botswana, Curriculum Blue print: Ten year basic education programme 1995:1

make or break stage. The *Botswana Revised National Policy on Education* (RNEP) of 1994 afforded a new syllabus which infused practical subjects into the curriculum. These include design and technology, art and craft, physical education, drama, dance and music which are expected to take at least five hours a week. The new syllabus is called the "Creative and Performing Arts". The syllabus focuses on four main components or modules[21], namely:

a. *Health and safety*: focuses on teaching the pupils the principles of safety, keeping fit and healthy.

b. *Communication*: focuses on giving understanding and awareness of using visual forms of communication. This includes drawing, painting, collage, mosaic, modeling, construction, illustration, lettering, pattern making, print making and textiles.

c. *Listening, composing and performance*: focuses on skills development and creativity through music, dance, drama and physical education; hence learners are given an opportunity to do choreography, games, athletics and gymnastics.

d. *Designing and making:* focuses on introducing learners to basic concepts of design and technology through a problem solving approach. Learners will also be exposed to the essence and importance of technology. This will be achieved through experiments and hands-on activities.

The Ministry of Education recently formed a new department that deals specifically with Media and ICT. This new department is currently working in collaboration with the Japanese government as well as NHK to incept an educational television channel. The primary objective of the project is to change ways of teaching and delivery: to draw learners' intentions towards the usage of the latest media technology in primary

21Ministry of Education and Skills Development, Botswana, The Revised national policy on Education, 1994
Also see Primary Education syllabuses by the Ministry of Education

education.

The above developments are likely to be fettered by a couple of challenges. Despite the government's efforts to include creative and practical subjects in the syllabus, there appears not to be enough time for them compared to conventional subjects like mathematics and science. One can argue that it is to be expected for such an introductory process like this one, but it is imperative to note that there is no overhaul to bring such a program in part with the rest. Such would include giving extra lessons meant to add momentum in order to speedily generate interest in these subjects. This would not only solve the learners' problems but the teachers' as well-because few of them have been trained for the new subjects.

Another challenge is the general shortage of new media technologies in schools. Currently, many primary and secondary schools still do not have computers. Internet is another and bigger problem. Lots of students proceed to tertiary education without computer awareness. This is particularly true for the vast majority that comes from non-urban areas. This can provide a learning gap between urban and non-urban high school graduates. If not, the pace of catching up is often a slow process. The challenges of such a process are stark naked when put on a global comparative perspective. This challenge extends to the general society wherein very few households own computers.

ii. Secondary Schools Syllabus

The current modicum is such that secondary school syllabus is a continuation of the primary syllabus. For example, the newly offered creative subjects such as art, design and technology, music, physical education and computer awareness have been offered at secondary level for many years. Traditionally these subjects were offered for a double

period[22] in a single school week. These creative subjects are also optional. This is an obstacle in itself, and stands to hamper the development of the creative industry.

22 Double period is where by a certain subject is offered 2 continuous classes on the school timetable/schedule.

Computer awareness is also a new subject that was implemented after the release of the *Revised National Policy on Education of 1994*. That is a welcome development but its 18 years of scarcity raises concerns. It only brings questions as to why it takes long to popularize and entrench such an important variable for the development of the creative industry in Botswana. It is beyond the scope of this study to underscore the importance and centrality of this subject with regards to the creative industry.

ICT is at the forefront of Botswana's drive for sustainable development. The informing philosophy is that knowledge, understanding and skills are vital for growth and sustainable developments in the information age. This partly explains the introduction of the computer programs in secondary schools. This also supports the National ICT Policy of 2007 which emphasizes the need to infuse ICT in children and young adults[23]. The antecedent is that ICT transformation and national growth can be achieved through the development of such skills amongst the locals. These are some of the steps that the government is taking as strategies to diversify the economy and to achieve Vision 2016.

2.3.2 VISION 2016

Vision 2016 was conceived in 1996, as a way of providing a roadmap for development. It focuses on problems of diversifying the economy, reducing high unemployment rate, high levels of poverty and HIV/AIDS. It came up with end targets. Among these pillars is the government's intent to achieve an "educated and informed nation". Relevant pillars are as to build:

a. A prosperous, productive and innovative society. It should have a diversified economy with an average income level per person of three times the current level, the equivalent of US$8,500. There should be full employment, so that the job opportunities are in balance with the number of people seeking work.
b. An educated, informed society. All citizens should have the choice of continued education, whether in academic fields or in vocational and

23 See Republic of Botswana, Ministry of Communication, Science and Technology, National Information and Communications Technology Policy, 2007 available at: http://www.ub.bw/ip/documents/2007_National%20Information%20and%20Communications%20Technology%20Policy.pdf

technical subjects. Botswana must also join the information age, with full access to the media of communication and the explosion of information flow that is revolutionizing the world.

c. A just and caring society. There should be an equitable distribution of income, and there should be no people living in poverty. A strong social safety net should support those who are disadvantaged. Every citizen should have access to good quality housing and to good quality health services within a reasonable distance. [24]

The objective is to change the education system to suit the requirements of the job market, entrepreneurship and requirements of diversifying the economy away from diamonds. Finding creative and innovative ways to develop the country and its people is where the creative industry comes in. For Botswana to achieve all the targets set in Vision 2016, it needs to nurture and support its creative society (creativity, innovation and technology). It must encourage young people to join the profession or industry, and to be independent from the government. The creative society has the ability to drive the development and economic growth through creativity and innovation, bringing about new ideas, new media technologies and new approaches to problems. Many countries have successfully managed to develop themselves through the creative society. Examples include the United Kingdom (with which Botswana has good relations), Singapore, Malaysia to mention but a few. Botswana can learn from them.

This study vehemently argues that primary and secondary school students can be the vanguard of this change. The process can be developed in such a way that it meets the above mentioned targets. This would require motivation and far-fetching support in order to ensure that they join the industry to use their skills and talents. Once such a base of skilled youth is created, it can attract investors into country; mainly because most of the industries within the scope of FDI require a great deal of ICT[25]. Moreover, there are lots

24 *A Framework for a Long Term Vision for Botswana*, 2002:4

25 US International Trade Commission. (2007). "Competitive Conditions for Foreign Direct Investment in India", Staff Research Study Series, Publication 3931, Ch.2-3;
Also see United Nations Conference on Trade and Development, "Science and Development: The New Paradigm for ICT", *Information Economy Report 2007-2008*, New York, United Nations Press, pp.29-35

of opportunities, including among value chains of large companies such as Samsung, LG and to mention a few, which could demonstrate a willingness to outsource part of its production chains. Such examples include the IT industry in India, where most Western companies outsourced part of their production chain skills such as IT-based calling centers, software generation and other creative and innovative technology related projects[26]. Botswana can attract such skills, more especially that most African countries are yet to tap into such a system. In this manner Botswana can continue to be a success story in Africa.

2.3.3 NATIONAL CULTURAL POLICY

Batswana value their culture, tradition which encourages its people to be respectful, compassionate, polite and good mannered. Botswana has even put forward one of its principles as **Botho**, which translates to "respect" and "humaneness". This is also synonymous with the African famed concept of "Ubuntu".

The culture encourages a close friendly society and using that aspect to empower and develop each other and the country in the process. Botswana's Ministry of Youth, Sports and Culture attempts to preserve the culture and history by encouraging youth to be interested in it. This means taking pride in their cultural identity. The first president of the republic, Sir Seretse Khama, is famed for having once said "a nation without culture is a dead nation"[27]. This study posits that creative industries can be an integral tool in such a policy drive. For example, there is an abundance of folklore that can be translated into comics, anime and other productions that can be produced using new media technologies.

The main key policy issues that affect development, new technologies and creative

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26 Ibid. USITC, 2007

27 "Chaba e e senang ngwao ke mokang e suleng" in Botswana local language, which meant that Batswana should not forget who they are and where they come from through all the developments and changes the country is going through.

industries are;[28]

E**ducation:** this is one way of passing down the culture from one generation to another trough formal education and non-formal education systems, to include cultural activities in the curriculum and providing resources and materials for it in schools.

Participation: to encourage participation in cultural events, the government feels there is need to provide them with free access to culture without any form of restriction, to provide them with cultural facilities all over the country and to use the latest media technologies to disseminate information not only locally but around the world.

Employment, Trade and Industries: This involves utilizing people's talents and skills to produce goods and services that can be marketable locally and globally. This is to provide employment and or entrepreneurial opportunities for the development of individuals and the nation. For the laws to provide copy right protection for intellectual properties like music, books or poetry in order to promote and encourage production and marketing and to provide financial assistance where deemed necessary.

Cultural Cooperation; this involves an exchange of cultural activities between Botswana and the global village. This is believed to open doors for exposure and training of man power for the country, to ensure that arts, archaeology, youth, women, sports (which are still very young and growing at a snail pace) have a role in the technical, educational and cultural co-operation agreement between Botswana and other countries at bilateral and multilateral level.

Research and inventory of national heritage; these involves studies, analysis, collection of data/information to find development opportunities and implement strategies that can be put in place to improve the country and its people.

S**cience and technology**; this provides a platform to improve the existing technologies,

28 Republic of Botswana, National Policy on culture 2001:11

to give the country's material and non-material culture the opportunity to be part of the global village. This will be one by making the new technologies available to the people. To import science and technology and ideas that go with it, which is believed not to pose threat to the Botswana culture but rather enhance it, giving opportunity for improvements and development.

Culture and Tourism; Tourism is the second largest contributor to the economy after diamonds. Culture plays a big role in the development of tourism. Our culture is an attraction (tourism attraction) on its own.

Youth and Children; Youth and children are the leaders of tomorrow Botswana, the mirror of society as Botswana sees them and through them Botswana shall reach its vision 2016.

> *Botswana youth have embraced national culture, especially in the area of performing arts and have made Botswana proud in traditional song and dance, theater, choral music, art and crafts. They have also on the other hand, experienced tremendous pressure to embrace, adopt and preserve aesthetic cultural values, norms and practices, while at the same time they have to contend with foreign culture transmitted through modern technology such as television and the internet*[29]

Crafts, Literary, Visual and Performing Arts; the development of these industries is still at a minimal despite the abundant talent the country has. Policies and strategies have been written and put in place but the implementation of these still leaves room for the industry to remain very small and contribute little to the development of its youth and the nation, For the many youth to not be attracted to it, for it to remain unrecognized by the society as a gateway to prosperity, and diversity.

The above stated policies can definitely be translated into use through creative innovative

29 Ministry of Labor and Home Affairs, National Policy on Culture 2001:25

media technologies. These include the use of animations and other multimedia projects that can help achieve this vision.

In conclusion, with the new and improved policies the government has put forth , it is apparent that the government is aware of the importance and the country's need for creativity and innovation (creative industries). However since this is just a new phenomena, the government is in need of new strategies to implement these policies and actually make the change they so talk about in their documents. The researcher believes that creative lessons is one of the strategies that the country can use to do this and afford Batswana an opportunity to eventually be creative and innovative.

2.4 Children and Creativity

Creativity is an important part of learning in modern societies. This role extends to economic aspects such as the entrepreneurial aspect of the creative industry. The social scope comprises the end-loaded usage in homes and schools. Sarsani (2005:15) argues that the deeper we plunge into the ocean of creativity, the more we unearth and the richer we become in terms of civilization and comforts of life[30]. Thus one can define creativity as the ability to conceive original and new ideas that can provide solutions from a non-conventional point of view.

During childhood one's daily activity is about learning new things in and outside the classroom. There is a natural tendency to explore what one does not know while serving one's curiosity about certain things in their surroundings[31]. Thus children are said to be creative hence it is important to spark and enhance their creative thinking skills. Consequently tutors can realize and appreciate their potential as individuals. This is an imperative and bonus in the 21st century by virtue of social and economic development.

Einon further argues that children are naturally creative as unlike adults. They do not plan activities but do first and think of them later, as their inborn talents develop through

30 Sarsani, 2005

31 Einon, Dorothy (2002) “Creative Child: recognize and stimulate your child's natural talent” Barron's educational series

experience. Her views are as follows:

> *Children have the curiosity and confidence to try new things; they are not self-conscious or afraid to make mistakes. Creative people hang onto these skills throughout life. A child who is encouraged to be creative is likely to remain so and adapt to a changing world.* (pp.7)

Creativity can be nurtured in children so as to enable them to freely use their talents, given the right resources to help them with the process. This is where new media technologies come in. The most basic realization of this is to introduce the use of basic computing skills and animation. This would enable children to tell their stories once trained to use such software. A digital still or video camera is also useful in this regard, since it forms part of the creative learning process.

2.5 Digital Storytelling and Creativity

Nicoletta Di Blas and colleagues with regard to digital story-telling believe that it brings substantial learning benefits as it helps with the children's social interaction skills, narrative and communication skills, experiential sensorial driven learning, technical abilities and deep understanding of the subject at hand[32].

However, in their paper presented at the 2010 ‘design interaction and children conference’ argue that technologies to help with these collective narrations are still lagging behind as most commercial products on the market view children as listeners of the stories and not creators. They further argue that where seeing the children as creators, the product producers provide ready-made characters for the children to create their narrations around, thus not allowing children to come up with their own original creations. They contend that only academic researches allow children to play with computers and give them the opportunity to freely express their imagination by creating and sharing their narrative stories[33]. Looking at the benefits of digital story-telling, it can also be adopted to help the children with their creative thinking, problem solving skills

32 Di Blas, et al. 2010.
33 Ibid. same author. Pg.12

and learning about moral standards such as *Botho/Ubuntu* while appreciating the technologies involved. *Botho*/humanity is part and parcel of *Batswana* (citizens of Botswana) culture and is strongly emphasised in the Botswana Vision 2016, a national manifesto, and in the education system (Towards Prosperity for All 1997). Without humanity, that is respect for one another, the society is directionless. It is thus important that children should be taught how to use technology to foster such positive traits.

2.6 Creative industries, ICT and developing worlds

Terms such as 'creative industries' and 'creative society' are commonly used in today's society. This captures interest concerning their meaning and application if not applicability. Caves defines creative industries as industries where the product or service has a substantial element of dynamic artistic or creative and technological aspect[34]. These may include art, design, computer games, publishing to name a few. The answer to growing and developing economies lies in the availability of creative society or industries and their new innovative ideas. Many scholars believe that there is a shift from countries targeting companies but rather now targeting talents or to grow the creative class. Florida argues that countries with a well-developed creative class have a brighter economic future and the edge to compete globally than those that have not yet developed a 'creative society'[35].

Globalization has become a buzzword and a catch-phrase used to describe the manner in which the world has become interconnected as a result of the advancement in technology. The world has become a ‘global village’, with the slogan: ‘Think Globally: Act Locally’ becoming pervasive in public forums, literature and newspapers. In other words, for each individual to be part of this ‘global village’, innovation has to be inculcated starting at the classroom.

Globalization is currently based on the idea of creativity, innovation and ICT. This also applies to developing countries, in order for them to be globalized, to compete with other

34 Caves. Creative industries: contract between art and commerce. 2011.
35 Florida , The rise of the Creative Class . 2002.

developed countries and attract big companies. Technology plays a vital role in our everyday lives, such as communication through mobile-phones; giving us access to news and information, for example TV or internet. Presently, technology can also be used as a tool to help with the creative and innovation process while helping with expanding the existing market and reaching out to consumers. Tay and colleagues summarize these views as follows:

> T*hroughout human history, technical development has been a powerful tool for human development and poverty reduction. The digital divide also does not need to be permanent. Technical adaptations and institutional innovations can lead to ever-expanding access*."[36]

This topic has been well researched in developed countries, whereas African countries are visibly absent from the preceding account of literature review. And this brings the question of how they can use their resources to nurture creative industries. The issues of how to adopt these policies and methods to developing countries is not sufficiently and rigorously addressed. Poor development and lack of creative personnel in these countries, incites this study to acknowledge the difficulty in building these types of human capital. It is challenging to change the people's perceptions and to get them to understand the potential and benefits and why there is need to change.

Botswana government has been doling out resources to its citizens in the form of economic empowerment, free education, free health and other schemes geared towards improving their lives. This has been necessitated by the mining of quality diamonds and their huge profits. As a result, Batswana have become 'dependent' on government. The government has instituted the culture of 'entitlement' amongst the citizenry. This kind of attitude, locally dubbed *'Atlhama ke go jese'* (let me spoon feed you) in *Setswana*, the national language, threatens the creativity amongst the society. Batswana know that their government would provide everything they need to survive. It is from this background that it would be a mammoth task to inculcate a creative culture amongst the Batswana. Nonetheless, the government acknowledges this, and thus tries to change it through

36 Tay, Re-inventing Asean. 2001. Pg.130

'better' education.

Due to Botswana's small population (lack of buying power), the country has been unable to attract foreign investment thus disabling them to compete globally despite being one of the largest diamond suppliers around the world. These forced the country to depend on countries such as the UK, US, South Africa and many others for marketing their products and expertise to name a few. However with creative industries, Botswana can be afforded the opportunity to compete globally; for them and their products to be known and recognised internationally and maybe attract companies/foreign investment due to their skills and expertise (as per Florida's theory) and making it the region's hub of innovation and creativity.

2.7. Related works

Most works/researches have been done regarding this topic internationally. However, it is still a very new and foreign concept in many developing countries like Botswana. Most designers seem to target developed regions, where most children are somewhat exposed to a bit of technology and have more opportunities to participate in such workshops.

KMD-Digital Kids workshops

Japan is one of the developed countries because of its technological advancement and innovation. Some of the workshops done in Japan, some by Keio University, include the "Digital Kids' Project", a real project by Keio Graduate School of Media Design students about creativity and children. They conduct various workshops to promote the children's creativity and ability to express themselves and promote and share their work(s) with the society specifically in Japan[37]. Digital kids had one international event where they worked hand in hand with the National University of Singapore to hold the WEF Youth Redesign Future workshop, a creative workshop done both in Singapore and Japan, in 2009. Participants aged between 13 and 19 were engaged in solving global issues and were asked to redesign the future[38]. Some of the young people made different types of works, as some made creative entertaining performances like puppet shows to address the

37 See keio Gradutae school of Media Design, http://www.kmd.keio.ac.jp/en/realprojects/digitalkids.php
38 See YGL youth task force blog; http://taskforce.tigweb.org/ygl_youth/reports/?current=4

issues and expressing their solutions while informing the public. It is with these kinds of research and projects that the researcher adopted the idea to take design, creativity, innovation and ICT to Botswana's rural communities.

Participatory Design workshops in rural India

While conducting the research to look into projects that were conducted in rural areas of the world, the researcher found that Matthew Kam and his colleagues conducted a two week Participatory Design (PD) workshop in the rural parts of India at a local school in 2005. Participatory design is meant to help produce computing systems that meet the needs of the intended child user. However, they found that recent initiatives to bring technology and computer studies to children in developing areas have not been involving this user group in the design process[39]. During the workshop, the researchers worked with the participants to design and proto-type electronic English foreign language games, the researchers created the software while the children designed the games. In their conclusions, Kam and his colleagues stressed the need to listen to the rural children and involve them in designing technology for their needs as otherwise the initiatives to extend information technology and innovation to these under-served communities are likely to fail. The researcher strongly agrees with the above conclusions that children in the developing world need to be involved more in design and innovation activities, if they are to compete globally and develop from being poor and learn to appreciate the importance of design, innovation and ICT. This kind of informal education needs to be put into Botswana's formal education curriculum not to only help the children learn Mathematics and other theoretical subjects creatively, but also to help with the newly introduced subjects of art and culture at the primary schools levels.

Voice Beyond Walls in Jerusalem

One of the more meaningful story telling workshops, was conducted in Palestinian refugees camp in the west Bank and east Jerusalem, where the researchers argue that it is important for most of these affected children/youths to share their narratives derived from

39 Kam, Practical Considerations for Participatory Design with Rural School Children in Underdeveloped Regions:Early Reflections from the Field. 2006

their lives, as it is not only for their sense of identity and understanding from others but is a form of creative expressions and advocacy about issues in their lives and alerting the worlds/people of what is going on[40]. These workshops were aimed to empower the marginalized youths. This project called "Voices Beyond Walls", by Sawhney from MIT, is aimed to empower the marginalized youths through digital storytelling, new media production and supporting their creative expressions.

Unlike some of the sophisticated and complicated projects, creative leap is made with very easy and basic technology as the researcher believes it is good for the participants who have no exposure not only to technology but also to basic creative and art skills. Though one might feel that the project is easy, she believes this will produce very good outcomes such as learning the cultural morals, creative story narration while introducing them to basic ICT skills and triggering their curiosity. She also acknowledges that once the children have been introduced to these skills, future works will introduce the more sophisticated approaches to the children in Botswana, with the backdrop that they are now comfortable and knowledgeable.

40 Sawhney (2009) pg.302

Chapter 3

3. RESEARCH DESIGN

This paper is aiming at finding new ways to build a creative society in Botswana and empower children as innovators by encouraging and nurturing creative thinking through storytelling and new media technologies in workshops. This research was motivated by the fact that People today live in the era where they have to find new creative innovative ways to solve problems that they face as a society. Creative society is now the key driving force to economic development; high tech industries. Creative society means having a creative economy. Growing a creative society in a country will generate jobs, tax revenues, entrepreneurship hence alleviating poverty and the society's dependence on government. The country today does not have the technology or these groups of creative people to help with this. But the researcher realized that Botswana despite not having creative peoples and its people currently being discouraged to join these industries has a lot of potential to change and develop. As also proven by the policies the country has put in place and ready to implement in Chapter 2. It is because of the above reasons that the researcher found it necessary to undertake this type of research focusing on Botswana while adopting from other successful stories i.e Japan. Though one might argue that, this is not new, it is however still foreign to developing worlds thus the novelty of this research is the fact that this has not been done before in Botswana and people never saw the need to do this due to the fact that Batswana do not recognize the creative class/industries as mentioned above.

Based on the background information provided and above information, the paper's proposed approach is conducting creative workshops in a local school in Botswana.

3.1 The key statement of the Problem

With the non-existence of creative industries in Botswana and or lack of recognition to it, what it can do for the country and its people, this research goes into finding a way to encourage children in Botswana to think creatively and have basic knowledge of new

media technologies in effort to contribute to building a group of creative professionals in the country.

3.2 Aims and Objectives

- The objective is to help enhance and nurture creative thinking and innovation in Botswana's early learning process; through the inception of workshops as a way of building a creative society in Botswana.
- Thus the idea is to help develop a creative and innovative society in line with the aspirations of Vision 2016 of having an informed, educated and innovative nation.

3.3 Research Significance

The significance of this research study is captured as follows:

- To be able to introduce a new way of thinking to Botswana children to spare their future interest and creativity—something that is yet to be done locally
- To introduce kids or young learners to new media technologies at a tender age
- To help contribute to the building of a creative society by producing a study that reviews how the education system creates awareness of the importance of creativity.
- To be able to conduct real life user testing, measurements, and obtain results for comparative studies with other countries

3.4 Sample Population

The main target of this research study comprises of primary school pupils within the age range of 9-11. Some of the reasons the research chose this group was because of their level of communication (language proficiency) in both English and Setswana (local language) making it easier to communicate with and understand instructions given to them. This is also because they are not yet corrupted to think a certain way unlike the adults and lastly because they are the future of Botswana.

3.5 CREATIVE LEAP WORKSHOPS: A Hypothetic Deductive Model

Creative Leap planned and conducted a series of creative writing and stop animation workshops at a local school called Bophirima Primary School in Gaborone West, Gaborone, Botswana. This locality is considered one of the most underdeveloped parts of the city. As a result, children from this part of the community are mostly marginalized by the social and government system.

The workshops were held for three days from March 26th to 28th with exactly 100 participants divided into 3 groups each consisting of 33, 33 and 34 children respectively. During these workshops the participants were asked to create stories focusing on the concept of BOTHO and create short stop animations of their stories. The below table and diagrams explain further how the workshop works and what the children are expected to learn in the process. *Botho* is one of the cultural principles of Botswana, which means respect. The practice is often exhibited by an extension into being helpful and empowering others in society.

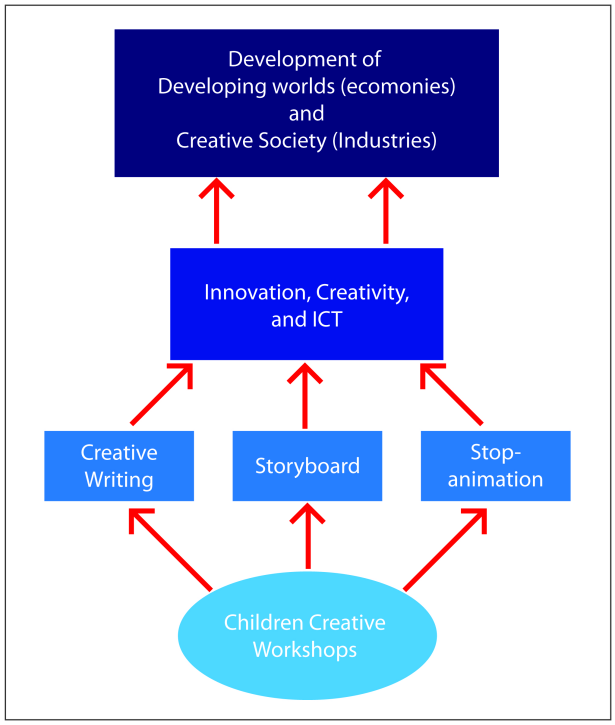


Figure 3.5: workshop design, transfer process and expected outcomes

	Task	Deliverable	Time allocated
1.1	Basic computer skills	To decrease the effect of children excitement of simply seeing and using computer by letting them get used to playing with the laptop, this is a way of introducing new media technologies. This was to help focus on the workshop content.	1st 30 minutes of workshop
1.2	Brain storming, Creative writing and story boarding	Help children write or create or tell stories with inspiration from a cultural theme, Botho then make story board/picture story. This encourages their creativity and innovation through exploring of ideas, drawings and team work. Also teaches them moral values of Botho.	1 hour 30 minutes
1.3	Stop-animation	Work with the children to create/build their animation set and mold their characters using clay, paper, cardboard, glue coloring pencils. Then make stop animation using a laptop and camera. Helps builds their basic ICT skills while encouraging them to be artistic and appreciate new media technology.	1 hour 30 minutes per workshop

Figure 3.5.1: Creative Leap workshop plan

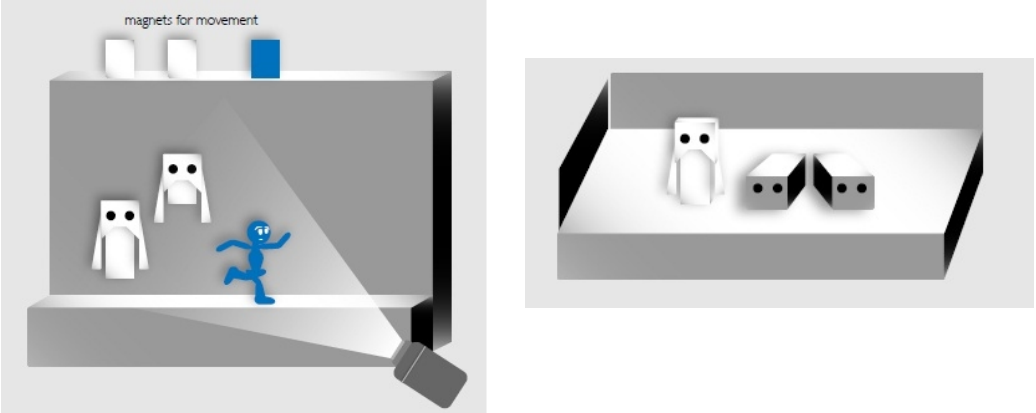


Figure 3.5.2: proposed stop animation board/set (DIY)

3.6 FIELDWORK: PROTO-TYPE TESTING

Based on the designs and information from the preceding chapters three, the author conducted three days of workshops at a local primary school with 4th graders. Each workshop session constituted about 33 participants and one teacher, whose role was to help with the explanation of the processes and encourage the children's participation.

3.6.1 Pre-Workshop Planning

Creative Leap Botswana was conceived in April 2011. A lot of ideas and proposals were made before the final workshop was designed, planned and adopted.

There was a lot of work and planning that went into the preparation for the workshops in Botswana. This includes consulting with the Ministry Of Education; the Regional Education Office; and the local school in order to acquire permission to work with them. The researcher also had to secure media equipment from the University of Botswana's Department of Media Studies.

Prior to departure to Botswana, a proposal was written to be submitted together with a letter from Keio University (KMD) to the officer in charge, Mr. Olekantse. Olekantse granted permission to work with one local primary school in

Gaborone West. The same papers, and those from the regional office, had to be submitted to the school head master, Mrs Pansiri. Due to the lack of resources; computers, cameras and manpower, the researcher had to send a proposal to the University of Botswana department of Media Studies Head, Professor Kerr for any form of help the school could provide. The Professor provided Creative Leap with video cameras and due to the fact that it was towards end of the semester, only 2 students were able to volunteer to help with camera operations during workshops.

3.7 ACTUAL FIELDWORK

The workshops were designed to help children with their creative thinking (imagination) skills, in order to introduce them to very basic art skills and ICT. With the children's lack of technical background or exposure to computers, there was an effort to give the participants time to get accustomed to the technologies. They were also told what they were expected to do. The children were also put into groups consisting of about 7-8 children per group. This was so that each participant can have a role or make use of their different talents to support one another during the workshop (cooperation).

Step 1: Storytelling and writing

The children being given the theme, “Botho”, and were asked to write stories that reflect *botho*. The children came up with different stories and had to choose one of the stories to animate. They were advised to make them in one location so as to make things easier for them when they build the set and animate as they are not familiar with animation. The stories were to be made without any audio hence again bringing a challenge for the students to be able to make their works communicate to others without sounds.

Figure 3.7.1: Children in groups brainstorming ideas under the theme BOTHO

Step 2: Story Boarding

Once the participants had decided on their stories, they were asked to tell the same stories using drawings (storyboard). They were provided with sheets of papers, story board templates and stationery. The delegated talents drew how they wanted to see their animation progress, step by step with guidance of their group members. This was one of the aspects of this workshop that the participants enjoyed the most and worked together well.

Figures 3.7.2: Some of the story boards made by the students

Step 3: Set Building

Upon finishing their story boards, the students were asked to start building their sets using card boards, sheets of paper and stationery provided. They also made their characters with molding clay. Again the participants enjoyed making these and were very

excited at the prospect of using a computer on the next stage.

Figure 3.7.3: Students making their characters using clay

Step 4: Animation

Having completed all the stages and preparations for their stop animations, the participants now had to make their animations using computer built-in camera and a stop animation software called stop motion animator. With the help and guidance of the researcher, the students put together their sets and characters, taking around 10-15 frames per shot before moving the character again. The software then automatically aligned all the pictures took and exported the stop animation into AVI file. Each group of participants made animation that spanned 30 seconds to 1 minute.

Figure 3.7.4: Participants watching their final output

3.8 LIMITATIONS AND CHALLENGES DURING WORKSHOPS

Due to the fact that, this kind of project or research has never been done in Botswana, this project had a lot of limitations and challenges. Some of the challenges were:

Lack of Basic ICT skills and Exposure: The participants were excited to see cameras and laptops which they are not exposed to on a daily basis. Because of this and their lack of ICT, there was a lot of noise and in order to contain the situation, the researcher had to allocate some time to letting the students play around with the equipment before progressing to the main workshop details thus cutting down on the time of other activities that needed more time. Because this was a school, the time the project was allocated by the government and the school was limited per day, hence working under a lot of pressure. Also at first the participants were not free to communicate their ideas during the brainstorming sessions, hence taking a lot of time to make them feel free and get accustomed to the workshop supervisors/the researcher. The researcher had to encourage the children that any idea they come up with is good and important.

Shortage of manpower and resources: one of the main limitations of the project was that, the researcher was working alone with no sponsorship for resources or travel. This became a challenge as the project needed more than one laptop and or human resource and the target school did not have any computers to be used or accessible to students and teachers. However the researcher managed to recruit a friend and two other media studies students from the university of Botswana to help during the workshops, giving the ratio of 33/34 kids per 3 supervisors. The researcher personally financed the workshops and transportation of the other volunteers.

CHAPTER 4

4. FINDINGS, DISCUSSIONS AND EVALUATION

4.1 DISCUSSIONS AND FEEDBACK FROM STAKE HOLDERS

After going through the policies of Botswana and learning what they are doing to support creativity in different ministries, specifically the two Ministries of education and youth, She then went to discuss and learn what policy makers/ scholars and other stake holders believe is being done and what can be further done to pave way for these talents and children. She also conducted a public survey to get the Botswana public's opinion and knowledge concerning creativity, innovation and technology.

4.1.1 Experts/scholars and people in the industry

While researching and looking for information concerning this topic, the researcher interviewed some of the people who are already in the industry, articles and discussions written in local newspapers and youths who are active in the creative industries as business owners and activists.

When consulted for his opinion by the researcher, Professor Eno Akpabio, former head of Media Studies Department at the University of Botswana, now Professor at school of Journalism and Mass communication at the University of Dar es Salaam, Tanzania. He felt that Botswana has made a lot of progress in the field of creativity and ICT. However he felt that these efforts were more especially in private schools and cities like Gaborone and Francistown. The Professor went on to say that efforts needs to be extended to rural areas of Botswana so as to make sure they are as wired as the big city. He argued that this will, “break the dependency syndrome, whether it is on government, South Africa or the West. People should be encouraged to take the bull by the horns all by themselves,” hence him believing that with creativity being encouraged at all levels, this will be possible for the country.

It seems scholars and Batswana maybe finally realizing the existence and importance of creativity, as just recently the researcher found an article on the Sunday standard newspaper, one of the leading local newspapers that reads: Botswana could consider creative industries as a sector of economy. In the article the writer states that, "The creative industries have been hailed as the real diamonds that will move Botswana forward after 2022 as they are the core of every other sector of the economy"[41]

4.1.2 Public opinion/survey results

The society/public also plays a role in the development of their country and as already established in this research, in accepting the creative people and supporting them. They also play a role as parents in helping and encouraging their children to explore their talents away from schools, hence the researcher believing that their opinions are very important and relevant to be included in her research. In order to collect these, the researcher conducted a public survey to Botswana public through usage of email and face-book. The survey targeted citizens of Botswana and or foreigners who have lived and experienced Botswana schooling system and life. The researcher collected 51 survey responses. However to present the findings, the researcher used qualitative analysis to present the findings as she felt it gives the findings more relevance.

Age and profession

A very good number of the survey participants were youths, that is they were below 35 years of age. These could have been because of the researcher's method of collecting the survey (emails and face-book) as most young people in Botswana are now very active in using social medias and technologies as compared to the elderly people who despite introduction of these technologies and mediums, are still left behind. Of these respondents, the survey showed that the majority of these young people however are not in the creative industries professions. As shown by the chart below:

41 Sunday standard online edition: www.sundaystandard.info/article.php?NewsID=13991&GroupID=3

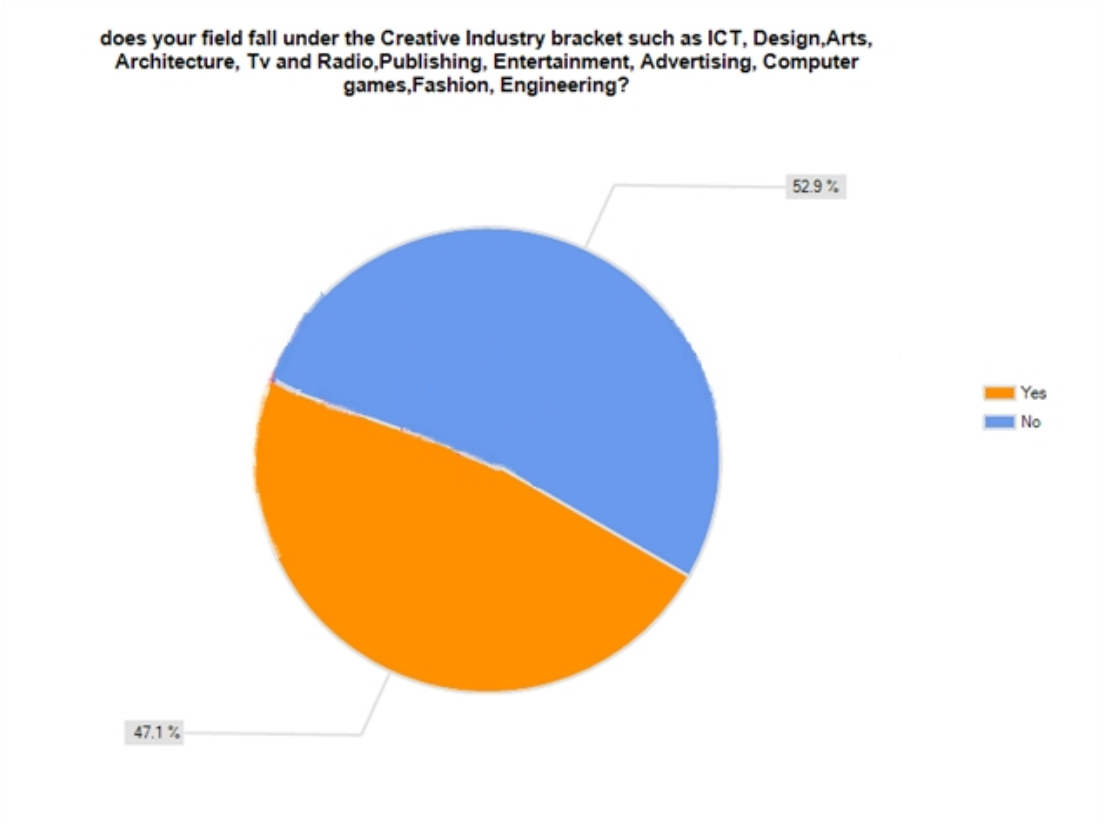


Figure 4.1.2: percentages of survey respondents on creative professions

Public schools and creative lessons/ICT

Most of the respondents when asked if the Botswana schools curriculum covers creativity, innovation and ICT subjects satisfactorily, seemed to give a negative response, that it is not satisfactory. When giving out their reasons, one of the respondents said, " ICT is relatively new to Botswana and you find that in a school of about 200 learners there are only 30-40 computers. And this is at junior and senior secondary schools, primary school students are not at all exposed to ICT, it is not even in the curricular at that stage. Rural schools are affected more. The same for creativity and Innovation, most schools do not cover topics of Art, design, creativity and innovation at entry level, except for private English medium schools, and most students are sent to government schools in Botswana." The public also expressed that the education system in Botswana is based on theory than practical and some blamed the shortage of the resources and trained skilled

man power to be the cause of this, as the government cannot afford to provide all schools with the right resources. “It’s quite difficult to provide ICT curriculum through the fiscal budget. In part sensible because, unlike other countries, education in Botswana is highly subsidized. The education budget is high, so the government is constrained to provide education at the lowest possible costs. We do not have sufficient skilled personnel on the creativity and Innovation, so we do not expect them to be offered in schools. We have to address it from the roots and allow enough time for change, like if we embark on creative and innovation today, we possibly should expect significant change after a decade or so,” said one respondent when addressing the issue of Botswana government providing free education to all its citizens and how that has an effect on the curriculum offered in public schools and the lack of creative talents in the country.

Still on the topic of children and creativity in schools, most of the survey participants strongly believed that there is need for the Government of Botswana to introduce creative lessons to all children in public primary schools in Botswana as they felt it is important in the 21st century and useful. However a small number of the respondents felt that the curriculum does cover enough of these subjects and that creative lessons are a waste of time and resources.

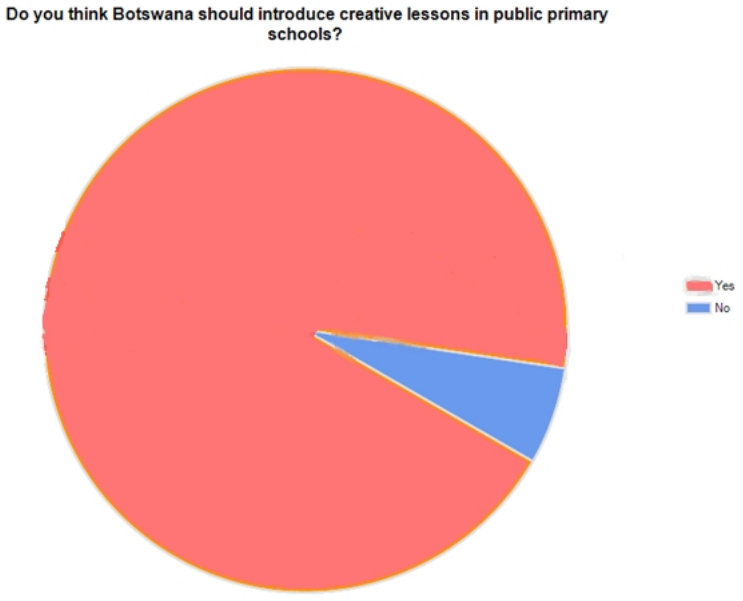


Figure 4.1.3: responses in percentage to whether to introduce creative lessons in local public schools in Botswana.

The need to grow creative talents and technology in Botswana

The survey asked for the public's opinion on growing creative talents and technology in Botswana, almost all respondents agreed that Botswana does need to grow their creative talents. Some of the reasoning given were so as they can be able to compete globally with other countries for markets and so as to be at the same standards as developed countries. When arguing their point of view, one of the survey participants said, “if Creative Talents and Technology are developed in our country we would rid the need to import expertise from other countries and instead empower locals.” some also mentioned these professions roles in helping improve some of the challenges that the country is facing such as poverty, diversification of the economy away from diamonds which were affected by the world economic crises and service delivery “not all children excel academically but they may be talented in other areas that need to be developed further, even up to a professional level. This could help close the unemployment gap n provide relief on the job market as some individuals would now get 'employed by their skills' so to speak ,” said one of the survey participant.

4.2 EVALUATION OF WORKSHOP RESULTS

The goal of the workshops was to encourage and spur creative thinking and introduce usage of basic new media technology to participants (primary school children aged 9-11 years). Data was collected in two different forms: observation during the workshops by the researcher and questionnaires (to both the teachers and students). Both positive and negative results of the workshops will be presented here so as for the researcher to assess both the weaknesses and strengths of her works and further recommend any improvements that can be made in future works. The data analyses will be focused on the Qualitative method, choosing certain key words to help analyse the questionnaire results.

4.2.1 Researcher's Observation

During the workshops, the researcher observed the behavior patterns of the participants throughout the 3 days of workshops. Form the participants' reactions throughout the 3 days, about 98% of them had never seen a lap top/ computer before the workshops or had any access to it hence the children were very excited to get the opportunity to play or learn how to use them for the first time. This conclusion was made by the researcher at the beginning of the workshops, as she had asked the participants if they knew a computer/ laptop, if they had used it before, and how/ when. The children did not have any knowledge of computers and molding. During the first day of the workshop, the children were at first not free to express themselves, to be creative and think outside the box, they were shy hence taking a lot of time for the researcher trying to find ways to motivate the participants. Eventually the workshop progressed but having taken a lot of time focused on the first step of events. During the drawing of the story boards, set building and molding stage, the children seemed to enjoy what they were doing, finding it more easy to do than having to come up with stories in step 1 of the workshop. The researcher also was a bit disorganized as she did not know what exactly to expect from the children but this was eventually put right on the second day of workshop.

Figure 4.2.1: The excited workshop participants

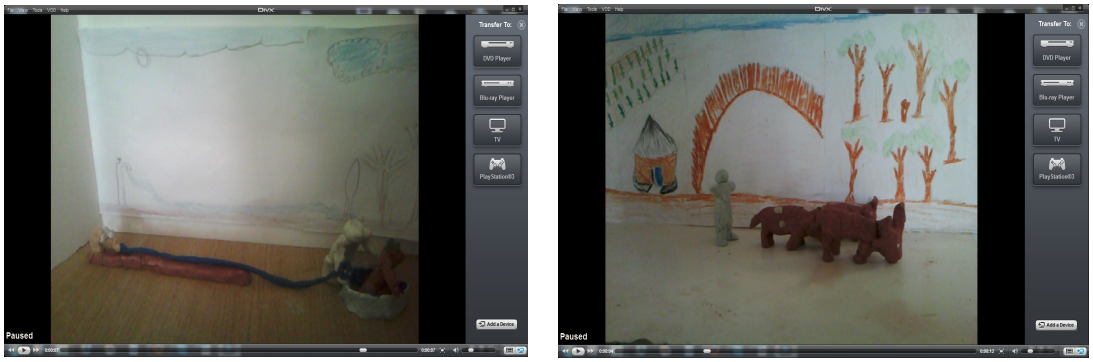
During the second day of the workshops, with a new batch of participants, having learnt from the previous day's mistakes, the workshop ran more smoothly than the first try out

and more organized. The researcher decided to motivate the participants by making it more into a competition, where the first group to finish their brainstorming ideas and story boards gets to use the lap top first and animate their stories. This competition got the participants to want to have the best stories and be first on line in order to use the computer. The children were more enthusiastic about using the computer and were even more fascinated at seeing their final works shown to the whole class at the end of the workshops. On the third and last day of the workshops, the workshop was even more successful as more works were produced by the students and on time as compared to the first and second day of workshops.

Despite the children's lack of molding and ICT skills, they were more willing to participate and learn. The students were keen to learn, enjoyed more the art and technical part of the workshops. In general the students seemed to find the brainstorming part more difficult and tiresome than the other steps of the workshops, which they found more fun and were more excited to tackle. This is also shown by the number of animations produced per day as shown by the below table.

S/N	Day 1	Day 2	Day 3
No. of participants:	33	34	33
Age:	9-11	9-11	9-11
Number of stop animations produced:	2	4	4

Figure 4.2.2: the number of participants and the workshops output



Figures 4.2.3: screen shots of students animations

4.2.2 Feedback from participants and teachers

Some of the participants were given post workshop questionnaires to fill including the teachers who were present during the workshops. The questions were structured looking at the age of the participants hence very straight to the point and requiring very simple answers. Of 100 participants, 60 were given the questionnaires, with 20 representatives from each group/day. Each questionnaire for the students consisted of 4 questions. For question one which read: Before today, have you ever used a computer before? Of the 60 who answered the questionnaire, only 6 answered YES and the other 54 answered NO. The second question: “did you enjoy yourself?” All the children answered yes, they had fun.

When asked what they have learnt from the workshop, most of the children excitedly said they learnt how to mold and use a computer whereas the minority said they have learnt about *Botho* and how to write stories. And lastly when asked if they would like to participate more on these type of workshops, all the participants answered yes.

3 teachers observed the workshops on the 3 different workshops, so as to help the researcher in dealing with the students as they have experience, know and understand them better. After the workshops, when asked about the workshop and what they felt about it, some of their answers were very positive:

> "*I sincerely believe the workshop was well organized and informative to the kids. Our syllabus does not cater for such workshops for our kids so it was a first time experience for them*" said one of the grade 4 teachers at Bophirima Primary School, Botswana.

Other teachers dismayed, expressed that most primary schools in Botswana do not have computers and that those that do, they are not used to teach children and that even they as teachers are not well learned or informed on ICT. However they expressed interest in learning how to use computers if given the chance and opportunity by their employers. They also expressed their interest in learning how to conduct these types of workshops for their students if they could be included in the primary school syllabus and provided with the right training, believing that the researcher should provide her findings and outcomes to the ministry of education, so as they consider putting the workshops in the public schools syllabus.

> "*As a teacher I learnt a lot and the workshop was an eye opener to me as to the extent with which we do not encourage and try to discover students' creative side. As teachers we should be encouraged to nurture such skills in children. The way the children responded and interacted was evident enough that there is something lacking in what we offer them. The workshop showed me that our teaching is one sided, on academics only*" said another teacher of Grade 4 students.

CHAPTER 5

5. CONCLUSION

This research paper has reviewed and analyzed that indeed creativity and innovation is important today, for one to live a better and developed life in the 21st century. But due to Botswana's lack of creative people and industries or rather lack of support to these people, many young people have run away from joining them and utilizing their talents. This however is affecting the economy of the country as Botswana government has to provide everything to its people, with high rates of youth unemployment and poverty. With all the above in consideration and with the government looking for new ways to improve their country's situation, the researcher found that there is a possibility for the country to have a thriving and successful group of creative people hence a creative economy that will lead them to development. The main key to this is through creative workshops to the local schools children.

While conducting workshops and research in one area of the city, what the researcher considers to be some of the major findings in this study are, children in private schools are afforded more opportunities today than those in rural, poor areas and public schools, but it is still not enough to encourage creative thinking and build a strong group of innovative creative people in Botswana to help with globalization and economic diversification. She nonetheless found that if children in Botswana schools were provided the opportunity to nurture their creative and ICT skills, allowed to use their imagination more, this could go a long way in helping build the industries.

On the questionnaires provided to the workshop participants, the researcher found it fitting to conclude that the workshops were a success and that the short term goals and objectives were achieved, although a small number of the students seemed to think that the workshops were meant to mainly teach them how to use a computer and play games.

5.1 RECOMMENDATIONS

Despite all the limitations and challenges on the project, the researcher strongly believes the workshops were successful and did achieve most of its short term objectives but more importantly arousing the children's imagination, curiosity and wanting to learn more. However there are a few suggestions/ideas that she recommends and believes will help in improving the workshops and the project's chances of reaching its long term goal, which is to build a group of creative people and creative industries. Below are some of the recommendations;

Botswana government participation

The government of Botswana is doing enough as it is to help empower its people with the free education. As a new initiative , the researcher believes that providing children in schools with not just formal education, but also supporting and encouraging the children to explore their other creative talents, interests and skills, will go a long way in helping the future citizens to be more independent. This way the government does not necessarily have to bring in new projects but to use the already available resources to improve the education system to cater for all the different types of children; the academic and the creative.

Due to the time constraints and the fact that those kinds of workshops are not constantly provided to the children, for the long term goals of the project to be achieved, there is need for constant workshops to be held in local schools in Botswana, not only to the Bophirima primary school students but to all schools country wide. From the participants' and stake holders' responses, the researcher strongly recommends that the Government of Botswana under the Ministry of Education, should consider including and introducing these kinds of exercises and other creative/ICT subjects/lessons in the primary education syllabus with students as young as 4th graders, as the younger they are, the better. During a public survey conducted by the researcher, more than 70% of the respondents agreed that the government of Botswana is indeed not providing enough lessons on creativity and ICT in local schools and they believed that it is very important today that their government provide the children with these skills and lessons.

With the government's participation as stake holders, the creative lessons will spread faster amongst the children and the society in general. With this kind of approach, the project's aims/goals/objectives will be realized, paving the road to having creative and innovative society/industries in the country, in the end helping with the country to diversify its economy and compete globally while eradicating poverty and unemployment.

Public awareness/education on creativity

The public or society plays a very important role in helping nurture and encourage creativity in children, both as parents and the society. Therefore there is need for the society to accept and support these professions. To build on of the 3T's Florida (2002) talked about, Tolerance, that is a society that does not only accept these creative people but are also open to trying out new things. With that being said, Batswana (society) need to change their views on issues of creativity and innovation industries and start to view it as a source of development to them and their country. They need to all contribute to helping build and encourage children to join creative and ICT professions, to encourage children to use their talents to better themselves. Because without the society's support, who are the parents, the children will not get the support system they need at home thus leading to the failure of this project. But one may wonder, how can this be done or achieved? The researcher acknowledges that as most people are afraid of change and are used to a traditional way of doing things, this will not be easy, however she believes it is possible through informing and educating Batswana of what creativity is, what it can do for them and more importantly their children in the 21st century. And with the support of their government and other stake holders, eventually this can be achieved and a new innovative, creative nation will be born.

Future questions to be looked into:

- Where do we want to be as a nation in the next 15-20 years?
- How do you plan to realize these visions/dreams? And with who?

- How far can these initiatives take us?

5.2 FUTURE WORKS

With creative Leap having achieved most of its objectives and having introduced Botswana and the children to some basic creative lessons, there is however still more room for more work to be done not only in Botswana but other developing countries as well. These are some of the possible future considerations:

- ***Collaborations with the Botswana government and other stake holders:***

The researcher is hoping to continue offering creative workshops in Botswana, country wide. However this will require help and participation from other stake holders like the Government and other organizations interested in children education and developing worlds like UNESCO (United Nations Education, Scientific and Cultural Organization). The researcher is also aiming at eventually opening a center in rural villages, where these kinds of lessons and technology will be available full time to the young people.

A more sophisticated and technical approach to the workshop focused on design and software:

As the previous workshops were very basic and worked as a form of introduction to the children, Creative Leap is hoping to take the project to another level by making it more interesting and technical. Some of the ideas the project has are:

i. Building educational games in collaboration with App bridge

Creative Leap is to explore working with the WEF, Young Global Leaders on the App bridge application, that is targeting the disadvantaged through the usage of text based mobile applications. Their main focus is on education, health, job skills and hunting, entrepreneurship, in other words ways that can help the poor enhance and improve their opportunities and life through innovation (appbridge.org). Using this platform, creative leap plans to create software that will allow children in developing worlds to design their own text based educational games. This way it helps with their creative, innovation skills while they benefit from them through their school formal education.

ii. Using Augmented reality in Animations

This will be a continuation of the previous animation workshops, where here after the children have shot and recorded their animations, AR technology could be used to control the stories in the system to make it more interesting for the children.

Collaboration with other KMD projects:

Since KMD is all about collaboration between different fields like technology, policy, management and design, the researcher is hoping that this could be applied or be put to use through collaborations between two other projects in KMD. Creative leap will organize joint workshops for children in developing countries and with collaboration with Digital kids organizing workshops with children in Japan or any other developed country, with Power of Motion pictures helping to broadcast/stream the workshops where the children can interact and share ideas live on video. This way it helps with both the children's creativity, giving them new ways of thinking and also helping to provide findings for the researcher concerning the level of exposure between developed and developing countries children.

Bibliography

- African Economic Outlook. (2012) "Botswana" available at: http://www.africaneconomicoutlook.org/en/countries/southern-africa/botswana/ [Accessed 10/06/12]

- A Framework for a Long Term Vision for Botswana (2002) available at: http://www.ub.bw/ip/documents/2002_A%20framework%20for%20a%20long%20term%20vision%20for%20Botswana.pdf [Accessed 16/05/11]

- Appbridge available at: www. appbridge.org [Accessed 10/06/12]

- Botswana; An african success story (2007) available at: http://www.politics.ie/forum/foreign-affairs/23510-botswana-african-success-story.html [Accessed 14/06/12]

- Caves R. E (2000) "Creative industries: contract between Art and Commerce", USA: Harvard University Press

- Central Statistics Office-Botswana available at: http://www.cso.gov.bw/index.php?option=com_keyindicators&id=115 [Accessed 14/05/12]

- Dean T. Jamison, Lawrence J. Lau and Jia Wang (2010), "The Contribution of Health and Education to Economic Growth in China", in eds Gordon G. Liu, Shufang Zhang and Zongyi Zhang, Investing in Human Capital For Economic Development in China: World Scientific: Singapore and London

- Einon, D. (2002) "Creative Child: recognise and stimulate your child's natural talent" Barron's educational series

- Ellington, L. (2004) "The Japanese economics miracle" available at: http://spice.stanford.edu/docs/122 [Accessed 14/06/12]

- Florida R. (2002), "The rise of the creative class" , basic books, New york

- Hanson, S (2008). "Botswana: An African Success Story Shows Strains", Council on Foreign Relations, available at: http://www.cfr.org/botswana/botswana-african-success-story-shows-strains/p15108 [Accessed 17/06/12]

- Keio Graduate School of Media Design "Digital kids Real project" available at: http://www.kmd.keio.ac.jp/en/realprojects/digitalkids.php [Accessed 06/06/12]

- Magang D. (2008), "The Magic of Perseverance: the Autobiography of David Magang," Cape Town: Center for Advanced Studies of African Society

- Matthew Kam et al (2006) "Practical Considerations for Participatory Design with Rural School Children in Underdeveloped Regions: Early Reflections from the Field" in *Proceedings of the 2006 conference on Interaction design and children,* ACM Press '06, pp. 25-32

- Map of Botswana available at: http://www.worldatlas.com/webimage/countrys/africa/bw.htm [Accessed 14/05/12]

- McPherson. W. J (1987). "The Economic Development of Japan," UK: Cambridge University Press, pp.1-5 & 64-69

- Ministry of Education and Skills Development, Botswana, available at: http://www.moe.gov.bw/index.php?id=146 [Accessed 16/05/11]

- Mmegi newspaper online edition (2010) " Education TV to be launched", available at http://www.mmegi.bw/index.php?sid=1&aid=7259&dir=2010/December/Friday10 [Accessed 24/07/12]

- Nicoletta Di Blas, Paolo Paolini, Amalia Sabiescu (2010) "Collective Digital Storytelling at School as a Whole-Class Interaction." in *Proceedings of the 9th International Conference on Interaction Design and Children*, ACM Press '10, pp.11-19

- Potts J. (2011). "Creative Industries and Economic Evolution", UK&USA: Edward Elgar Publishing, pp.142-9

- Republic of Botswana (1995), "Curriculum Blueprint: Ten Year Basic Education Programme." Gaborone: Government Printers.

- Republic of Botswana, Ministry of Communication, Science and Technology (2007) "National Information and Communications Technology Policy" available at: http://www.ub.bw/ip/documents/2007_National%20Information%20and%20Communications%20Technology%20Policy.pdf [Accessed 16/05/11]

- Republic of Botswana, Ministry of Labour and Home affairs (2001) "National Policy on Culture", available at: http://www.ub.bw/ip/documents/2001_National%20Policy%20on%20Culture.pdf [Accessed 16/05/11]

- Sarsani M. Reddy ed. (2005) "Creativity in education", New Delhi: Sarup & Sons

- Simon S. C. Tay, jesus P. Estanislao, Hadi Soesastro ed. (2001) "Re-inventing Asean", Singapore: Institute of South East Asian studies

- Sunday Standard online edition (2012) "Botswana could consider creative industries as a sector of economy", available at: www.sundaystandard.info/article.php?NewsID=13991&GroupID=3 [Accessed 08/06/12]

- Sawhney N. (2009) "Voices beyond walls: the role of digital story telling for empowering marginalised youth in refugee camps" in P*roceedings of the 8th International Conference on Interaction Design and Children* , ACM press '09, pp.302-305

- The Botswana Federation of Trade Unions (2007) "Policy on Education in Botswana," Botswana: Friedrich Ebert Stiftung available at: http://library.fes.de/pdf-files/bueros/botswana/04922.pdf [Accessed 16/05/11]

- Todaro M. and Smith S. C (2006). "Economic Development," UK: Pearson Education Limited

- US International Trade Commission. (2007). "Competitive Conditions for Foreign Direct Investment in India", Staff Research Study Series, Publication 3931, Ch.2-3

- United Nations Conference on Trade and Development, "Science and Development: The New Paradigm for ICT", Information Economy Report 2007-2008, New York, United Nations Press, pp.29-35

- YGL Youth task force: Global Redesign Initiative available at: http://taskforce.tigweb.org/ygl_youth/reports/?current=4\ [Accessed 12/02/12]

Appendix A

Creative Leap Botswana 2012

Children post-workshop questionnaires

Question 1: Before today, have you ever used a computer before?

Total number of respondents	Answer: Yes	Answer: No
60	6	54

Question 2: Did you enjoy yourself?

Total number of respondents	Answer: Yes	Answer: No
60	60	0

Question 3. What did you learn from this workshop today?

60 respondents, where most answers consisted of the following key words: computers, drawing, writing stories and Botho

Some of the Answers:
We learn how to draw and how to use a computer
I liked to learn about computers a lot
We used clay
We learned about using the computer
Using a computer
Writing my name in the computer
To write a story
Coloring and drawing

Using computer
Playing games in the computer
How to write composition in pictures
Drawing and using computer
We learned about how to respect elders1
How to draw and make things using clay
Using a computer
Botho
Telling stories using drawings
to be nice to our neighbors
Playing with computer
Drawing and using with a computer
Picture stories
Making people and animals using clay

Question 4: Do you think schools should have more classes like these?

Total number of respondents	Yes	No
60	60	0

Appendix B

Teachers post-workshop questionnaires

There were 3 teachers who participated on the workshops hence three respondents to the questionnaire.

Question 1: What did you think of the workshop?

Teacher 1: I sincerely believe the workshop was well organised and informative to the kids. Our syllabus does not cater for such workshops for our kids so it was a first time experience for them.

Teacher 2: Personally it was the first I see that happening for all the years I have been teaching, so it was fun for the kids and I also learnt something.

Teacher 3: It looked like the students enjoyed the lesson as we never teach this kind of classes here.

Question 2: Do you think schools in Botswana should have more classes like these?

Teacher 1: Schools in Botswana should have such workshops as they improve not only the children's creative skills but also gives them a chance to appreciate ICT. Primary schools do not even have computers so most kids are clueless when it comes to this.

Teacher 2: Yes

Teacher 3: Yes, it brings in the element of fun and this way the children will learn more as they will be enjoying the class, it will even help with the slow ones to understand better. The fun thing we have currently are only the radio lessons.

Question 3: Do you think creativity, innovation and technology can/ would benefit Batswana and the economy? And why?

Teacher 1:These would benefit Botswana's economy as a country. The job market is saturated and there are pleas for Batswana to look deep within themselves to create employment for themselves and others.

Teacher 2: If we use creativity together with technology then we can definitely encourage kids to take those as a career and venture into business hence reducing reliance on the govt. The creative industry in Botswana is still lagging behind so if such skills are initiated to kids at a younger age the industry can definitely grow hence creating employment

Question 4: Did you learn anything from the workshops?

Teacher 1: As a teacher I learnt a lot and the workshop was an eye opener to me as to the extent with which we do not encourage and try to discover students' creative side. As teachers we should be encouraged to nurture such skills in children. The way the children responded and interacted was evident enough that there is something lacking in what we offer them. The workshop showed me that our teaching is one sided, on academics only

Teacher 2: yes I did and Seeing the facilitator was doing a research I think it would be beneficial if the results and findings could be presented to relevant people within our education system so that such workshops are made part of the curriculum

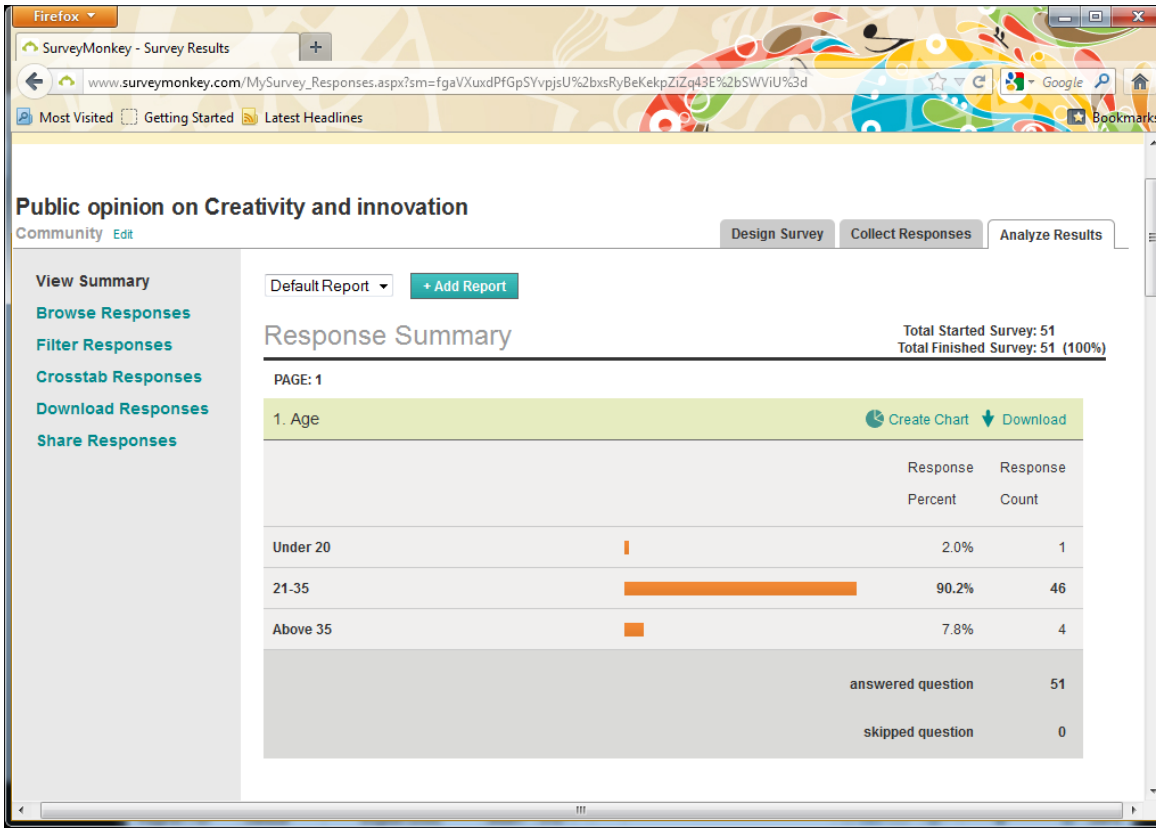
Teacher 3: Yes I did, though it will take for me to really learn all the steps and be able to do have the same lessons in my classes.

Appendix C

Public Survey

conducted online using email and face book

Question 1: Age



Question 2: Does your field fall under the Creative Industry bracket such as ICT, Design,Arts, Architecture, Tv and Radio,Publishing, Entertainment, Advertising, Computer games,Fashion, Engineering?

2. does your field fall under the Creative Industry bracket such as ICT, Design,Arts, Architecture, Tv and Radio,Publishing, Entertainment, Advertising, Computer games,Fashion, Engineering?

Create Chart Download

	Response Percent	Response Count
Yes	47.1%	24
No	52.9%	27
answered question		51
skipped question		0

Question 3: Does the Botswana schools Curriculum cover Creativity, Innovation and ICT satisfactorily? Yes/NO and please give reasons

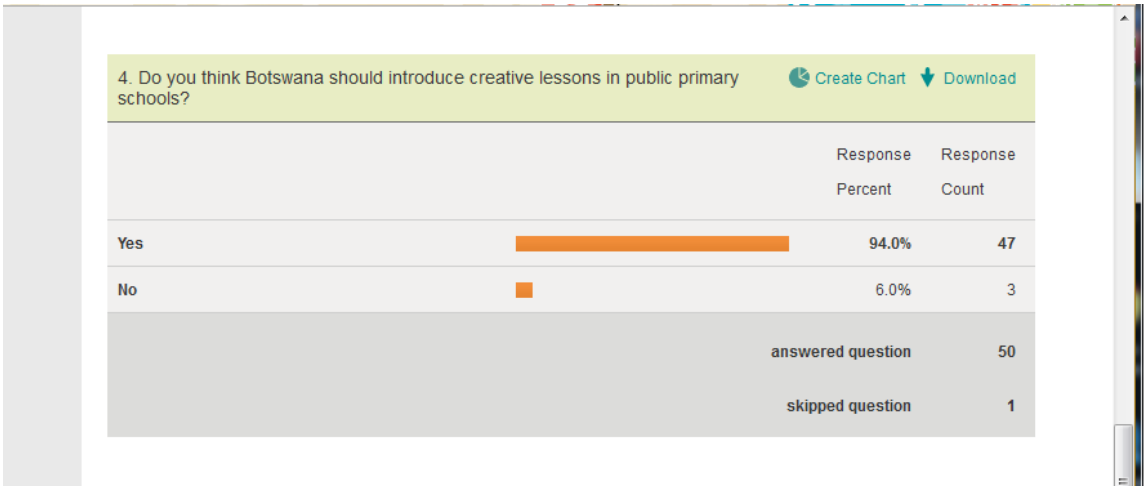
No. Not until you get to varsity. and at times one is not even conversant with the technology even then
No. The education system is largely based on the education curriculum from the colonial era where the subjects and skills imparted are based on the traditional subjects. Thus there is no focus to cover creativity, innovation and ICT. This can be seen by the number of people sitting for computer studies (which is still a traditional subject and very basic at the very least) at all levels of schooling
yes - to grow the economy
No. Too much emphasis is put on mainstream career paths like being a doctor, lawyer etc. not enough material is presented to young people to equip them to move into these fields.
Not really. At least in my experience i didn't think this was true;but i don't know much about the current system. However there are still no computers in most schools and exposure to this kind of technology can enable kids to maximize their potential
No
I dont come from Tswana
No, many people learn the computer at middle high school and limited to a few.
No, only private schools offer some amount of exposure to this industry, however it is also limited and not much emphasis is taken on the subject i.e. it is mostly treated as an extra curricular subject.

No, half the people who try to teach those do not know what they are doing
No
No. ICT is relatively new to Botswana and u find that in a school of about 200 learners there are only 30-40 computers. And this at junior & senior secondary school, primary school students are not at all exposed to ICT, it is not even in the curricular at that stage. Rural schools are affected more. The same for creativity and Innovation, most schools do not cover topics of Art, design, creativity and innovation at entry level, except for private English medium schools, and most students are sent to government schools in Botswana.
No, 1.The education in Botswana is based much on theory. Therefore creativity and innovation as part of practical has been surpassed. 2. Inadequate ICTs in government schools. Its quite difficult to provide curriculum ICTs through fiscal budget. In part sensible because, unlike other countries, education in Botswana is highly subsidized. The education budget is high, so the government is constrained to provide education at the lowest possible costs. 3.We do not have sufficient skilled personnel on the creativity and Innovation, so we do not expect them to be offered in schools. We have to address it from the roots and allow enough time for change, like if we embark on creative and innovation today, we possibly should expect significant change after a decade or so.
i don't think it does looking at the way people carbon copy other people ideas without implementing their own even the youth of today. they are struggling to hit the market because they wait to see what initiatives some people in the market have done and how much profits others have made to implement same ideas therefore flooding the market worth little out puts.
No, only few students have access to studying ICT as computer science is an optional subject
NO. The Botswana curriculum is mainly based on academics rather than creativity. This could be due to lack of resources to provide material that would aid infusion of innovation creativity n ICT in the curriculum.
No. The Government needs to move beyond traditional curriculum method and implement new technologies to grow the study setting
No because the majority of Batswana students that graduate from high school do not have enough knowledge in terms of ICT. If only ICT was made a mandatory school subject from elementary school until high school.
No ICT is introduced late in schools and it is not interactive also some schools don't have electricity.
For this upcoming generation i think they are trying cos they computer studies in high schools,and the syllabus covers basic of computer networking and bit of programming lessons (the C language) but this is not satisfying though, this should b introduced at early stages education like at pre-schools/primary
No, because children are introduced to computers very late in their schooling life usually at Secondary school level. A foundation needs to be built as early as primary school.

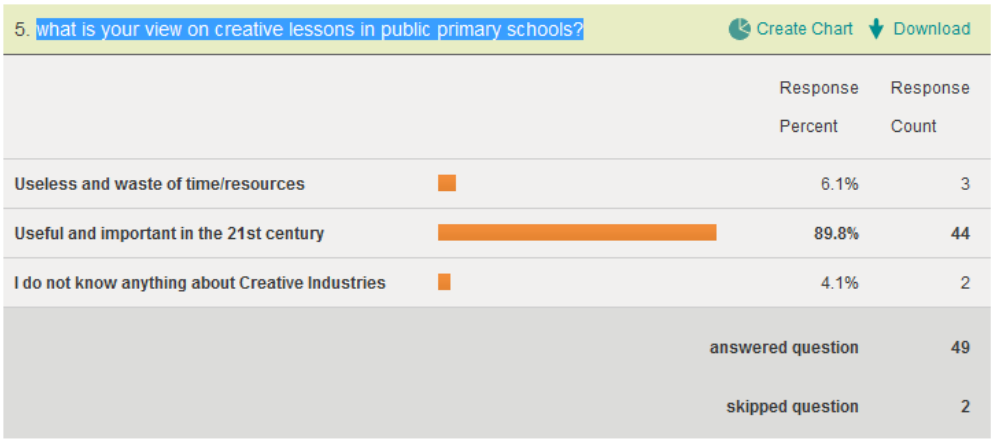
No, the subjects that cover creativity are limited.
No, lack of resources to cover this fields.
yes, they cove it. creative and performing arts subjects in primary schools, technical subjects in secondary schools and BTEP programmes in all technical colleges across the Botswana
No
No our education system just cover normal theory lessons form grade 1 until high school
NO, But its slowly being introduced in schools so hoping it will be well covered in a few covered in a few years to come.
Yes, ICT is regarded as an option in schools and it is not taken seriously like science related subject.
No
Yes - Tertiary does this as the government saw the need for it
Not satisfactory, it is not emphasized even in an art class
NO, because student start learning new media at a late stage, in high school and universities.
yes but it does not cover it in much details, there are not a lot of lessons that give a student time to be creative
No because graduates from the above mentioned field are not as good as you would expect them to be, there is too much theoretical materials than practical in schools and most Batswana discover their talents at a later age even beyond college graduation rather than at primary/junior school where they could have made a choice to get a higher education on the area of their talents. it kind of make it look like after all they have wasted sponsorships/ resources on something that they wont even use.
No. Children from PUBLIC primary schools up to senior are just taught basic subjects like maths, English and other subjects. for example; I acquired my computer skills at Varsity level.
No, the Creativity, Innovation and ICT of Botswana schools is unsatisfactory because students are not taught creative and technologically like they should be. It is in some ways lacking because a lot of Batswana students gain creative and technological knowledge at a very late age.
No
No there is more to be done. at lower levels of education learners are not trained to be creativity and then at high school they are expected to think critically and be innovative which becomes difficult for them.
No, it is not really being taught
NO:it has no sense of creativity since it does not cover any skills that one can use in future out of school

Yes, but to a certain extent. it only covers areas and market limited but Botswana industry. they do cover or cater for global market.
Yes. It does not necessarily has to be in the same level as the 1st world. The question is; To what extend does the curriculum has to cover these factors?
No probably due to lack of facilities and expertise
No! my answer is solely based on my experience during my schooling days, not familiar with the current situation
No
No, a developing country lacking creative people.
No,a lot of schools in Botswana (Government schools. Please note that government schools enroll large numbers of students) do no have facilities and equipments that covers this field, some school are in remote area and do not have access to anything let alone ICT. the curriculum is not covered satisfactorily because theory is learnt. But there are no practicals to enhance understanding,skills and bringing about creativity among students
NO Most Batswana are exposed to ICT and creativity at higher education like university
NO, The subjects in the schools are considered as optional. In my opinion these subjects will continue to lack importance as long as they are options and not core subjects.
No, there are no or very few computers in government schools, hence depriving creativity and innovation based on computer technology.

Question 4: Do you think Botswana should introduce creative lessons in public primary schools?



Question 5: what is your view on creative lessons in public primary schools?



5. what is your view on creative lessons in public primary schools?

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	Response Percent	Response Count
Useless and waste of time/resources	6.1%	3
Useful and important in the 21st century	89.8%	44
I do not know anything about Creative Industries	4.1%	2
answered question		49
skipped question		2

Question 6: Do you see the need to grow Creative Talents and Technology in Botswana? Yes/NO and please elaborate.

Yes
Yes. helps increase the 'street smart' element in kids. they would know(have an idea on) how to help themselves and be financially independent
Yes, there is need for Botswana to produce students/workers who will cope with the changing international scene as well as those who will diversify the economic base. Future economics will to a large extent be based on technological innovations and technology. this will help the country to move forward in a more efficient way and be able to cope with modern day challenges. the lack of even a basic ICT policy shows to a lack of knowledge within the public sector which often does not benefit the country
yes to make bw successful
Yes. Tho world is now made even smaller by technology and the ease of communication. It is preferred that creative talents and technology in Botswana is encouraged
Yes..through creative talents the country can accrue a lot of benefits given the era that we are in the information age. Through creativity,innovation can be harnessed. But it also depends on whether,by creativity you mean more of the arts than the science of it. Depending on your meaning-there is great need for innovation.
Yes
Need
Yes, because we are living times of technology.

Yes, to offer children an opportunity to understand their talents at a young age and furthermore offer diverse options of industries to explore at a tertiary. Furthermore if Creative Talents and Technology are developed in our country we would rid the need to import expertise from other countries and instead empower locals.
yes, there is a great need, Botswana has got nothing to offer except diamonds and the great wild, it would be a big plus if we can offer technology too
Yes
Yes. The World is moving or has already moved to embrace creative talents and Botswana should not be left behind. Creative Technologies have so far enriched many lives in other countries. I believe that should Botswana embrace creative talents and technology, it will be better placed to tackle technology and development in the 21st century.
Yes. 1.In this 21st century there is a need for every country to develop talents in order to tap the benefits of globalization. Creativity talents have shown to be a global growing sector in terms of rewards, so its important for global citizens to take part. 2. In particular for Botswana, where we have talked the dialogue of economic diversification till today with no progress perhaps we have to consider more on the creative talents and Technology route. The sole dependency on diamonds makes us vulnerable to external shocks like the recent global recession. Innovation will help us diversify economy.
Yes because Batswana would rely on their own ideas n stop coping others innovations. A creative nation is what the 21st century needs to be able to sustain its people to minimize poverty and Batswana would minimise to rely on government to create job opportunities for them as the main employer therefore in return create more employment
The world is run by technology hence citizens esp the kids should know technology and be nurtured at a young age
There is an immense need to grow creative talents and technology in Botswana because not all children excel academically but they may be talented in other areas that need to be developed further, even up to a professional level. This could help close the unemployment gap n provide relief on the job market as some individuals would now get 'employed by their skills' so to speak
Yes. But do you think Botswana has the expertise and resources to implement such a project int the schools. For all, there are no internet access in rural schools. so i wonder whom you wish to target.
Yes because in this today's world is run by ICT and if only Botswana would take a step on also engaging in the effect use of UCT then it would not be left behind in terms of new development and technologies that are invented on a daily basis. This would also diversify Botswana's economy by having a lot more citizens that are capable of further specializing in ICT without any difficulties. This would also minimize the importation of a lot of technological products that can be produced in Botswana itself. Botswana would also see itself being a globally competitive country taking part in world technological expo's. This would lead to having technological inventions in Botswana like the Bullet train technology that was invented in Japan. This would also market the

country as a whole, decrease the high rates of unemployment e.t.c.
Yes it helps learning for children easier
Give me one name of a developed country that doesn't have anything 2 do creativity..! well that's the point creative talents and technology does put the development of the country on top, we need technology in Botswana in order to have sum services that developed countries have, example the cash deposit machine.
Yes it is important to grow creative technologies at school level as that would serve as an incubator for human resources for for the industries later on in life which will help the country realise its 2016 pillar of an educated and informed nation as well as sustained economic growth.
Yes, since the unemployed rate is high in Botswana creative talents and tech could be the only way to close the gap.
Yes, it might help people to be self reliant because when an individual has his/her own specialty he/she can do what ever he wants to generate income and create employment for the citizens too.
Yes, so that young people can be allowed to focus their careers at an early age
Yes
Not sure
yes
Yes, because the world revolves around new technology and it can help in creating employment in the long run.
yes
yes, because of the era that we are living in, this is an area where Botswana should invest on the technology so we are in the same page with the so called developed countries
Yes! Creative talent helps in the growth of the mind and will help individuals think outside the box!
Yes. We are leaving in the 21 century and hence we should be at par with developed countries and if not we should bridge the gap. Children should be talk at an early stage as early as 7 years.
looking at where the world is in terms of technology Botswana needs to step up their game and try to catch up with the other countries around the world.
yes because it can even help children to develop and discover their talents leading to self reliance through starting businesses and being employers thus making a difference.
Yes. When i compare Botswana to other countries such as South Africa, I think we are still behind in terms of Creative Talents. Just a simple example, advertising in Botswana is low in standards. Botswana Television Broadcasting is so boring. We really need to grow in this filed and I think it should start from Primary school or even per-schools.
Yes because this will in the future help to develop Botswana as creativity and

technology are important in boosting the economy of a country.
Yes. To catch up with modern technologies, use the creative minds to develop and move with the times.
Yes otherwise Botswana will continue importing technology and this slows down development. Creativity and technology help develop the country.
It can improve small businesses
YES:in terms of self development since we are in Africa and so there is a need to make our lives easier since technology is everywhere in this century
Yes. it helps people realise their fields of interest at an early age.
Yes
Yes, We are living in a dynamic world so we need those things
Yes! creative industries could be the answer to government's desperate efforts to diversify the economy
Yes
Yes, its imperative for every developing country to grow such talents to be at par with developed country, provision of services to the people would be faster and of better quality.
Yes, Botswana is included in the global economy therefore children in schools should be prepared at an early stage to be able to function and participate in the global markets at equal standards with other countries, being able to create recognizable quality brands that would be able to compete at international level.
Yes because it helps with the development of the country and globalisation
YES, some people have talents which can be developed through the formalising of creative talents and technology subjects in school. If they are able to make a career out of it, it can then become something that can diversify the economy of the country.
Yes, for development. The country need experts in technology who are innovative, we are tired of depending on expatriates for technology.