

## **Technophobia and its Impact on Adults Learning to Use Computers in South Western Nigeria**

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### **Abstract**

*The importance of studying how older people learn and use technology is motivated by the fact that technological innovations in the 21<sup>st</sup> century are being churned out in geometric progression and by the fact that the young people today will become the older generations of the future. It is a common fact that technology acceptance is more challenging among adults. For technology to be embraced across different age groups, designers and tutors must work with these premises in mind. Therefore, while technology designers develop applicable techniques that present technology products from a human perspective, so users can interact properly, efficiently and safely with it (no matter the age), tutors on the other hand must adopt pedagogic approach that will reduce computer anxiety in adults interested in computer literacy. At the forefront of modern technology usage and embracement is the computer. Knowledge of its usage therefore, will dispel the inherent fears and anxiety displayed by adult learners in appreciating information technology and other allied equipment. This paper examines the factors responsible for anxiety in adults learning to be computer literate and proffer solutions to designers of IT equipments and instructors on how to design and use the right methods to assist the adult learner in realizing their computer cum IT literacy dreams.*

**Keywords:** Age groups, computer literacy, fear, anxiety, adult learner.

### **Introduction**

Adult Education has been defined as a process whereby persons who no longer attend school on a regular and full-time basis (unless full-time programmes are especially designed for adults) undertake sequential and organized activities with the conscious intention of brining about changes in information, knowledge and understanding for the purpose of identifying and solving personal and other social problems (Olaitan et al, 2002).

This definition of adult education embodies two clarifying principles, namely, that an adult is construed as a person who is over the normal school age and no longer a full-time student (that is, no longer in formal education) and secondly, that it is not concerned with adventitious learning but with sequential learning, experiences planned and monitored by an agent for learners. The

1976 UNESCO definition of adult education says adult education denotes the entire body of organized educational processes, whatever the content, level and method, whether formal or otherwise, whether they prolong or replace initial education in schools, colleges and universities as well as in apprenticeship, whereby persons regarded as adult by the society to which they belong, develop their abilities, enrich their knowledge, improve their technical or professional qualifications or turn them in a new direction and bring about changes in their attitudes or behaviour in the two-fold perspective of participation in balanced and independent social, economic and cultural development (Olaitan et al, 2002).

An adult is a person (man or woman) who has attained full physical development. He/she has the right to participate as a citizen, responsible homemaker, worker and member of the society. However, adulthood age is not strictly defined. This depends on specific national constitutions of different nations. In Nigeria for instance, any individual that has attained the age of eighteen is regarded as an adult. Adults are also demarcated as young adults (18-35), middle age adults (35-54), young-old (55-64) and older adults (65 and above) (Amanda, 1997). This age bracket varies among authors and adult educators (Pam, 2002).

### **Lifelong Learning**

Lifelong learning is a social goal. It is the type of education that begins at birth and ends at the time of death. For young and older adults, it is an opportunity for individuals to engage in purposeful learning during the period of their lives. It denotes an overall scheme aimed at restructuring the existing educational system and developing the entire educational potentials outside the formal classroom setting.

In such a scheme men and women are the agents of their own education; through continual interaction between their thoughts and actions. Education and learning, far from being limited to the period of attendance at school, should extend throughout life to include all skills and branches of knowledge that gives opportunities to an individual to live life at its fullest giving birth to full development of the personality.

### **Adult Education Practices in Nigeria**

Adult education practice in Nigeria covers adult literacy development, vocational education, community development and social welfare. Other aspects of adult education practice include extra-mural studies, agricultural extension education, rehabilitation and resettlement education for discharged officers of the Nigerian Armed forces. At this point, it is, perhaps worthwhile to present the five main national objectives of adult education as enunciated in the National Policy On Education (NNPE, 1999 (Revised Edition))

- To provide functional literacy education for adults who have never had the advantage of any formal education.
- To provide functional and remedial education for those young people who prematurely dropped out of the formal school system.
- To provide further education for different categories of completers of the formal education system in order to improve their basic knowledge and skills.

- To provide in-service on the job, vocational and professional training for different categories of workers and professionals in order to improve their skills.
- To give adult citizens of the country necessary aesthetic, cultural and civic education for public enlightenment.

### **Emerging Trends in Adult Education in Nigeria**

The need for people to take their destiny in their own hands through adult education is an emerging trend. Adult education through its variety of programmes has succeeded in propagating the need to adopt the philosophy of self-reliance which has become a new development formula nation-wide.

The concept of self-reliance is meant to promote and it is promoting innovativeness, technological embracement and psychological stimulant for the attainment of widespread improvement in the quality of life of the people. This trend in Nigerian Adult Education depends significantly on voluntary co-operative efforts, the emergence of information technology equipments/applications, the quest for self-employment by young adult retirees and telecommunication infrastructure which has its roots in traditional and communal life which in turn emphasizes the virtues of self-reliance. The concept of self-reliance, when fully adopted will have a multiplier or snowball effects on the development of the over-all system of continuing education as the benefits will far outweigh whatever investment in time, discipline and money that may have gone into it. It is not uncommon today to see adults registered as students in computer literacy classes or being taught at home by private tutors.

### **Computer Literacy**

In response to a growing dependency on computer technology, learning how to use the computer has become part of many public educational curricula. However, not all people receive their computer training in public schools. In recent years there has been increasing emphasis on adult computer training, often through community education programs or in-service training (Rogers, 2005). Other adults receive their initial computer experience as part of their post-secondary education. In many instances it is mandatory.; this is the case for students registered in the Polytechnics, Colleges of Education and Universities. Introductory computer courses are made mandatory as part of the General Studies requirements for graduating.

Some of the adults falling in the categories of young and old adults today went to school when mandatory computing courses were not part of the graduating requirements. Secondly, those who were opportune to take computing courses then and are not in computing and allied fields are in possession of knowledge that has become very obsolete. Emerging economic situation, the popularity of self-employment as an alternative to a high rate of unemployment opportunities pervading the public and private sector and the need to make use of modern innovative information technology applications has become a driving force behind the quest for computer skills by adults. Operational knowledge of microcomputers may provide adults with increased potential for employment, job satisfaction, and good quality of life.

Computer literacy may be only the beginning of a broader more general technological literacy associated with the continued perception that a technological society will have to be competent in both the use and language of technology. Knowing a language is arguably the most important component of any culture. To learn the language of technology means to become acquainted with technological jargon. In the case of the computer, it means learning to communicate with a machine. Communication, in this sense, refers primarily to knowing how to use computers, knowing the right inputs, recognizing the significance of the outputs. Literacy, however, means to understand the cultural significance of the communication. Technological literacy, then, means to understand, appreciate and critique technology. To be technologically literate is to be better able to participate in a technological culture, to share rights and privileges, and to shoulder the responsibility for a technological society (Dale & Charles, 1993)

### **Computer Anxiety**

Anxiety is a common emotional response to involving fear, trepidation and phobia to circumstances, objects and experiences (Akintumi, 2001). Computer anxiety is a common emotional response to computers characterized by the fear that many adults exhibit. Fear and anxiety toward subject matter are "conditions that tend to support negative learner attitudes and repel adult interest" (Wlodkowski, 1993). Interaction between humans and computers is complex. Hakkinen (1994) suggests that this interaction may incite a variety of emotional responses, including anxiety. The fear of computers interferes with the communicative nature of human-computer interaction.

Anxiety is a common occurrence when humans are learning how to do new things. It could retard the learning process, cause resistance to change and negative effective cognitive performance. Adults learning to use computers often fear the unpredictability of computers, public exposure of ignorance, and threat of failure. These fears contribute to negative learner attitudes and are detrimental to learning (Wlodkowski, 1993). Therefore, techniques must be devised in the teaching process to reduce or eliminate computer anxiety by instructors.

### **Related Literature**

Research has shown that the growth of computers and its usages is one potential area of intimidation for older adults (Baack, Brown, & Brown, 1991) Some researchers have found that older adults have a less favorable attitude toward computers than do younger adults (Baack et al., 1991). Yet others suggest the opposite; older adults have more interest in learning about computers, greater confidence, and exhibit less computer anxiety than do younger adults (Klein, Knupfer, & Crooks, 1993; Dyck & Smither, 1994). A discrepancy is evident between research on age and its relationship to computer anxiety (Pam, 2002). Researchers also agree that previous proficiency of usage and experience with computers contribute to lower levels of computer anxiety (Ayersman & Reed, 1995; Dyck & Smither, 1994; Hakkinen, 1994; Maurer & Simonson, 1993). Increased exposure to the subject (computers) minimizes the negative conditions that exist and results in positive attitudes toward the subject matter (Wlodkowski, 1993). Amanda (1997) shows that older adults have problems with and do not use new forms of automated technology such as ATMs, video cassette recorders and computers, despite a strong desire to do so," In many

cases, it would not be difficult or costly to design systems and training that take older adults into account and improve use for younger adults, as well.

### **Statement of the Problem**

As computer usage continues to increase, so does the demand for formal adult microcomputer education. Unfortunately adult educators who are training adults are being confronted with students exhibiting computer anxiety that directly affects the teaching/learning process. It is the factors responsible for the phobia and the extent of their influence that this study seeks to investigate.

### **Research Instruments**

A self-constructed questionnaire titled *Technophobia In Adult Learning To Use Computers In South Western Nigeria (TIALTUC)* was the main instrument used to collect data for this study. The questionnaire contained 10 items that sought to examine adults' phobia on computer usage based on the following parameters.

- (1) Health Risks
- (2) Misinformation about complexities of usage
- (3) Misinformation about complexities of learning
- (4) Duration of learning
- (5) Sex of learner
- (6) Previous education
- (7) Public exposure of ignorance
- (8) Propensity to cause system faults
- (9) Lack of previous computer training
- (10) Incompetence in the use of other IT equipments (i.e ATM, Handsets etc)

### **Study Population**

Six hundred adults users (drawn across 6 locations in Southwestern Nigeria) constituted the population of the study. A total of 500 responses were selected for the analysis because this number produced the feasibility stratification for age, sex and level of education among the sampled users.

### **Method of Data Collection**

The researchers administered the instrument both by hand and through e-mail.

### **Hypothesis, Results and Discussion**

Inferential statistics was employed using the chi-square( $\chi^2$ ) to test for the significance of the formulated hypothesis on the group. All hypotheses were tested at 5 percent level of significance. The formulated hypothesis, chi square analysis, results and discussion are summarized in the table below.

Table 1. Decision Based on Observed and Computed Chi Square Analysis

S/N O	HYPOTHESIS	Computed $\chi^2$ value	Table Value (T) at 3 df	Comparison	Decision at 0.05 level
H1	<i>H<sub>0</sub>: There is no significant relationship between the fear for health problems (health risks) and anxieties in adults learning how to use computers.</i>	1.69977	7.82	$\chi^2_{cal} < \chi^2_{(3, 0.05)}$	Accept
H2	<i>H<sub>0</sub>: There is no significant relationship between misinformation about complexities of learning and anxieties in adults learning how to use computers.</i>	9.00363	7.82	$\chi^2_{cal} > \chi^2_{(3, 0.05)}$	Reject
H3	<i>H<sub>0</sub>: There is no significant relationship between misinformation about complexities of usage and anxieties in adults learning how to use computers.</i>	3.13869	7.82.	$\chi^2_{cal} < \chi^2_{(3, 0.05)}$	Accept
H4	<i>H<sub>0</sub>: There is no significant relationship between duration of learning and anxieties in adults learning how to use computers.</i>	1.69977	7.82	$\chi^2_{cal} < \chi^2_{(3, 0.05)}$	Accept
H5	<i>H<sub>0</sub>: There is no significant relationship between sex of learner and anxieties in adults learning how to use computers.</i>	12.39115	7.82	$\chi^2_{cal} > \chi^2_{(3, 0.05)}$	Reject
H6	<i>H<sub>0</sub>: - There is no significant relationship between previous education and anxieties in adults learning how to use computers.</i>	3.69373	7.82	$\chi^2_{cal} < \chi^2_{(3, 0.05)}$	Reject
H7	<i>H<sub>0</sub>: There is no significant relationship between public exposure of ignorance and anxieties in adults learning how to use computers.</i>	8.67842	7.82	$\chi^2_{cal} > \chi^2_{(3, 0.05)}$	Reject
H8	<i>H<sub>0</sub>: There is no significant relationship between Propensity to cause system faults and anxieties in adults learning how to use computers.</i>	1.69977	7.82	$\chi^2_{cal} < \chi^2_{(3, 0.05)}$	Accept
H9	<i>H<sub>0</sub>: There is no significant relationship between lack of previous computer training and anxieties in adults learning how to use computers.</i>	3.69373	7.82	$\chi^2_{cal} < \chi^2_{(3, 0.05)}$	Reject
H10	<i>H<sub>0</sub>: There is no significant relationship between Incompetence in the use of other IT equipments (i.e ATM, Handsets etc) and anxieties in adults learning how to use computers.</i>	8.67842	7.82	$\chi^2_{cal} > \chi^2_{(3, 0.05)}$	Reject

## **Discussion of Findings**

The findings from the research do not deviate in any significant way from previous research literature. It is however interesting to note that the possibility of causing system malfunction does not significantly create phobia in adults learning how to use computers. It is also significant that gender plays an important role (from these research) in the acceptance of technology. This will be an issue for further research. Ordinarily, one would expect that fear for health risks will be a major factor in techno phobia as far as computing is concerned. That this research show otherwise is implicative of the fact that health risks associated with information technology applications become obvious with usage.

### **Reducing Computer Anxiety**

Educators teaching microcomputers to adults should be aware of computer anxiety and its detrimental effects on the learning process (Pam, 2002). Computer anxiety is a temporary condition that can be reduced through a comfortable learning environment (Airman & Reed, 1995).

### **Pedagogical Responsibility**

Dale and Charles (1993) opined that teachers, particularly those who teach adults computer technology, should approach it with a great deal of pedagogical responsibility. It is important that educators involved in using computers for instruction or as a subject of instruction be cognizant of the computer as more than "just a tool." It is a cultural artifact with meaning, a meaning deeper and richer than the computer's mere physical presence. Teachers of technology should go beyond the usual "text" of instruction manuals and online help menus, and explore and explicate a fuller meaning and understanding of computer literacy.

The responsibility of educators is to educate, but often education means training. Education refers to the transformation of a person's outlook as a result of what he or she knows (Peters 1980) . More specifically, being educated in computer and information technology is more than an instrumental understanding of how a computer works or is used; it is the development of a broader conceptual framework from which a person is able to understand the issues and implications of the technology. Educators provide students with opportunities for "genuine learning," where the learner experiences something more existentially relevant than the mere gathering of information (Colonize 1978; Osborne 1987). Teachers, as educators, are obligated to provide learning experiences that challenge the student to explore new understandings, new meanings.

According to Pam (2002), creating an anxiety-reduced literacy environment by an instructor involves the following:

- Use humor to build rapport,
- Starting lessons with basic concepts,
- Using computer jargons only when and
- Making sure all lessons are hands on.

## Conclusion

Computer literacy gives older adults access to a vast network of information and people, and allows them to share their wisdom and experience with the rest of the world. Financial, travel, and medical information, employment and volunteer opportunities, online shopping, bridge, mahjong and chess games are just a mouse-click away on the Internet. Internet connectivity also allows seniors to transcend physical limitations. It has the potential to extend our eyes and ears and limbs, bringing the world of news and shops and ideas to us, even if our physical movements are constrained. Many men and women whose initial perception of computer use was "I can never learn that" are excited and proud of the new skills they've learned or the old ones they've recalled. Many become proficient enough to offer their services to community organizations doing data input or other basic computer tasks, take part-time jobs or volunteer to teach other "newbies" the wonders of e-mail, the World Wide Web, graphics programs and shopping online (Goldstein et al., 2006)

Involvement with computers may help ease depression and loneliness; or engender satisfaction at knowing what's going on when people talk about computers and the Internet. Many people find e-mail an easier way to communicate than the phone these days, an especially important consideration for people with hearing difficulties. The increased demand for adult computer training produces many issues and challenges for Extension educators. Computer anxiety is a psychological characteristic of adult learners that computer instructors will continually confront. "It is important to reduce anxiety because it has negative effects on learning" (Hakkinen, 1994). Computer anxiety can be significantly reduced if Extension educators create a comfortable learning environment in which students can have positive experiences with computers.

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