

# Knowledge, Attitude and Practice of Edutainment among Anatomy Educators: A Nigerian Survey

Ogugua A. Egwu<sup>1</sup>, Uloaku Akubueze Nto-Ezimah<sup>2</sup>, Nto Johnson Nto<sup>3\*</sup>, Eneje Ifunanya<sup>4</sup>, Chioma Ekenna-Ohanenye<sup>5</sup>

<sup>1</sup>Department of Anatomy, Faculty of Basic Medical Science, Alex Ekwueme Federal University Ndufu Alike Ikwo, Ebonyi State, Nigeria

<sup>2</sup>Department of Chemical Pathology, Faculty of Medical Sciences, University of Nigeria Enugu Campus, Enugu State, Nigeria

<sup>3</sup>Department of Anatomy, Faculty of Basic Medical Sciences, University of Nigeria Enugu Campus, Enugu State, Nigeria

<sup>4</sup>Department of Anatomy, Faculty of Basic Medical Sciences, Enugu State University of Science of Technology, Enugu State, Nigeria

<sup>5</sup>Department of Anatomy, College of Medicine, Rhema University, Nigeria

DOI: [10.36348/sijap.2023.v06i07.002](https://doi.org/10.36348/sijap.2023.v06i07.002)

| Received: 19.05.2023 | Accepted: 24.06.2023 | Published: 04.07.2023

\*Corresponding author: Nto Johnson Nto

Department of Anatomy, Faculty of Basic Medical Sciences, University of Nigeria Enugu Campus, Enugu State, Nigeria

## Abstract

**Background:** It is well known that education and learning can be linked with lucid, playful and pleasurable experiences.

**Aim:** This study evaluated the knowledge, attitude and practice of edutainment among anatomy educators. **Methods:** The study was conducted among Anatomy educators in four Colleges of Medicine in South Eastern Nigeria. The study adopted a survey research design with a validated structured questionnaire. A total of 34 lecturers (8 females and 24 males) participated in the study. **Results:** Thirty one (91.2%) of our respondents has heard of edutainment. Their major source of information was from the internet (n=19; 61.3%) followed by conferences (n=9; 29%). Our respondents showed a positive attitude to edutainment. 28 (82.4%) of our respondents said edutainment is not part of their curriculum and 24 (70.6%) of our respondents use edutainment to teach anatomy. **Conclusion:** Edutainment in anatomy teaching is necessary and will be productive, there is need to complement traditional teaching method (lectures) with edutainment in anatomy teaching in other to increase students' interest and understanding.

**Keywords:** Edutainment, Anatomy, Medical Education, Learning, Entertainment.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

## INTRODUCTION

Effective learning is essentially fun and happens when the learner is interested or motivated [1]. Edutainment is a medium of learning that educates and entertains as well. It fuels curiosity, foster creativity, motivates, increases a learner's interest and understanding [2, 3]. Active engagement of a learner can be achieved with a lucid, playful and pleasurable educating experience [3].

Anatomy involves the study of body structures, including their systems, organs and tissue [4]. Knowledge of anatomy is an essential component medical training [4, 5]. Too many details and vocabulary makes anatomy learning cumbersome. The massive amount of information makes learning difficult and reduces the student's interest [4]. How a subject is taught may greatly affect a learners learning ability, understanding and retention.

Edutainment has been categorized into four different groups namely: Location-based edutainment, edutainment by purpose and content, edutainment by target group and edutainment by type of media [6, 7]. Edutainment enhances a teacher's ability to motivate, inculcate and improve learners understanding and eagerness to learn [8]. The use of edutainment in formal education setting is grossly underrepresented [9]. In Nigeria, the concept of edutainment has not been considered and possibly factored into the training of students in the Anatomical sciences. This may be due to the fact that no study has categorically x-rayed the knowledge and attitude of any group of educators in the medical sciences with Anatomy as a case study. In this article we have evaluated the knowledge, attitude and practice of edutainment among anatomy educators in south east Nigeria with the view of making appropriate recommendations.

## MATERIALS AND METHODS

The study involved a descriptive cross-sectional survey to assess knowledge, attitude and practice of edutainment among anatomy educators in south east Nigeria. A structured pretested questionnaire which consist of three sections namely; demographic information, knowledge and practice of edutainment among anatomy educators was adopted as the research instrument. A Likert scale was used to gather information on attitudes toward edutainment. The options were graded on a 5-point Likert scale: 5= Strongly agree, 4=Agree, 3=Neutral, 2=Disagree and 1=Strongly disagree. Data was analyzed using Statistical Package for Social Sciences (SPSS, Version 23.0, IBM Corp., Armonk, NY, USA).

## RESULTS

### Socio-Demographic Characteristics

Four Universities in South East Nigeria were involved in this study, this include: University of Nigeria, Enugu Campus, Nnamdi Azikiwe University Nnewi Campus, Alex Ekwueme Federal University Ndufu-Alike Ikwo and Ebonyi State University, Abakaliki. Thirty four (34) respondents completed and returned the questionnaire. They comprise 8 (23.5%) females and 26 (76.5%) males. The mean age of the study population was  $44.7 \pm 7.1$  year. The mean age of females and males respondents was  $43.6 \pm 8.7$  and  $44.7 \pm 6.7$  respectively. There was significant difference ( $P > 0.05$ ) in the age of females and males (Table 1).

The highest academic qualifications of our respondents was BSc/MBBS – 5(14.7%); MSc - 16 (47.1%); and PhD - 13(38.2%) as seen in Table 1. Three (8.8%) of our respondents were professors, 5 (14.7%) Senior lecturers, Lecturers I and II were 9 (26.5%) each and 2 (5.9%) were graduate assistants (Table 1).

**Table 1: Socio-demographic characteristics**

Characteristics	Female	Male
Age (Mean $\pm$ SD)	43.6 $\pm$ 8.7	44.7 $\pm$ 6.7
<b>Highest educational attainment</b>	<b>N0 (%)</b>	<b>N0 (%)</b>
BSC/MBBS	1(12.5)	4(15.4)
M.SC	5(62.5)	11(42.3)
PhD	2(25.0)	11(42.3)
<b>Rank</b>	<b>N0 (%)</b>	<b>N0 (%)</b>
Graduate Assistant /Prosector	0(0.00)	2(7.7)
Assistant lecturer	4(50.0)	2(7.7)
Lecturer II	3(37.5)	6(23.1)
Lecturer I	0(0.00)	9(34.6)
Senior lecturer	0(0.00)	5(19.2)
Professor	1(12.5)	2(7.7)

### Knowledge on Edutainment and Source of Information

Thirty one (91.2%) of our respondents, which comprise 8(25.8%) females and 23 (24.2%), males has heard of edutainment. Their major source of information was from the internet (n=19; 61.3%) followed by conferences (n=9; 29%). Amongst the 91.2% of our respondents who said they have heard about edutainment; 22 (71%) knew that anatomy education can be linked with lucid, playful, pleasurable learning experiences and 30 (96.8%) knew that Anatomy education can be facilitated with Virtual worlds, Computer software, audiovisuals and games.

### Attitude toward Edutainment

Most of our respondents 18 (52.9%) agree/strongly agree that edutainment promotes deep

learning by arousing learners curiosity (table 2). 14 (41.2%) disagree/strongly disagree that edutainment impairs problem solving capacity of students (table 2). Most of the participant 22(64.7%) and 18 (52.9%) disagree/strongly disagree that educational games hinders learning and decreases attention span respectively (table 2). Majority of our respondents agree/strongly agree edutainment increases students engagement (no=21, 61.8%), educational games are structured with activities that aid in acquisition and development of cognitive skills (no=21, 61.8%) and edutainment will foster collaborative learning among peers (no=21, 61.8%). 27 (79.4%) agree/strongly agree to recommend edutainment for anatomy education and 14(41.2%) disagree/strongly disagree edutainment may replace traditional pedagogy (table 2).

**Table 2: Attitude towards edutainment**

Statement	Strongly agree No (%)	Agree No (%)	Neutral No (%)	Disagree No (%)	Strongly disagree No (%)
Edutainment promotes deep learning by arousing learners curiosity	5(14.7)	13(38.2)	6(17.7)	10(29.5)	0(0)
Edutainment impairs the problem solving capacity of students	0(0)	11(32.4)	8(23.5)	11(32.4)	3(8.8)
Educational games hinders learning	0(0)	0(0)	12(35.3)	18(52.9)	4(11.8)
Edutainment increases students engagement	6(17.7)	15(44.1)	11(32.4)	2(5.8)	0(0)
Educational games are structured with activities that aid in acquisition and development of cognitive skills	3(8.8)	18(52.9)	9(26.5)	1(2.9)	0(0)
Edutainment will foster collaborative learning among peers	7(20.6)	14(41.2)	13(38.2)	1(2.9)	0(0)
Educational games decreases students attention span	1(2.9)	5(14.7)	10(29.5)	17(50)	1(2.9)
It is not always easy to find good fit and your course materials, this can be time consuming and expensive	6(17.7)	14(41.2)	13(38.2)	1(2.9)	0(0)
Will you recommend edutainment for anatomy education	8(23.5)	19(55.9)	7(20.6)	0(0)	0(0)
Edutainment may replace traditional pedagogy	0(0)	3(8.8)	17(50)	7(20.6)	7(20.6)

**Practice of Edutainment**

Twenty eight (82.4%) of our respondents said edutainment is not part of their curriculum (table 3). Most of our respondents (no=24, 70.6%) use edutainment to teach anatomy (table 3). Amongst the 24(70.6%) who use edutainment to teach anatomy;

6(25%) use it every time, 5(20.8%) most times and 14(58.2%) some times. The most commonly used media by the 24(70.6%) who use edutainment to teach anatomy is audiovisuals (no=12, 50%), followed by games (n=5, 20.8%), computer software (n=4, 16.7%) and virtual world (n=3, 12.5%).

**Table 3: Practice of Edutainment**

Statement	Yes No(%)	No No(%)
Is edutainment part of your curriculum?	6(17.6)	28(82.4)
Have you ever used edutainment in teaching anatomy?	24(70.6)	10(29.4)

**DISCUSSION**

Edutainment refers to education that has been placed within the frame work of entertainment [10]. It leans on visuals and narratives or game formats but also incorporates some kind of learning objective [11]. Our results show that our respondents have good knowledge of edutainment. This was similar to the report of Alkanzi *et al.*, [12] on the knowledge of teaching staff on electronic education. Pedagogical knowledge base entails all the required cognitive knowledge for creating effective teaching and learning environment. The most fundamental element of teachers is the knowledge of teaching methods and having a command of various teaching methods and knowing when and how to apply each method [13].

The main source of information on knowledge of edutainment among anatomy educators in institutions in south east Nigeria was Internet/media followed by conferences, the least was teachers/colleagues. This was in contrast to the report of Alkanzi *et al.*, [12] on the source of knowledge of teachers on electronic education, the least source of information in their study was internet/media. The internet provides a vital tool of communication and dissemination of information. It has

been reported that the Nigerian work-force population is aware of the concept of internet of everything and are prepared for an internet enabled society [14]. This explains why the major source of information was the internet.

Our result suggest that anatomy educators in institutions in south east Nigeria have a positive attitude towards edutainment. Most of our respondents agree that edutainment promotes deep learning by arousing learner's curiosity and increases students engagement. Edutainment media attracts the attention and interest of the learner by engaging their emotions [15]. Educational games should be fun and when gamers are enjoying themselves, they are more relaxed, energetic, alert, responsive, and are less fearful and more open to learning. Our respondents disagree that edutainment impairs the problem solving capacity of students and, educational games hinders learning and decreases students attention span. Gandz [16] opined education is not just information gathering but the development of a learners thinking and reasoning to be able appraise information gathered, separating relevant from irrelevant. To do this the individual develops a useful model for absorbing or rejecting mass of information

critically evaluating its validity. Edutainment brings forward a transformation in the way people learn [11].

Our respondents also agree that educational games are structured with activities that aid in acquisition and development of cognitive skills. Students can learn well in an environment or through a medium that particularly interest them, this can be through discussion or the use of material that can be fun while trying to understand or assimilate. Learners interact with an environment; virtual or real, providing a first-person experience and allowing for a spontaneous knowledge acquisition that requires less cognitive effort [11]. Playing games challenges students, arouses their curiosity, develops their creativity and brings great pleasure and a sense of accomplishment [17].

Technology enhanced learning is most effective when it seamlessly integrates into curriculum, mitigates the passive lecture experience and large number of students in a class, and provides a tool within which students can engage in meaningful experiences and gain knowledge. Most of our respondents will recommend edutainment for anatomy education. Nonetheless they agreed it is not always easy to find good fitting games for your course materials and can be time consuming and expensive. With advances in educational technology these traditional resources can be supplemented by interactive multimedia learning tools and interactive software that can be accompanied with both auditory and visual information [11]. Our respondents disagreed on edutainment replacing traditional pedagogy. This is expected as the most teachers in the Basic Medical Sciences in particular and all aspects of the medical sciences in Nigeria, may not allot meaningful funds from their meagre salaries to design interesting audiovisual animations and illustrations that will drive the promotion of learning using edutainment.

The use of edutainment in formal education setting is grossly underrepresented [9]. Our results show that edutainment is not part of the anatomy education curricula in the Nigerian Sub-region. However, most of our respondents have adopted the use of edutainment in teaching anatomy even though not too often. This is an indication that introducing edutainment in the Anatomy curricula will be acceptable by Anatomy Educators and will go a long way to enhance teaching and learning in anatomy for basic medical science and medical students. This will also affect their enthusiasm for anatomy.

## CONCLUSION

This study shows that anatomy educators in south east Nigeria have a relatively good knowledge of edutainment. Most of our respondents showed good attitude with low practice of edutainment. This study

suggests that Edutainment would be completely acceptable to anatomy educators if it is incorporated into the Anatomy curriculum for the training of Medics and Core Scientists in Nigeria.

## REFERENCES

1. Spitzer, V., Ackerman, M. J., & Scherzinger, A. L. (1996). The visible human male: A technical report. *Journal of the American Medical Informatics Association*, 3(2), 118-130.
2. Weymouth, T., Durka-Pelok, G., & Gest, T. (2002). Using a Knowledge Base: The University of Michigan Visible Human Project. *Proceedings of the 4th Visible Human Conference/Keystone/Colorado*, 25(11), 1490-1494.
3. Ma, M., Oikonomou, A., & Jain, L. (2011). *Serious Games and Edutainment Applications*. Springer: UK.
4. Farrohki, A., & Nejad, M. S. (2017). Teaching Anatomy: Need or Taste. *Journal of Medical Research and Innovation*, 1(2), AT1-AT2.
5. McCuskey, R. S., Carmichael, S. W., & Kirch, D. G. (2005). The importance of Anatomy in Health professions Education and the Shortage of Qualified Educators. *Academic Medicine*, 80(4), 349-351.
6. White, R. (2003). That's Edutainment. Kansas City, MO. White Hutchinson Leisure and Learning Group.
7. Kowit, R., Wong, K. W., Fung, C. C., & Arnold, D. (2006). Similarities and differences between "learn through play" and "edutainment". *IE '06: Proceedings of the 3rd Australasian conference on Interactive entertainment*.
8. Charles, T., Bustard, D., & Black, M. (2011). Experiences of promoting student engagement through game-enhanced learning. *Serious Games and Edutainment Applications*. Ma, M. (eds), Springer-Verlag: London, 425-446.
9. Jaffe, C. C., & Lynch, P. J. (1997). Computer-Aided-Instruction in Radiology - Opportunities for More Effective Learning. *Journal of Roentgenology*, 164(2), 463-467.
10. Gros, B. (2003). The impact of digital games in education. *First Monday*, 8(7), 8-11.
11. Okan, Z. (2003). Edutainment: is learning at risk? *British Journal of Educational Technology*, 34(3), 255-264.
12. Alkanzi, F. K., Abd-algader, A. A., Ibrahim, Z. A., Krar, A. O., Osman, M. A., & Karksawi, N. M. (2014). Knowledge, Attitude and Practice in Electronic Education among Teaching Staff and Students in Governmental Medical Faculties-Khartoum State. *Sudan JMS*, 9(1), 43-48.
13. Alter, J., & Cogshall, J. G. (2009). *Teaching as a clinical practice profession; implications for teacher preparation and state policy*. New York;

- New York Comprehensive Center for Teacher Quality.
14. Adewale, A. A., Ibidunmi, A. S., Atayero, A. A., John, S. N., Okesola, O., & Ominiabohs, R. R. (2019). Nigerians Preparedness for Internet of Everything: A survey dataset from the work-force population. *Data in Brief (Elsevier)*, 23.
  15. Buckingham, D., & Scanlon, M. (2000). That is edutainment: media, pedagogy and the market place. *Paper presented to the International Forum of Researchers on Young People and the Media, Sydney*.
  16. Gandz, J. (1997). The death of teaching: the rebirth of education. *Ivey Business Quarterly*, 62(1).
  17. Smith, M. (2011). What computing students can learn by developing their own serious games. *Serious Games and Edutainment Applications*. Ma, M. (eds), Springer-Verlag: London, 447-480.