

Attitudes of non ICT Teachers

Nomsa Mndzebele, Tenele Gama, Nolwazi Mavuso, Fana Ndzimandze, Lindokuhle Nkambule and Sicelo Tfwala, University of Swaziland

Abstract— The purpose of the study is to find out how ICT is perceived by non ICT teachers in the schools that offer ICT. The study is descriptive, two methods were used which were the nominal group technique (NGT) method and a survey. Seven teachers were selected at random for the NGT and 50 ICT teachers were selected for the survey. The instrument was developed based on the results of the NGT method. The findings suggest that there is a problem of acceptance of the technology and that has resulted in the teachers to have a negative attitude towards ICT. Attitude is a major predictor in the process of introducing ICT in the schools. There is a need to train teachers so as to change their attitudes because they end up influencing the students on the subject. Teachers who have been trained in ICT have a positive attitude towards ICT.

Index Terms—attitude, ICT, Schools, teachers

I. INTRODUCTION

Most African countries suffer inadequacy of technological infrastructure such as poor bandwidth and limited internet access [1]. In Swaziland there are no adequate resources in the schools for ICT; schools are either using refurbished computers or donated computers. Maintenance of the computers is also a problem [1]. [2] that the use of IT correlates with the economic health of the country. This is because Many of the developing countries do not have the resources that developed countries have [2]. In most developing countries ICT has been inhibited by the quality, availability and cost of accessing infrastructure [3]. Availability of ICT resources does not guarantee effective implementation without teacher's good attitude. It is the work of Ministry of Education to identify the factors that affect teachers on the use of ICT.

However, developing countries cannot afford to stay passive and be left behind in a race for better education prospects. Successful implementation of the educational technologies depends largely on the attitudes of educators. A number of studies[4] and [5] still consider the attitudes of teachers towards ICT as an important issues. The use of ICT in education appears to have created a negative and a positive attitude amongst the teachers as a teaching tool. The teachers who teach ICT have a positive attitude towards ICT while the other teachers tend to have a negative attitude towards ICT. The teachers who do not have the ICT skills lack confidence in the use of ICT and thus the negative attitude [6]. The effectiveness of computer technology in education is

dependent upon the attitude of successful technology use. The two variables that determine the success of technology are: teacher's openness to change and the teachers past experience and practice with technology. In a study of computer use by school principals it was found that technology use was significantly linked to both computer knowledge and computer experience [7]. Regardless of the sophistication of technology, teachers will not use technology unless they have the knowledge, skills, and the right attitude necessary to use ICT into their teaching. [8] stated that teachers only use computer technology if it is beneficial to them.

The Technology Acceptance Model (TAM) was proposed by [9] as a model that shows how users come to accept and use technology. TAM focuses on the attitudes of intention to use a specific technology or service. According to [10] the model is valid and good for predicting user acceptance. [9] suggests that when users are presented with a new technology there a number of factors that will influence the decision of whether to accept the technology or not. In the case of the classroom the factors that will influence the teachers decision whether to use the computer or not are, teachers' readiness, confidence and lack of skills in using the computers[1] .The TAM discusses the Perceived Usefulness (PU) "the degree to which a person believes that using a particular system would enhance his or her performance". Teachers must see how the use of ICT in the schools will enhance their performance for them to start using the technology.

[9] further discusses the Perceived Ease Of Use which is (PEOU) "the degree to which a person believes that using a particular system would be free from the effort". The teachers should not find using the technology difficult because if they do the technology will not be used. Teachers past experience will also determine the teachers attitude, if the teacher has had a bad experience will end up having a negative attitude towards technology. TAM is aimed at predicting and explaining ICT usage behavior as to what causes potential adopters to accept or reject the use of information technology. [11] states that the determinants of the use of technology are dependent on the perceived usefulness and the ease of use of technology. [9] states that given sufficient time and knowledge about a particular behavior or activity an individual may change the attitude.

The TAM is an extension of the theory of reasoned action[12] which states that a person's behavior is dependent on the subjective norm and attitude towards the behavior. [13] theory of reasoned behavior assumes that a person's behavior

Nomsa Mndzebele, Tenele Gama, Nolwazi Mavuso, Fana Ndzimandze, Lindokuhle Nkambule and Sicelo Tfwala are with the Faculty of Commerce, University of Swaziland, Kwaluseni, Swaziland (e-mail: nomsa@uniswa.sz).

is determined by the person's behavioural intention to perform and the intention is determined by the person's attitude and his or her subjective norms towards the behavior. In other words, if teachers' beliefs about what they can and cannot do with technology becomes progressively positive; they will select ways to utilize technology. [12] continue to state that a person's belief that a particular behavior leads to a certain outcome and an evaluation of the outcome of that behavior. If the outcome seems beneficial to the individual he or she may then participate. Teacher's behaviour regarding technology can be changed if teachers' levels of self-efficacy can be made to increase[14].

According to technology acceptance model the more positive the responses towards perceived usefulness and perceived ease of use the more positive the attitudes of teachers will be towards ICT. The aim of the study is to investigate the attitude of non ICT teachers as perceived by ICT teachers. If attitudes are drivers for behaviour by challenging negative, attitude and experiences with positive experiences it should be possible to change subsequent outcome expectations and in the process change attitudes.

If ICT could be used by teachers in way that would generate positive feelings towards its perceived usefulness and perceived ease of use it could be contended that this would assist encouraging positive attitudes towards ICT use as well as actual use in the classroom.

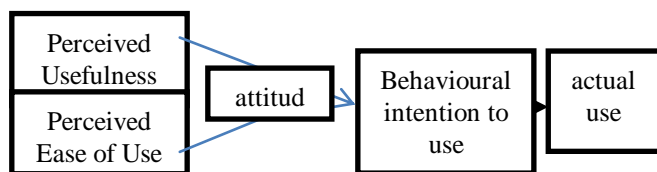


Figure 1: Technology Acceptance Model

[5] states that teacher's attitudes or belief is one of the several important human factors which have significant impact on technology in the classroom. [Attitude is a major enabling factor in the adoption of technology[15], teachers with positive attitudes towards the technology feel more comfortable while using it. Negative attitudes of teachers and limited knowledge of teachers about technology are found to be the main barriers for technology adoption. The aim of the study is to investigate the attitude of non ICT teachers as perceived by ICT teachers.

II. METHODOLOGY

A quantitative and qualitative research design was used in the study. The purpose of the study is to find out the attitude of non ICT teachers in the schools. The study was descriptive and consisted of two methods, which are: the Nominal Group Technique (NGT) and a survey. In the first method there were seven ICT teachers and the second method was a questionnaire developed from the responses of the NGT method. Data was collected from the seven teachers in the regions. The seven teachers for the NGT were selected at random. A questionnaire was then designed following literature review, and the NGT workshop results were used to

develop the instrument to be used for collecting data. The information pertaining the 50 schools was sourced from the Examination Council of Swaziland. The questionnaire was distributed to the schools in the Manzini and Hhohho region to high schools offering ICT. The population of the respondents of the questionnaire was ICT teachers in schools in Manzini and Hhohho regions. The questionnaires were self-administered between January and March. Questionnaires were collected on the same day of delivery and other schools had to be reminded. A total of 40 (80%) of the questionnaires were received and used for data analysis.

III. FINDINGS

The ICT teachers were asked about the attitude of non ICT teachers and school administrators in high schools towards ICT. The findings are presented the Table below;

	N	6	5	4	3	2	1	M	SD
Babysitting subject	7	6	1	0	0	0	0	5.86	2.40
Fear by non-ICT teachers	7	5	2	0	0	0	0	5.71	2.40
Age barrier	7	5	2	0	0	0	0	5.71	2.04
Its considered as an expensive subject	7	3	3	1	0	0	0	5.29	1.47
Absence of network administrator, school is at a stand still	7	5	1	0	0	0	1	5.14	1.94
Not counted as a University entrant requirement	7	5	1	0	0	0	1	5.14	1.94
Teachers implant negative attitude to students	7	4	2	0	0	0	1	5.00	1.60
Considered as a core subject for science students	7	4	1	0	0	0	2	4.43	1.6
Support from new teachers only	7	1	1	4	1	0	0	4.29	1.47
Perceived to be for certain types of people	7	3	0	0	2	1	1	3.85	1.67
Fear of accepting new information from students	7	1	1	2	1	0	2	3.43	0.75
Health Hazard	7	0	0	2	1	1	3	2.29	1.17

1) ICT was seen as a subject used as a "babysitting subject" i.e. if teachers do not feel like teaching, students are sent to the laboratory to "play" with the computers and search for information on the internet. Or if a teacher is absent then the students are sent to the laboratory. The attitude that is being installed on the students is not a good one because students will not take the subject seriously. The use of the computer is supposed to stimulate understanding about any subject matter new atmosphere where students could interact and collaborate to learn new skills if it is used properly.

2) Fear by non-ICT teachers mean of 5.71. Which agrees with the fact that limited knowledge and skill of teachers about technology are found to be the main barriers for technology adoption and leads to teachers developing a negative attitude towards ICT. [10] also mentions that teachers with positive attitudes towards the technology feel more comfortable and the ones who are uncomfortable are

the ones with the negative attitude. [1]states that the factors that will influence the teacher's decision whether to use the computer or not are, teachers' readiness, confidence and lack of skills in using the computers. However, attitude comes in as well because if the teacher's attitude is positive the teacher can ask the ICT teachers to help them understand how to use the computer. The teacher must see the need of using the computer which is perceived usefulness.

3 Age barrier; teachers that were older were more reluctant to use ICT than those of a younger generation. Age is also considered as a factor of using the computer; the older generations are not free with using the new technology and thus are not comfortable in using ICT. According to [3] age significantly correlate with ICT usage; the older the person the more reluctant is the person in using ICT.

4) Another variable that was shown in the study is that ICT is considered as an expensive subject and teachers do not see the point of having the subject in the schools. The benefit with this subject is that it is beneficial to most teachers in the sense that it affects all the subjects in the schools. A student that has to do an assignment can get into the internet and get information which would help them in their school work. Just because it is expensive it does not mean that schools in developing countries should be left behind[2].

5) The absence of the network administrator in the school means that ICT work is at standstill. The other teachers are not willing to learn and will therefore wait for the administrator to come back and help print a document or put a cartridge into the printer. It is not the ease of use but the attitude towards learning how to use the ICT. Once the teachers see the perceived usefulness then they will learn how to use the ICT. It is first the teacher's attitude then the perceived usefulness and once the teachers see the need then they will be willing to learn and the ease of use will not be an issue.

6) Not counted as one of the subjects for university entrants, therefore the teachers do not see importance of the subject in the schools. There is no perceived usefulness of the subject in the schools; therefore there is no need of doing it. This is an issue that the ministry of education has to look into because as long as it is not considered a subject that could be used for entry into the university then why the students should do it. It will always have a negative attitude towards ICT.

	N	6	5	4	3	2	1	M	SD
Research Purposes	7	7	0	0	0	0	0	6	2.86
Updates teachers with modern technology	7	7	0	0	0	0	0	6	2.86
Personal development	7	7	0	0	0	0	0	6	2.86
Data processing	7	7	0	1	0	0	0	6	2.86
Career Development	7	7	0	0	0	0	0	6	2.86
Implementation of child centered education	7	7	0	0	0	0	0	6	2.86
Identifies teachers interests	7	6	1	0	0	0	0	5.89	2.86

Worldwide sharing of ideas	7	6	1	0	0	0	0	5.89	2.40
Develops teaching tactics	7	6	1	0	0	0	0	5.89	2.40
Saves time	7	5	2	0	0	0	0	5.71	2.40
Boosts confidence	7	0	0	2	1	1	3	5.43	1.83

The attitude of the ICT teachers is positive because of their confidence in the subject. For them the ease of attitude of the ICT is not a problem. This can be seen by the Table below which shows the findings. There are 13 items that were mentioned by the respondents. The highest being that they liked using computers for teaching purposes; they were confident in the use of computers which is perceived ease of use; they were more efficient in their work.

The results of this study demonstrate that providing teachers with training and positive learning experiences can positively affect their attitude towards ICT training and ICT use in their lessons. In order for teachers to adopt or use ICT teachers need to see the necessity of making changes and how this affects their practice. Teachers need to see the perceived usefulness of the ICT. Whiles other teachers do not see the relative advantage other teachers are seeing it because they have the skill and knowledge and therefore have a right attitude.

IV. CONCLUSION

The results of the study show that providing teachers with training and positive learning experiences can positively affect their attitudes towards IT training and ICT use in their lessons. [6] suggest that one way of improving teacher's confidence with technology is by using computer games as educational tools. It is then that teachers changed their attitudes towards ICT and saw the need to use it in the classroom. Administrators should be careful in the process of changing teacher attitudes. I should be done in such a way that teachers do not feel threatened in any way due to the introduction of computers in the classroom and such that they learn to appreciate the of computer in education. The teachers should see how computers will complement their classroom instructions than fear of computers taking their jobs. They should be given positive accounts as to how computers will make their teaching easier and pleasing. It is therefore important to change their attitude towards computers because they play a critical role in the classroom.

REFERENCES

- [1] N. Mndzebele "Teachers Readiness in Using ICT in the Classroom: The Case of a Developing Country", *International Journal of Information and Education Technology*, vol. 3 no.4 pp.409-412, August 2013.
- [2] K. Seeeman "Basic principles of holistic technology education" *Journal of Technology Education*, vol. 14, no. 2, pp. 28-39, 2003...
- [3] A. Sahin-Kizil "EFL Teachers attitudes Towards Information and Communication Technology (ICT)" 5th international Computer and Instructional Technologies Symposium, 22-24 September 2011.
- [4] O. A. Agbatogun "Attitude of teachers towards the integration of computer education into secondary schools curriculum", *Journal of Research Curriculum Teaching* vol. 1, pp. 1-20 2006.

- [5] W. Sugar, F. Crawley and B. Fine. Examining teacher's decision to adopt new technology. *Educational Technology Society*, (0047-2395), vol. 7, no. 4, 201-213, 2004.
- [6] R.N.Awan "What happens to Teachers ICT Attitudes and Classroom ICT Use when Teachers are made to Play Computer Games?"
- [7] L. H. Stuart A.M Mills and U Remus. "School leaders, ICT competence and championing innovations", *Computer and Education* vol. 53, pp. 733-741, 2009
- [8] L. Cuban, H. Kirkpatrick, and C. Peek "High access and low use of technologies in high school classrooms: explaining an apparent paradox". *American Educational Research Journal*, vol. 38, no. 4, pp. 813-834, 2001.
- [9] F. D. Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology", *MIS Quarterly* vol. 13, no 3, 319-339, 1989
- [10] A. Albirini "Teachers attitudes towards information and communication technologies: The case of Syrian EFL teachers", *Computers and Education*, vol. 47, no. 4 pp. 373-398, 2006.
- [11] B. T. Lau and C. H. Sim "Exploring the extent of ICT adoption among Secondary school teachers in Malaysia", *International Journal of Computing and ICT Research*, vol. 2, no. 2, pp. 19-36, 2008.
- [12] I. Ajzen and M. Fishbein Understanding attitudes and predicting social behavior. Englewood Cliffs, N.J. Prentice Hall, INC. 1980
- [13] I. Ajzen Attitudes, personality and behavior. Open university
- [14] E. Tezci, " Teachers effect on ICT use in education: the Turkey sample. *Procedia Social and Behavioural Sciences*. Vol. 1pp. 1285-1294 2009.
- [15] D. Bullock "Moving from theory to practice; an examination of the factors that preservice teachers encounter as they attempt to gain experience teaching with technology during field placements experiences", *Journal of Technology and Teacher Education* vol. 12 no. 2 pp. 211-237. 2004