Assessment of the Effects of the Use of Information Communication Technology on Students' Academic Performance in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura

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Abstract

Information Technology are not only the pivot upon which globalization revolves but, key to human social and economic development. A Soviet citizen was reported saying that ―there are three great scientific developments in the world that have touched man significantly.‖ He mentioned nuclear energy, the discovery of man_s capacity to travel to the space and the discovery of computer, which according to him was the most important of the three. A Nigerian Professor gave a similar information when he stated that there have been four major technological changes that impact our lives on earth today and in the years to come which according to him include energy technology, Bio-technology, material technology and information technology which he adjudged as having the greatest and most pervasive impact (Nwosu, 2002) It is against this background that this study aimed to assess the effects of information communication technology on students_ academic performance in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura. In doing this, quantitative methodology was employed for the study. For adequate representation, 240 students constituted the sample size of the study, and the study adopted the cluster and simple random sampling techniques for the selection of the respondents. Findings revealed that overwhelming majority of the respondents use handsets. It also showed that, students were not communicating with their lecturers via e-mails. Furthermore, findings revealed that internet use help students to understand their subject matter better. Based on these findings, recommendations were made which included the following; e-interaction should be encouraged by the college management as it enhances student_ lecturer relationship and eases transfer of knowledge between lecturers and students and scholars outside the world. Furthermore, it was also revealed that 93.8% of the respondents agreed that studies using computer improve students_ academic performance, it therefore suggested that nongovernmental organizations should be encouraged to provide computers to students at affordable price, since this will help students own a computer and be relevant in today_s modern technology. Also they should provide a centre that will be used by the student to access internet with cost bearable to student

Key words: information technology, computer, internet, students, academic performance

1.1 **Introduction**

Information Communication Technology (ICT) is a generic name that encapsulates a number of communication hardware used for the dissemination or transmission of information and social values instantaneously from one corner of the world to another (Nwodu and Fab-Ukozor; 2003). Technology according to Tiamiyu (2003) ―are the electronic technologies for creating, acquiring, storing, processing, communicating and using information‖. So, from the above one can see ICT as the dynamic and highly sophisticated area of modern technology with wide and varying applications to all fields of human endeavors. In effect, the relevance of ICT to commerce, industry, health, transportation, education, agriculture and other sectors of modern economy cannot be overemphasized.

Also, Information Technology in academic, typically emphasize the technology rather than the information. Widespread technology meant that the students encounter more information in greater variety of formats, than before. That is why technology is being regarded as the portal through which students interact with information and students_ ability to handle information tells us more about their academic success.

Technology is not only the pivot upon which globalization revolves but key to human development. A soviet citizen was reported saying that ―there are three great scientific developments in the world that have touched man significantly.‖ He mentioned nuclear energy, the discovery of man_s capacity to travel to the space and the discovery of computer, which according to him was the most important of the three. A Nigerian professor gave a similar information when he stated that there have been four major technological changes that impact our lives on earth today and in the years to come which according to him include energy technology, Bio-technology, material technology and the information technology which he adjudged as having the greatest and most pervasive impact (Nwosu, 2000). So, the place of

technology in contemporary educational system is strategic and cannot be overemphasize, because a part from facilitating the flow of information, information communication technology (ICT) has proven to be a viable and indispensable area of knowledge among the global community.

McQuail (2000) notes that the most fundamental aspect of technology is probably the fact of digitalization, which he describes as the process by which all texts can be reduced to a binary code and can share the same process of production, distribution and storage. This is simply recognizing that digitalization might have far reaching revolutionary consequences.

The impact of ICT on modern society is quite overwhelming. This explains why Grant (2002) argues that communication technologies are the nervous system of contemporary society of which it central focus is transmitting and distributing ability as well as controlling information and interconnecting a myriad of independent units. It is against this background that this study sought to assess the effects of the Uses of information communication technology on students_ academic performance in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura.

1.2 **Research Question**

In order to achieve the research targets and purpose, the following questions were asked:

i) What is the nature of the use of information communication technology in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura? ii) To what extent do students use information communication technology in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura?

iii) Does information communication technology have effects on students_ academic performance in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura?

1.3 Research Objectives

The objective of the study is to assess the effects of information communication technology on students_ academic performance in Dr. Yusuf Bala Usman College Education and Legal Studies, Daura. However, the specific objectives of the study are as follows:

i) To examine the nature of the use of information communication technology in Dr. Yusuf Bala

Usman College of Education and Legal Studies, Daura.

ii) To determine the extent at which student use information communication technology in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura.

iii) To access the effects of Information Communication Technology on students_ academic performance in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura.

3.1 Research Location and Method

Dr. Yusuf Bala Usman College Education and Legal Studies, Daura was curbed from the Katsina Polytechnic Katsina by the civilian administration of Late Umar Musa Yaradua in the year 2005. The institution is currently having five (5) academic schools with many Departments. It is situated in Dunu, Daura Local Government of Katsina State, Nigeria. The institution attract students from both the state and outside Katsina State.

The students of School of Secondary Education Arts and Social Sciences, School of Education, School of Languages Education, School of Secondary Education Sciences and School of Sharia and Civil Law formed the population of the study. For adequate representation, 240 students constituted the sample size of this study. The study adopted the cluster and simple random sampling techniques for the selection

of respondents. The justification for adopting cluster sampling technique was the fact that, students are at different level of education and the view of students at different level was considered sacrosanct. In this case, three schools were selected from the Dr. Yusufu Bala Usman College of Education Daura, using simple random sampling technique. The rational for using simple random sampling technique is to accord each school an equal chance of being selected

In each of the three schools selected, four departments have been selected using simple random sampling technique, from which the 240 respondents were drawn. In each school, forty students were selected while, ten males and ten females students were selected from a department. The sample had considered all the levels with at least two respondents from each level. The questionnaires were administered to both males and females students in their various classrooms. Therefore, the total number of the respondents from all was 240 which represent the sample size of the study.

The instrument of data collection in this study was the questionnaire, which consisted of both open and close ended questions. A total of 240 questionnaires were distributed to respondents to fill and after which were collected.

The questionnaire was divided into four section, A,B,C and D. Section A will covered the sociodemographic data containing information about the respondents bio-data i.e. sex, marital status, age among others. Section B examined the respondents_ nature of the use of technology in Dr. Yusufu Bala Usman College of Education and Legal Studies Daura, like have you ever use information and communication technology. Section C determined determine the extent to which students use technology such as did students pay for the uses or what? Section D focused focus on the possible ways in which student will have access to the effects of technology on students_ academic performance in Dr. Yusuf Bala Usman College of Education and Legal Studies, Daura.

All the questions that were asked are directed toward achieving the desired objective of the study. The questionnaire administered, was administered by the research, by meeting the respondents in their department to fill in the necessary answer after which they were retrieved.

The data collected was analyzed, using the simple statistical methods like percentages, cross tabulations etc. Some responses were made known through the use of tables, which indicated the frequency and the percentages in terms of bivariate analysis. The chi-square test was also used to determine the strength and direction of the relationship, between variables.

4.1 Result

It is worth noting, that the analysis is based on responses derived from 226 questionnaires that were collected from the respondents and not 240 questionnaires as proposed.

4.2 Socio-demographic Data of the Respondents

Table 4.2.1: Sex distribution of the Respondents

Sex	**Frequency**	**Percentage**
Male	119	52.7
Female	107	47.3
Total	**226**	**100**

Table 4.2.1 above shows that 119 (52.7%) of the respondents were males while 107 (47.3%) were females. This shows that of 120 questionnaires that were distributed to male, one questionnaire was

missing. Also, of the 120 questionnaires that were distributed to female respondents 13 questionnaires are missing.

Table 4.2.2: Age distribution of the respondents

Age (in years)	**Frequency**	**Percentage**
19 years or less	45	19.9%
20 -24 years	116	51.3
25 – 29 years	51	22.6
30 years or more	13	5.8
Total	**226**	**100**

Table 4.2.2 above depict that most of the respondents (51.3%) were within age bracket 20 – 24. This shows that, the majority of the respondents 93.8% are between the age of 29 and below:

For the ethnic group of the respondents, it was shown that 44.2% of the respondents were from Hausa ethnic group; while the Northern minority constituted 24.8% of the respondents. Others includes Yoruba constituting 15.5% of the respondents, 8.4% of the respondents were southern minority and 7.1% of the respondents were Igbos. This implies that, majority of the respondents were from the northern Nigeria.

Table 4.2.3: Religious Affiliation of Respondents

Religion	**Frequency**	**Percentage**
Islam	124	54.9
Christianity	97	42.9

Traditional	0	.0
Others (specify)	5	2.2
Total	**226**	**100.0**

Table 4.2.3 above shows that 54.9% of the respondents are Muslims while 42.9% of the respondents are Christians. This shows that majority of the respondents are students of the muslim faith.

On mental state, it was found that among the respondents 86.3% were single, 12.8% were married and 0.9% were divorce/separated, while widow has no responses. This shows that most of the respondents were single.

Also, on the level of the respondents in the university, 200level has 30.5% of the respondents followed by 400 level students while others has 2.2% of the respondents. This shows fairness of representation of all the levels.

4.3 The Nature of the uses of Information and Communication Technology

Table 4.3:1: Responses on the type of information and communication technology respondents use more frequently

	Frequency	**Percentage**
Computer	19	8.4
Internet	36	15.9
Handset	168	74.3

Others (specify)	3	1.3
Total	**226**	**100.0**

Table 4.3.1 above shows that 74.3% of the respondents use handset more frequently, 15.9% of the respondents use internet and 8.4% of respondents use computer. This implies that majority of the respondents use handset.

On the level at which the respondents start using internet, 45.1% said were hundred level, 34.5% said were others, 16.8% said were two hundred level and 3.5% were three hundred level. This then shows that majority of students start using internet from hundred level.

Table 4.3.2 Responses on how often do respondents use computer

	Frequency	**Percentage** Very often
108	47.8	
Less often	102	45.1
Not at all	12	5.3
Others (specify)	4	1.8
Total	**226**	**100.0**

Table 4.3.2 above shows that 47.8% of the respondents use computer very often, 45.1% of the respondents were others, while, 5.3% of the respondents said not at all. This shows that majority of the respondents use computer very often.

On the internet resources commonly use, 52.7% of the respondents_ use World Wide Web (www), 24.3% of the respondents use face book, 17.3% of the respondents said they use e-mail, while 5.8% said they use others. This shows that majority of students use world wide web (www).

On the computer, assisted devices 42.5% of the respondents said they use flash, 16.4% of the respondents said they use modem, 8.8% of the respondents said they use printer 4.4% of the respondents said they use software, 10.3% of the respondents said they use compact disk and 1.8% of the respondents said they use internet transfer protocol. This indicates that large number of students use flash.

Table 4.3.3 Responses on the category of students that use internet more.

	Frequency	**Percentage**
Hundred level	31	13.7
Two hundred level	26	11.5
Three hundred level	62	27.4
Others (specify)	107	47.3
Total	**226**	**100.0**

Table 4.3.3 above shows that 47.3% of the respondents said were other levels, 27.4% of the respondents said were three level, 11.5% of the respondents said were two hundred level students and 13.7% of the respondents said were hundred level. This shows that majority of the students that use internet more were from three hundred level to above.

On the reasons given by the respondents on the category of students that use internet more, 61.5% of the respondents said because they are more in conducting research, 12.4% of the respondent said

because they spend a year before they are used to the system, 8.0% said they use internet for different purposes, 3.5% of the respondents said they are more expose to the web and as a result of peer pressure; 4.4% of the respondents said because they are approaching more advance courses
0.9% of respondent said because its faster way of passing information. This shows that, large number of students use internet for research purposes.

4.4 The extent to which student use information and communication technology

Table 4.4.1: Responses on did they use e-mail to communicate with lecturers

	Frequency	**Percentage**
Yes	46	20.4
No	180	79.6
Total	**226**	**100**

The table above shows that, 79.6% they don_t communicate with their lecturers through e-mail, 20.4% of students said they do communicate with them through e-mail. This shows that, majority of students don_t communicate with their lecturers using e-mail.

On does their departmental library have internet connection, 58.4% of the respondents affirm and 41.6% of the respondents negate. This shows that majority of the departmental libraries have internet connection.

On the responses on the benefit they derive from the services offered, 42.0% of the respondents said they did their research and assignment there, 8.4% said there is easy accessibility of the internet; 2.7%

acknowledge that they update their experience about global technology. This indicated that majority of the respondents are benefiting from the services offered by their departmental libraries.

On respondents responses on the benefits they derive from the services offered by their departmental libraries, 42% of the respondents said they did their research and assignment there, 8.4% said there is easy accessibility of the internet; 2.7% acknowledge that they update their experience about global technology. This indicated that majority of the respondents are benefiting from the services offered by their departmental libraries.

On responses on where did students access internet, 56.2% of the respondents said they go to café, 25.2% of the respondents said they go to Libraries, and 15.9% said they use other places, while 2.7% of the respondents said they use digital library. This shows that high number of student access internet by going to café.

On the computer mostly use by the respondents, 46% of the respondent use laptop computer, 45.6% of the respondents use desktop computers while 4.9% of the respondents use others and 2.7% of the respondents use palmtop computers. This shows that, majority of the respondents_ uses laptop and desktop computers.

On the reason given by the respondents on the place they go to accesses internet, 50.0% of the respondent said they are easily accessible, 15.5% said its faster, 7.1% said to complement their textbooks, 4.4% said that some don_t have laptop, while 3.5% said that the gadgets are available, 3.1% said that it is very cheap to the college students and 3.1% of the respondents said that it is more reliable. This shows that majority of students to go café to access internet because it is easily accessible.

4.5 The Effects of Information Communication Technology on Students_ Academic Performance

Table 4.5.1: Responses on whether studies using computer improve students_ academic performance

	Frequency	Percentage
Agreed	212	13.8
Disagreed	14	6.2
Not at all	0	0.0
Total	**226**	**100.0**

From the above table, it shows that 16.8% agreed that studies using computer improve students_ academic performed and 6.2% of the respondents disagreed with that. This implies that majority of the respondent believe that studies using computer improved students_ academic performance.

Table 4.5.2: Responses on whether using computer in studies reduces the cost of learning

Using computer in my studies reduce the cost of learning

	Frequency	Percentage
Agreed	55	24.3
Disagreed	171	75.6
Not at all	0	0.0
Total	**226**	**100.0**

From the table above, it is clear that 75.6% of the respondents disagreed that using computer in their studies reduces the cost of learning; also, 4.3% of the respondents agreed that studies using computer

reduces the cost of their learning. These shows that high number of the respondents disagreed that using computer in their studies reduce the cost of learning.

Table 4.5.3: Respondents view on whether internet use increase the chances of academic success

Internet use increases the chances of academic success

	Frequency	**Percentage**
Agreed	203	89.8
Disagreed	21	9.3
Not at all	2	0.9
Total	**226**	**100.0**

The table above shows that 89.8%of the respondents agreed that internet use increases the chances of academic success and 9.3% of the respondents disagreed with that. This indicates that majority of the respondents support the view that internet use increases the chances of academic success.

On the respondents_ views on the use of e-mail made interaction between lecturer and students easier, out of 226 responses, 60.7% of the respondents agreed, while 30.1% of respondents agreed. This shows that large number of the respondents agreed that the use of e-mail made intersection between lecturer and students easier.

On respondents view on the use of internet aids in their research work; 97.8% of the respondents, agreed and 0.9% of the respondents disagreed that use of internet aids students in their research work. This shows, that majority of the respondents agreed that use of internet aids students in their research work.

On the respondents view in internet help students in providing latest reading materials, 96.0% were agreed and 0.4% of the respondents were disagreed and 0.% of the respondents were disagreed that internet help students in providing latest reading materials. This shows that internet help students in providing latest reading materials.

On the internet uses help students to understand their subject matter better, 92.5% of the respondents agreed while 7 6.2% of the respondents were disagreed. This indicated that internet uses help students to understand their subject matter better.

On the responses on computer assisted applications improve students critical thinking, 87.2% of the respondents agreed while 9.8% of the respondents were disagreed. This indicated that majority of the respondents view is that computer assisted application improve students critical thinking.

On the respondents on the impact of internet on their academic performance, 63% of the respondents said that it assisted information and academic excellence, 20.4% acknowledged that it help students to make research more easily; 2.2% said it makes me think critically while 5.8% are of the view that it makes them get information that are not easily accessible through the recommended text books; 1.8% of the respondents said that it provide study materials and 1.8% of the respondents said it makes them lazy. This shows that internet improve academic excellence.

On the respondents view on the impact of computer on their academic performance, 51.8% of the respondents said that it help in making research, 5.8% said it assisted in building their grade point 11.5% reported it improve their academic performance and added to their knowledge 2.7% opined that it enable them know more about it, 8.0% are of the view that it help in making work easily 2.2% said it make students to became lazy, and 5.8% of the respondent reported that it assist in storing information. This shows that, the impact of computer on student's academic performance is largely positive.

On the respondents view on the benefit they derive from the use of computer assisted technology, 46.9% of the respondents are of the view that they ease movement of the materials gotten, 9.3% of the respondents said that, they come to know the computer clearly and understand it well, 1.2% said that it makes work easier and faster, while 4.9% are of the view that what they can_t print-out, they can store it and use any time; 2.7% said they got more educated and 6.6% posits that it expand their capacity to cope with their academic activities. This shows that majority of the benefit derived from the use of computer assisted technology is easy transfer of information.

5.1 Summary of Findings

The socio-demographic profile of the respondents revealed a fairness of representation of the two sex, 119 males and 107 females. Out of which majority of the respondents (93.8%) are between the ages 29 and below. About 54% of the respondents constitutes students of the muslim faith. Overwhelming majority of the respondents (86%) were singles and about 30.5% of the respondent were from 200 level.

On the nature of the use of Information and Communication Technology, 74.3% of the respondents use handset. Also, about 45.1% of the respondents start using internet at hundred level. While most of the respondents (47.8%) use computer very often, majority of the respondents (47.8%) use worldwide (www). It was observed that 42.5% of the respondents acknowledged that four hundred and above use internet more and 61.5% of the respondents said they use internet more to conduct research.

Data on the extent to which respondents use Information and Communication Technology, it was revealed that majority of the respondent (79.6%) don_t communicate with their lecturers via email; while majority of the respondent (58.4%) said their departmental libraries has internet connection, 42.0% acknowledge that they did their research and assignment there. It was observed that 56.2% of the

respondent said they go to café and 46.9% of the respondents use laptop computer more than any other computer. For the reasons given by the respondents on the place they go to access internet, majority (50.0%) of the respondents said they went to café to access internet because it is easily accessible.

Findings on respondents view on the effects of Information and Communication Technology, overwhelming majority (93.8%) of the respondents agreed that studies using computer improve students_ academic performance while higher number of respondents (75.6%) disagreed that using computer in their studies reduce the cost of learning. On the responses on whether internet use increase the chances of academic success, about 89.8% of the respondents agreed that internet use increase the chances of academic success and 60.7% agreed that e-mail use made interaction between lecturers and students easier, while 57.5% accepted that use of internet aids students in their research work, and 96% agreed that internet help students in providing latest reading materials. On the use of internet, help students to understand their subject matter better, about

92.5% agreed that internet uses help students to understand their subject matter better, while 87.2% accepted that computer assisted application improve students_ critical thinking. Also a substantial number (63.3%) of the respondents mentioned that it busted information and improve academic excellence, while 51.8% of the respondents said computer help in making research. And about 46.9% acknowledged that computer assisted technology ease movement or transfer of materials and information.

5.2 **Discussion of Findings**

The study shows that, handset are used for many purpose. The study also revealed that computers are used more often. This is in consonance with the work of Sydney (2008) in which he reported that, in 2007, world wide mobile telephone subscriptions reached 3.3 billion, a number equivalent to half the

global population. Also Dorup (2004) in a study of undergraduate medical students in Denmark found that most students had access to computers at home. That is, technology are used base on the need of the users.

These justify the adoption of the uses and gratification theory which focuses on student_s motives and their self-perceived learning need.

It has been discovered that, most students don_t communicate with their lecturers via e-mail, and there is internet connection in departmental libraries. In the literature, Ramayah et al (2003) have argued that the extent to which student use the computer and internet depends on the perceived usefulness of these resources in terms of effective communication and access to information to complete projects and assignments efficiently. That information and communication technology, are made available for students to access in making research and assignment convenient and

efficiently.

Based on the findings, the impact of technology is positive because use of computer improve students_ academic performance, also, internet use increase the chances of academic success. The study also found that internet uses help student to understand their subject matter better. Technology assisted in easy transfer of information. These are in line with Goldman et al (1999) who argued that computer and internet usage assist in critical thinking, problem solving, prompt feedback and collaborative instruction.

The uses and gratification model and value expectancy theory adopted as the theoretical framework of this study, jointly explain the assessment of the impact of the use of technology on students_ academic performance in Yusuf Bala Usman College, Daura. For example the uses and gratification theory is based on the notion that technology cannot have impact on individual unless that person have some uses for that information technology or its messages (Robin, 2002). It therefore suggest that, students

consciously choose the medium that could satisfy their learning needs, and that they are able to recognized their reasons for making these choices.

5.3 Recommendations

Based on the finding of this research, the following recommendations is made to promote easy access and uses of technology as it is clear that a substantial number of students were aware of the value of using them.

i) It was observed that most students start using internet since hundred level and mostly use handset to access the services, government should try and ensure that internet accessible handsets are made available and at affordable price for students to possess. Also, experts should be employed to assist in training newly admitted students on how to access internet and use other computer assisted technology.

ii) College management should put more effort toward ensuring the availability of the network services within the college community. They should also ensure that the quality of the network service is improved to ensure faster access to the internet and at the same time save students time when conducting a research. E-interaction should be encouraged by the management as it enhances students_ lecturer relationship and eases transfer of knowledge between lecturer and students and the scholars outside the world.

iii) Non-governmental organization should try to provide computers to students at affordable price, this will help students to own a computer and be relevant in today_s modern technology. They should also provide a center that will be used by the student to access internet.

iv) Service providers should make sure that charges made to students when accessing the internet are made subsidized.

REFERENCES

Dorup, J. (2004). ―Experience and attitudes towards information technology among first-year Medical students in Denmark: Longitudinal questionnaire survey,‖ in International Journal of Education and Development using ICT > Vol.2, No.4. Retrieved January 18, 2022 from htt//ijedict.dec.uwi.edu.

Goldman, S., Cole, K. and Syer, C., (1999). ―The technology/content dilemma‖, Paper Presented at the secretary_s Conference on Educational Technology. Retrieved on January 19, 2022 from http://www.ed.gov/technology/techconf/1999/whitepapers/paper4.html

Grant, A.E. (2002). ―The umbrella perspective of Communication Technology‖ in August E.G.

And Jennifer, H.M (eds), Communication Technology Update, Oxford: Focal Press.

McQuail, D. (2000). McQuail_s Mass Communication Theory, London: SAGE Publications.

Nwodu, L.C. and Fab-Ukozor, N. (2003). ―New Communication Technologies and Global

Information Flow: Realities and Options for Developing Nations‖ in E.I Nwosu and E.O. Soola (eds) Communication and Global ICTs and Ecosystem perspectives, Enugu: Precision publishers Ltd.

Nwosu, I.E. (2000). ―Information as an Indispensable Tool for public Relations practice in the New Millennium,‖ in E.I Nwosu and E.O. Soola (eds) Communication and Global ICTs and Ecosystem perspectives, Enugu: Precision publishers Ltd.

Ramayah, T., and Jantan, M. (2003). Internet usage among Malaysia students: the role of demographic and motivation in Higher Education. Retrieved on January 18, 2022 from

http://cyberpsychology.eu/view.php?cislanku=2009061503&articles=3

Robin A. M. (2002) ―Media uses and Effects: A uses and Gratification Perspective.‖ In Mondi,

M., Woods, P., & Rafi, A. (eds) A _Uses and Gratification Expectancy Model_ to predict students_ perceived e-learning experience; educational technology & security, vol. 11, No.2 pp. 242.

Sydney, M.H. (2008). Mobile phone users Top 3.3 billion. In Journal of psychological research

Cyberspace, Vol. 3 No. 1, Retrieved on January 18, 2022, from http://cyberpsychological.eu/ view.php?cislochanku-2009061503&article-3