

## **Canvassing for Formal Integration of Animation Technologies into Childhood Education in Developing Countries.**

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**Abstract:** *This article explores the benefits of utilizing animation to enhance early child education. This form of education enables children to engage and prosper in the primary school classroom environment. It enhances their feelings and self-assurance. However, early childhood education is facing a significant number of challenges in implementing this approach due to the lack of a world-wide policy framework, inadequate teaching, learning resources, funding constraints, poor socioeconomic factors operating in individual countries, teachers requiring greater classroom skills, and children lacking engagement in learning. The authors' opinion is that animation technology could be employed to help solve a number of educational challenges, thereby helping to ease teachers' frustrations and improve educational outcomes. The author also argued that since animation technologies are becoming friendlier to use, cheaper and increasingly available in a number of developing countries, including those who are traditionally tagged socio-economically poor; there is the need to formally integrate these technologies into learning curriculum of teachers, and in engaging special needs subjects. The author also further suggested a need articulate a road map to guide such integration, including seeking the support of the United Nations education systems, NGOs, developmental partners, and the local universities.*

**Keywords** -*Animation technologies, early childhood education, Storytelling, Films and Affinities*

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### **I. Introduction**

Early childhood education is a form of formal or informal education. It is the form of education for children entering school up to the age of 8 years. During these years, the foundations for later life, such as personality attributes, thoughts, emotions, and behavior are laid. Consequently, early education can be said to have a profound effect on children and their later adolescent and adult life.

There is an increasing alertness of the significance of education, particularly during the early ages of childhood development, to the extent that access to a quality early education is widely regarded a basic human right. This position has been recommended by the United Nations [1]. Therefore, in many sections of the world, early education is obligatory to a certain age.

Despite the universal appeal for and positive sentiment surrounding early education, it has and continues to experience a number of notable challenges in implementation. Such challenges are gaps in policy frameworks, high teacher-child ratio, inadequate teaching and learning resources, funding constraints, the low socioeconomic status of the country, teachers who experience a very high workload, children with a lack of motivation and engagement in learning.

Consequently, the authors have concluded that there is a use for the improvement of a 'beginners' focused strategy' to allow the fruitful application of animation technology in initial childhood education. Animation support in teaching and learning during the early childhood years is capable of radically improving the way in which topics across a wide range of difficult subjects are taught, and to engaging special needs education of some individuals, particularly in the developing countries of the world where scarce resources are prevalent.

### **II. LITERATURE REVIEW**

In simplistic terms, education has been defined as a process in which the acquisition of information, skills, philosophies, beliefs and human lifestyles is facilitated [2]. It takes place under the supervision of educators/teachers, but learners may also educate themselves. It can be either, or both, formal and informal.

However, initial childhood learning is a significant part of general education. It reveals to the training of young children both at home and school, up to the tender age of around 8 years [2]. Infant and preschool education is a subdivision of initial childhood learning.

Initial childhood education enables children to enter and thrive in the elementary school classroom, decreasing the risk of mental illness, and helping the development of independent adults [3]. In other words, a child at this initial level of learning is taught to be open to understandings and analytical thinking. She/he is exposed to all subjects, beginning with the environment in which he/she lives and in time, encompasses ethics,

science, and belief systems. At this early stage, this formative type of education is capable of the following: closing the cognitive gap between lower and higher-income children before formal education starts, increasing subsequent high school graduation rates, improving performance on regulated tests, and decreasing both repetition of classroom material and the amount of children arranged in learning support education. Schweinhart et al. [4]

Early infancy education has been recognized as fundamental to human growth, development, and personal happiness in later life. In fact, the United Nations has declared it a right for all humans [5]. It specifically declared that elementary/ fundamental education is the inalienable right of entire human beings, irrespective of their country, place, beliefs, culture, or any other socially constructed status.

A number of challenges to the implementation and success of primary childhood learning have been identified, particularly in developing countries. These are gaps in the policy frameworks, socioeconomic factors, funding constraints, inadequate teaching and learning resources, and a high teacher-child ratio [6]. However, animation technology offers some significant windows of opportunity in making educational learning easy, interesting, and stress-free for the learner.

### **III. THE USE OF ANIMATION TO AID LEARNING AND KNOWLEDGE.**

The inherent power of an animated content as an educational tool can be understood by the unique mechanism within the animated film medium itself. Gunnar Strom, in his paper titled “Animated Documentary”, recognized these unique powers. He called them “mechanism-affinities” [7]. For him, the affinities are stylization, distillation, and generalization. It is the combined power of these three ideas that signifies “the animated projected world”, alternatively known as a trilogy. This trilogy concept facilitates a number of possibilities in animated documentaries. It is also what makes animated films more superior to real action life shorts when telling stories of any kind, and particularly to young children. It was these unique characteristics and mechanisms that made Odell’s animated films so highly regarded. For example, in Odell’s film “Lies”, the animated characters in the movie were professionally manipulated to show how human beings tell lies, and why. In the process, the film evoked a significant amount of humor and sympathy. The animated film succeeded in teaching the subject matter of “Lies” in an easily accessible and understandable way for a child of almost any age using 2/3D media. [8].

Animated films generally are capable of:

- a) Telling stories based on commonly difficult experiences in peoples’ lives in a simplified format, e.g. sexual themes, lies, politics, etc.
- b) Relating the experiences of the characters to the viewer’s own; as if the film is about them.
- c) Using virtual characters, instead of a real human being, to tell stories of a traumatic nature. [8].

The understanding of these theories and practices of animation makes its use possible in an unlimited way, e.g., in public enlightenment, politics, entertainment, advertisement, preservation, promotion of cultures and education and specifically informal education in school, colleges, and the universities. Besides aiding learning, animation also allows faster understanding, enjoyment, and a development of fun in the learning process.

At the early childhood educational level, an animation is both a teaching tool and a form of digital storytelling [9]. Children learn to speak mostly from listening to others and the language of other digital outlets such as television and radio. Hence, animation facilitates communications, and it’s a form of play. It also provides an opportunity for storytelling [10] [11]. The possibilities of manipulating animated images and comparing different pictures, shots, or scenes, also makes it possible to teach more complex subjects such as mathematics [12]. During the process of producing an animated movie, children can pick up the role of a photographer, actor, artist, or an editor. In this way, children can acquire new knowledge [13]. Through the use of storyboarding software, children are introduced to the programming world and the internet [10] [11]. Finally, the ability to tell and then retell the digital story over and over improves children verbal artistry [14].

However, a number of limitations have been associated with the widespread use of animation technology at the early childhood periods. According to The Asia, Commonwealth Education Media, a disadvantage of multimedia tools is that they are not cost effective and requiring constant training of staff. Funds for initial purchases, installation and maintenance of needed hard wares could be significantly high. Besides, schools need to have a skilled staff nearby just in case of breakdowns or technical complications. [15].

Another important challenge is the issues associated with students’ focus. In the opinion of The Social Policy Research advocates, too much reliance on technology in learning at all levels can create social loafing, an incident where an absence of interaction between teacher and student result in a loss of effort and focus by the later. [15].

#### **IV. ENCOURAGING GOVERNMENTS IN DEVELOPING COUNTRIES TO INTEGRATE COMPUTER ANIMATION TECHNOLOGIES INTO EARLY CHILDHOOD EDUCATION, CURRICULUM AND IN ENGAGING SPECIAL NEEDS SUBJECTS.**

As mentioned earlier, funding gaps and limited access are significant challenges to the integration of animation technology of early childhood education programs. Funding is required for the upgrade of IT infrastructure, purchase of computers and software, and the training of teachers in new skills such as programming, etc. For most governments in developing countries, putting the implementation of computer animation technologies into early childhood education is not a priority in the face of more fundamental developmental challenges such as the provision of basic medical services, the supply of clean water and electricity, youth unemployment, the need for safe affordable housing, and so on.

In the past, much of what is heard and read in the use of technology for education purposes are meant for audiences in the industrialized world. In those countries, well-designed animation helped pupils and students learn faster and easier difficult subjects like mathematics, computer science, and others needing lots of imaginative thinking. These tools were handy in teaching abstract concepts, where traditional teaching methods such as lectures and textbooks were ill- suited, or as a compliment to them.

However, situations have changed, and keep changing fast. An increasing number of developing countries are forging ahead, increasingly introducing simple and effective animation technologies into their general school curriculums, and as part of efforts to engage with the special education needs subjects. Trucano, et al. [16]. Countries like China, India, Brazil, Bangladesh, Iran, Uruguay, Argentina, Kenya, Malawi, Niger, Pakistan, Philippines, Egypt, South Africa, Ghana, Liberia, Nigeria, and Peru are but a few of these countries in Africa, Asia, and Latin Americas. These countries are addressing a number of various earlier identified fundamental problems in the use of animation technologies with great successes, e.g.:

- a) Reliance on cell phones, tablets, and television, rather than personal computers;
- b) Development of appropriate contents, using local languages of users;
- c) Building digital safety and addressing digital ethics;
- d) Focusing on early childhood education levels and special needs subjects;
- e) Training of principals and headmasters as a way to getting school leadership on board;
- f) Reliance on solar energy, rather than conventional electricity to power hard wares, and
- g) Discussing the impact of ICT on cognitive developments of learners at all level of education in general.

The successful resolution of these problems is giving confidence to Education stakeholders that animation technology offers improved learning opportunities. Trucano, et al. [16].

Hence, the author affirms the strong views of Rosalyn Mckeown, an important writer on the subject of sustainable growth in education. She postulated that a lack of understanding of the tie between education at all levels and sustainable economic growth is responsible for most educational challenges. [6].The lack of importance placed on education results in the low placement of teaching as a priority for government planners. High awareness leads to high priority, adequate planning, policy, and financing. Consequently, Mckeown advised all stakeholders in education including, governments, community leadership, and parents to be aware of the connection between education and sustainable development, and subsequently put education on the front burner, including the use of ICT. The awareness of a link between sustainable developments with education will naturally allow issues of policy, funding, and access becomes a national priority, leading to better returns on social developments. Good use of computer animation technology as aids in the teaching of difficult subjects and the special needs students, but is a route to driving these sustainable developments of developing countries. Urgent need for the special integration of computer technology into early childhood education in a formal way is therefore canvassed for here. All developing countries should strive to develop a meaningful roadmap to use of animation technology despite limited resources within their early education curriculum if they do not have one. They could achieve this through meaningful collaboration with the United Nations education systems, developmental partners, NGO, local universities, and friendly countries. The logical argument of this paper is that if early childhood education is a precursor and an important quality determinant of future learning capabilities of the young minds, it makes logical sense to place a priority on this level of education with the good support of ICT, in which animation technology is one. Any investment in improving early childhood education through the designing and implementation of useful and practical computer animation technologies will, over time, have a multiplier or a scaling effect on the sustainable development of these countries. A focus on the special needs subject also supports education inclusiveness, which the United Nations had described as a right for years.

#### **V. Conclusion**

This article concludes that early childhood education is very important, and contributes significantly to a child's later psychological well-being and development. This stage of education shapes the outcomes of later

education at the secondary and tertiary levels. Due to its critical importance, this education needs significant funding and a critical policy review. Computer animation technology serves an important strategy capable of strengthening early childhood education. Stakeholders in the educational systems of developing countries are advised to see a policy of integrating computer animation technologies into early childhood education as a priority. The technology is becoming affordable, friendlier to use, and effective in the teaching of pupils and students. Such action will translate into tangible results in the future with regards socio-economic developments. An increasing number of emerging nations in Africa, Asia, and Latin America are already doing that. Support from the United Nations education systems, NGO, developmental partners, and local universities may be required.

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